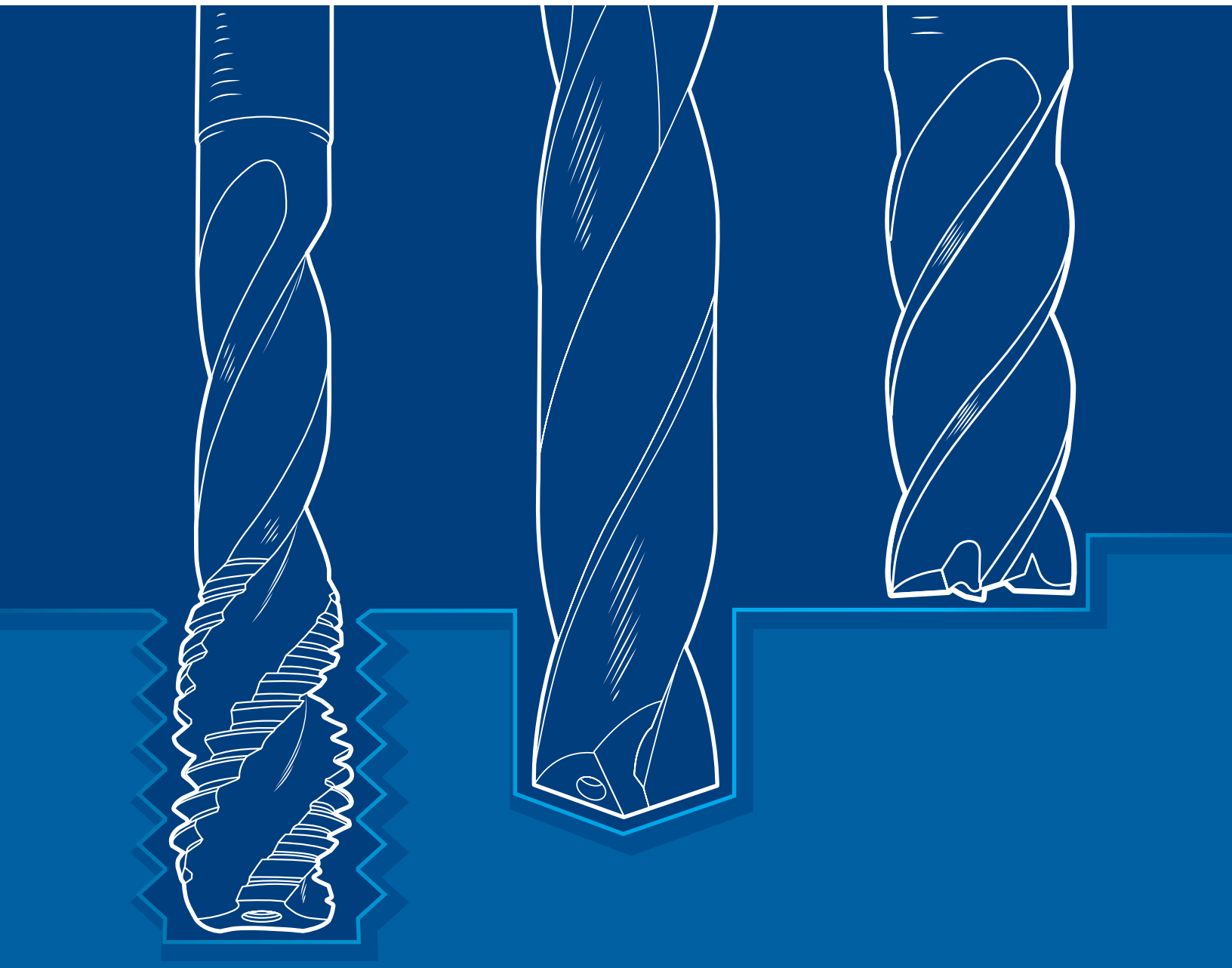

Tooling Solutions

Product Catalog



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Icon Guide

Tool Materials

HSS	HSS	HSSE	High Vanadium HSS	PCD	PCD
HSS-Co	HSS Cobalt	XPM	High Grade Powder Metallurgy HSS	STEEL	Steel
VC10	Powder Metallurgy HSS	CERMET	CERMET		
CBN	CBN	CARBIDE	Tungsten Carbide		

Surface Treatment

BR	Bright	EXO®	Multi-Layer TiAlN Coating	TiCN	TiCN Coating
CrN	CrN Coating	HR	HR Coating	TiN	TiN Coating
DIA	OSG Patented Diamond Coating	IchAda	IchAda Coating	V	OSG Special Multi-Layer TiCN Coating
DLC-IGUSS	DLC-IGUSS Coating	Ni	Nitride Coating	WD1	WD1 Coating
DLC	DLC Coating	N S/O	Nitride/ Steam Oxide Coating	WXL	WXL® Coating
DUARISE	Duarise Coating	S/O	Steam Oxide Coating	WXS	WXS® Coating
DUROREY	DUROREY Coating	SS	Super Smooth	12µm	Coating Thickness
EgiAs	EgiAs Coating	TiAlN	TiAlN Coating		

Tool Styles

FORMING	Forming	STRAIGHT FLUTE	Straight Flute		Corner Radius	HF	High Feed Radius
THREAD MILL	Thread Mills	ROUND DIES	Round Dies		Corner Chamfer		
SPIRAL FLUTE	Spiral Flute	THREAD GAGES	Thread Gages		Ball		
SPIRAL POINT	Spiral Point		Square End		Taper Barrel		

Tool Dimensions

- EXTRA LONG — Extra Long Length
- LONG — Long Length
- JOBBERS — Jobber Length
- TAPER — Taper Length
- REG — Regular Length
- STUB — Stub Length
- LH — Left Hand
- LHS — Left Hand Spiral
- STI — Screw Thread Insert
- Center Cutting
- Non-Center Cutting
- R ± 0 — Radius Tolerance
- Milling Diameter Tolerance
- Coolant-Through
- 0° — Helix Angle
- +0.000~ +0.000 — Tool Tolerance
- C/2.5P — Chamfer Lead
- ROUGH — Rough
- FINE ROUGH — Fine Rough
- ROUGH FINISH — Rough Finish
- Inch — Product Units
- # FLUTE — Drill Number of Flutes
- # FLUTE — Tap Number of Flutes
- # FLUTE — End Mill Number of Flutes
- SHRINK FIT — Shrink Fit
- SHANK hX — Shank Tolerance
- WELDON FLAT — Weldon Flat

Applications

- Helical Drilling
- Drilling
- Drilling Inclined Surface
- Drilling Curved Surface
- Centering
- Countersinking
- V-Slotting
- Chamfering
- Face Milling
- Side Milling
- D-Side Milling
- G-Side Milling
- H-Slotting
- C-Slotting
- Contouring
- Plunging
- Profile Milling
- Profile Milling
- G-Side Milling
- Ramping
- Vertical Slope
- Horizontal Slope

Other Icons

- SPEED FEED — Speeds & Feeds
- PACKED — Packed Quantity
- INSERTS — Insert Pages
- ACCS. — Accessory Pages
- NEW — New
- NEW SIZES — New Sizes
- WHILE SUPPLIES LAST! — While Supplies Last
- DSC — Discount Code

Philosophy & Business Model

Corporate Philosophy: Global Presence

As a comprehensive cutting tool manufacturer, we make products that at a fundamental level contribute to enhancing people's quality of life. Through continuous growth, we have established a production, sales and technical support network spanning 33 countries.

Our corporate aim is to continue to expand our operations globally and strengthen our contribution to manufacturing industries worldwide.

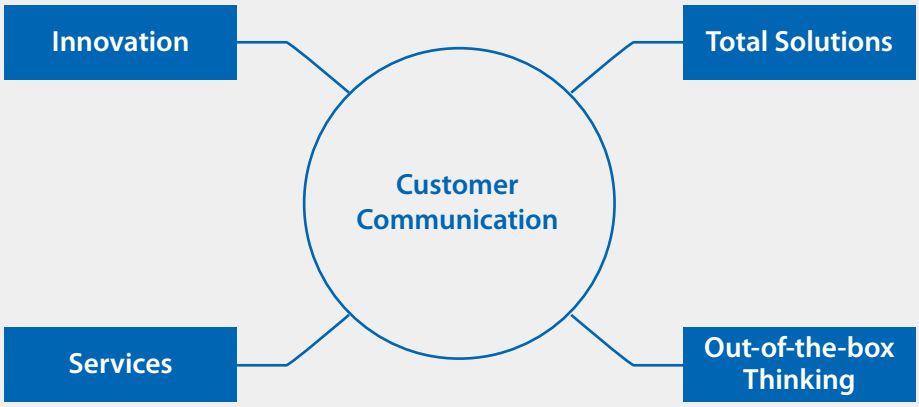
Business Model

Customer communication is at the heart of the OSG brand. We anticipate, listen and actively react to customer needs through on-site face-to-face support. OSG's vast global network provides our production sites with accurate feedback about user needs so that they can quickly design, develop, manufacture and deliver products that precisely meet those needs.

shaping your dreams

The power of OSG lies in our assured innovative technological know-how for producing high-quality and high-performance products; our exceptional services to respond to situations diligently; and our out-of-the-box thinking to provide total solutions that anticipate our customers' needs. We are committed to contribute to the advancement of the manufacturing industries by shaping our customers' dreams into reality.

The Power to Exceed Customers' Expectations



VISION

Shaping your dreams through world class **innovative solutions** for the manufacturing industry.

MISSION

We bring **innovation** and **excellence** to our customers through collaborative partnerships by providing the highest quality cutting tools and cold forming products.

Message from our Leadership Team



Jeff Tennant
President of OSG USA

As the world's largest manufacturer of round cutting tools, OSG Corporation has succeeded in maintaining steady growth over the past 80 years. As we look forward to future growth, we would like to express our sincere gratitude to our customers, business partners and shareholders for their support in contributing to OSG's success.

Ever since the Company's establishment in 1938, OSG has been committed to developing quality products that truly exceed the expectations of each customer. This spirit remains alive in all facets of our operation today and has given OSG the strength to challenge the status quo and deliver products and services in sync with manufacturing needs of the times. Our corporate tagline "Shaping Your Dreams" summarizes this passion for new challenges and commitment to transforming each and every one of our customers' dreams into reality.

As the manufacturing industry is consistently transforming through the new discovery of materials and technologies, OSG is poised for continued growth by delivering new advancements and innovative products that respond quickly to evolving customer needs.

OSG History

A Commitment to Quality that Withstands the Test of Time

In March 1938, Hideo Osawa established OSG Grinding Co., Ltd. to achieve domestic production of high-quality taps. Thirty years later, OSG's first overseas subsidiary was established in the United States. Based on the corporate philosophy of "global presence," OSG has since then built a production, sales and technical support network spanning 33 countries. With over 50 years of experience in developing new markets and human assets, OSG will continue its global expansion and contribute to the advancement of the manufacturing industry worldwide.

OSG's Company History



1938
Hideo Osawa established OSG Grinding Co., Ltd. in Tokyo
Began manufacturing Taps and Dies



1956
Began manufacturing and sales of Cylindrical Rolling Dies



1968
Originally established as OSG Tap & Die, Inc., the Chicago based sales office marked the first office and growth outside of Japan



1973
Acquired Sossner Tap & Die in Brunswick, GA



1983
OSG USA expands to open regional sales office in Placentia, CA

1942
Began manufacturing and sales of Screw Gages



1963
Began manufacturing and sales of Flat Rolling Dies



1970
Began manufacturing and sales of HSS End Mills



1980
Began manufacturing and sales of Carbide End mills



1984
Began manufacturing and sales of Drills



OSG History



1987
Began manufacturing and sales of Cutter Bodies

1988
Established OSG Canada in Burlington, Ontario





1994
Established OSG Royco, S.A. de C.V. in Vellejo, Mexico

2001
OSG USA acquires Quality Carbide Tool, later merges into OSG Bensenville, IL





2004
OSG USA acquires Sterling Die, later merged into OSG faster division Parma, OH

2010
Began sales of OSG Phoenix, an Indexable tooling series





2014
OSG Introduces "The A Brand" product brand

2015
In 2015, To reflect the diverse array of products and services, OSG Tap & Die, Inc. officially changed our name to OSG USA, Inc.





2016
OSG USA, Inc. acquired AMAMCO Tool & Supply Co., Inc in Duncan, South Carolina

2016
OSG USA, Inc. relocated it's National Headquarters to Irving, Texas



2018
OSG Corporation Celebrates its 80th anniversary

2018
OSG USA celebrates its 50th anniversary





2019
OSG USA relocates to new Headquarters in St Charles, IL

Global Network



EUROPE

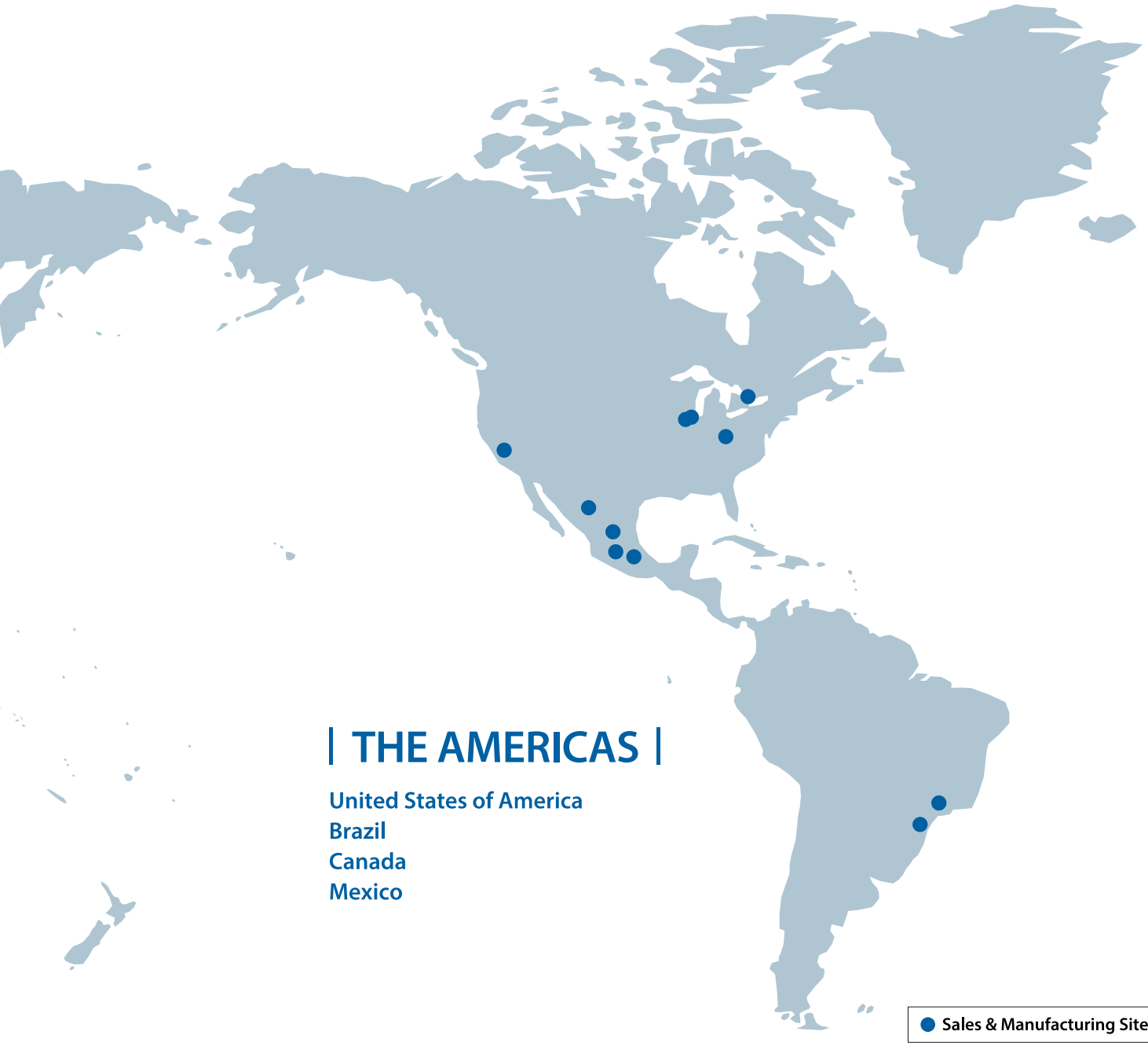
Belgium
Denmark
France
Germany
Italy
Ireland
The Netherlands
Poland
Romania
Russia
Spain
Slovakia
Sweden
South Africa
Switzerland
Turkey
United Kingdom

ASIA

Singapore
China
India
Indonesia
Japan
Malaysia
Philippines
South Korea
Taiwan
Thailand
Vietnam

A Global Network that Accelerates International Business Development

In 1968, OSG Corporation established its very first overseas subsidiary in the United States. Since then, OSG USA has dynamically expanded its presence, establishing a production, sales and technical support network throughout the country.



THE AMERICAS

United States of America
Brazil
Canada
Mexico

Sales & Manufacturing Sites

As of January 1, 2024


North American Headquarters (Illinois)



Bensenville Plant (Illinois)



Cold Forming Division Sales Office and Factory (Ohio)

North American Locations

U.S.A.

Illinois



OSG Illinois North American Headquarters & National Distribution Center

620 Stetson Avenue
St. Charles, IL 60174, USA
Toll Free: (1) 800-837-2223
Phone: (1) 630-790-1400
Fax: (1) 800-837-3334
Web: osgtool.com



OSG Mfg. Carbide Products Division, Bensenville, Illinois

759 Industrial Drive
Bensenville, IL 60106, USA
Phone: (1) 630-274-2100
Fax: (1) 630-274-2121
Web: osgtool.com

Ohio



OSG Mfg. Cold Forming Division Sales Office & Factory

12502 Plaza Drive
Parma, Ohio 44130, USA
Toll Free: (1) 800-533-1300
Fax: (1) 216-267-3356
Web: osgtool.com

California



OSG California Regional Service Center

1921 Miraloma Avenue, Suite B
Placentia, CA 92870, USA
Toll Free: (1) 800-837-2223
Fax: (1) 714-528-9209
Web: osgtool.com

Canada

Canada



OSG Canada, Ltd.

538 King Forest Court
Burlington, ON L7P 5C1, Canada
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Phone: (1) 905-632-8032
Fax: (1) 905-632-8466
Web: osgtool.com

Mexico

Mexico



OSG Royco
(Headquarters)

Calle Eje 1 Norte esq. Calle 5,
Parque Industrial Toluca 2000,
Toluca, Estado de Mexico, C.P. 50233, Mexico
Phone: +52 (722) 279-36-08 to 11



OSG Royco
(Main Warehouse)

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Nueva Industrial Vallejo,
Gustavo A Madero,
Ciudad de Mexico, C.P. 07700, Mexico
Phone: +52 (55) 5119-3363 to 65 and 68



OSG Royco
(Guanajuato Tech Center)

Circuito Santa Fé N°265, Parque
Industrial Santa Fé III, Silao,
Guanajuato, C.P. 36275, Mexico
Phone: +52 (472) 478-02-00

Premium Grinding, S de R.L. de C.V.

Calle Nicolas Gogol 11371
Complejo Industrial Chihuahua,
Chihuahua, 31136, Mexico
Phone: +52 (61) 44-81-68-98

Primus Coating S.A. DE C.V.

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Estado de Mexico, 50200, Mexico
Phone: +52 (722) 4922-793

Global Headquarters

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OSG CORPORATION
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Aichi, Japan 422-8543
Phone: (81) 533-82-1111
Fax: (81) 533-82-1131
Web: www.osg.co.jp



Supporting Global Manufacturing with Top Class Products and Technology

OSG maintains absolute control over every aspect of its manufacturing capabilities. OSG products are produced in-house - from the production of tool material, creation of tool geometry, to the development of its own proprietary coatings - the 3 vital elements in the manufacturing of superior cutting tools.



Taps

From light production to high production, easy or difficult to machine materials, OSG has a tap for every application.



Drills

Be it Stub or X-long, coolant-thru or solid, carbide or HSS, OSG has a drilling solution for you.

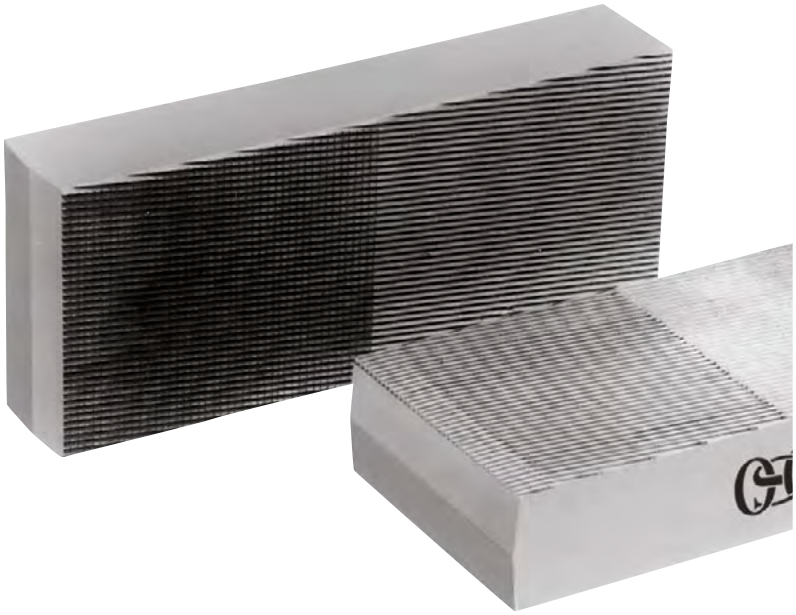


End Mills

Whether it's Aluminum Alloy or Inconel, Hardened Steel or Stainless Steel, OSG has the end mill for your job.

Rolling Dies

OSG specializes in manufacturing superior quality dies and offers an extensive selection of both standard and special tooling to suit all of your external threading applications.



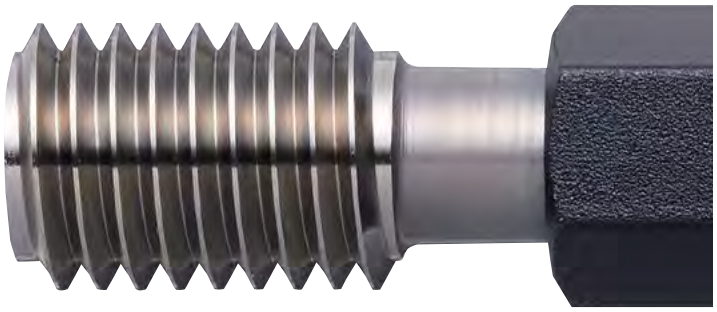


Indexable Tools

The latest technology in performance replaceable tip milling and drilling cutters from OSG.

Gauges

Ensure proper tolerances are met with OSG precision ground Plug Go and No Go gages.



OSG Product Treatments

OSG's surface treatments are designed to meet customer needs through comprehensive technology by providing wear resistance, seizure resistance, corrosion resistance and mold release. OSG proprietary treatments provide a range of thicknesses, hardnesses and oxidation temperatures so you are sure to find the best match for any application.



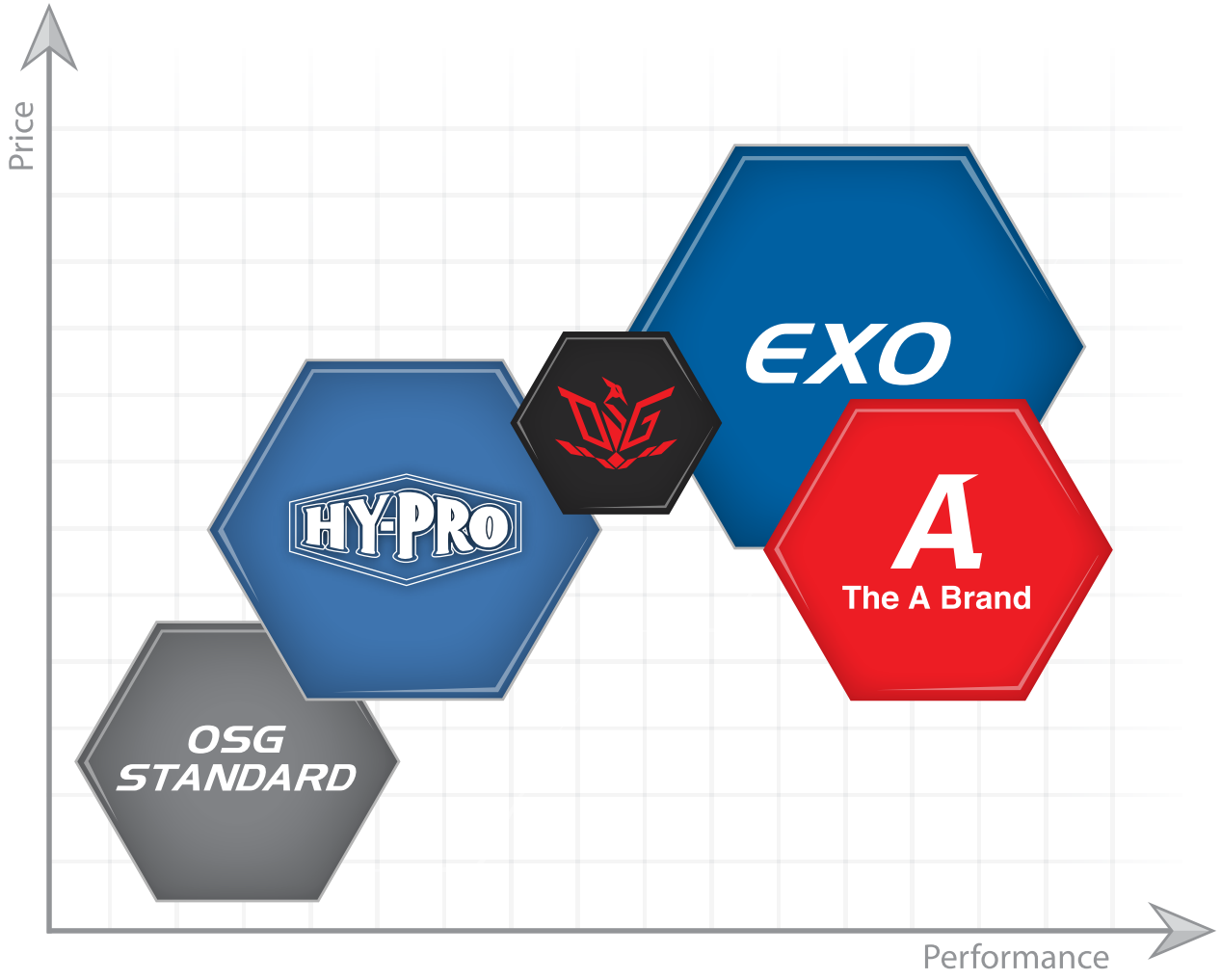
Coating	Coating Color	Type	Thickness (µm)	Hardness (HV)	Oxidation Temp. (°C)	Application
IchAda	Black Gray	Cr	1~5	3100	1100	**For drilling steel, stainless steel & hardened steel.** A PVD coating with excellent surface smoothness and abrasion resistance, high surface hardness and heat resistance for small diameter tools.
DUARISE	Black Gray	Cr multilayer	1~5	3100	1100	**For milling steel, stainless steel & hardened steel.** A PVD coating with excellent surface hardness and wear resistance, excellent heat resistance and low coefficient of friction to reduce material adhesion.
DUROREY	Black Gray	SiC-containing Nano Layered Periodic	1~5	4180	1300	**Ideally suited for Hardened steel > 50 HRC.** Also works in: Cast Iron, Carbon Steel, Alloy Steel, Die Steel, Hardened Steel 35-50 HRC. Use in combination with High Speed Machining Techniques to optimize performance.
WD1	Iridescent Blue	Cr multilayer	3~5	3300	1100	**For drilling steel, stainless steel, cast iron & hardened steel.** A PVD coating with excellent surface hardness and wear resistance, excellent heat resistance and low coefficient of friction to reduce material adhesion.
EgiAs	Iridescent Red	Nano multilayer	3~5	3200	1100	**For drilling steel, stainless steel, cast iron, aluminum & hardened steel.** A PVD coating with excellent surface hardness and wear resistance, excellent heat resistance and low coefficient of friction to reduce material adhesion.
WXS	Black Gray	SiC	1~5	3500	1300	**For drilling, tapping & milling steel, stainless steel & hardened steel.** A PVD coating with excellent surface hardness and wear resistance, excellent heat resistance and low coefficient of friction to reduce material adhesion.
WXL	Black Gray	Cr	1~5	3100	1100	**For drilling & milling steel, stainless steel & hardened steel.** A PVD coating with excellent surface hardness and wear resistance, excellent heat resistance and low coefficient of friction to reduce material adhesion.
EXO	Black Violet	TiAlN multilayer	3	2800	850	**For drilling, tapping & milling steel, stainless steel, cast iron & heat resistant alloys.** A PVD coating with high surface hardness and wear resistance, very good heat resistance and low coefficient of friction to reduce material adhesion.
TiAlN	Black Violet	TiAlN	3	2800	800	**For drilling, tapping & milling steel, stainless steel, cast iron & heat resistant alloys.** A PVD coating with high surface hardness and wear resistance, very good heat resistance and low coefficient of friction to reduce material adhesion.

Coating	Coating Color	Type	Thickness (µm)	Hardness (HV)	Oxidation Temp. (°C)	Application
V	Blue Gray	TiCN multilayer	3	2700	400	**For drilling & tapping steel, stainless steel, aluminum & heat resistant alloys.** A PVD coating with high surface hardness and wear resistance, good heat resistance and low coefficient of friction to reduce material adhesion.
TiCN	Blue Gray	TiCN	3	2700	400	**For drilling, tapping & milling steel, stainless steel, aluminum & heat resistant alloys.** A PVD coating with high surface hardness and wear resistance, good heat resistance and low coefficient of friction to reduce material adhesion.
TiN	Gold	TiN	3	2000	500	**For drilling, tapping & milling steel, stainless steel, tool & die steel & aluminum.** A PVD coating with good surface hardness and wear resistance, good heat resistance and low coefficient of friction to reduce material adhesion.
SS	Black Violet	TiAlN	1	2800	800	**For drilling & tapping steel, stainless steel, & heat resistant alloys.** A PVD coating with high wear & abrasion resistance, very good heat resistance and high surface smoothness to reduce material adhesion.
HR	Silver Gray	Ti	2	2800	700	**For tapping stainless steel & heat resistant alloys.** A PVD coating with high wear & abrasion resistance, very good heat resistance and high surface smoothness to reduce material adhesion.
S/O	Black	Steam-Oxide	-	-	-	**For tapping steel, stainless steel, tool & die steel & nickel-alloys.** The oxidized surface layer is porous and increases lubricity by retaining cutting fluid on the working area of the tool.
Ni	Silver Gray	Nitride	30~50	1000	-	**For tapping cast iron, cast aluminum, & plastic.** The case-hardened surface layer increases wear resistance in abrasive and tough materials.
CrN	Silver Gray	CrN	3	1800	700	**For tapping non-ferrous materials.** A PVD coating with high surface lubricity to reduce material adhesion applied over a case-hardened surface layer with increased wear resistance.
DIA	Black	DIA	20, 12	9000	600	**For drilling, tapping & milling non-ferrous & composite materials.** A CVD coating with superior surface hardness and wear resistance, outstanding durability, and excellent smoothness to reduce material adhesion.
DG	Black	DIA	20, 12	9000	600	**For machining graphite and ceramics.** A CVD coating with superior surface hardness and wear resistance, outstanding durability, and excellent edge sharpness.
DLC	Iridescent Green	DLC	0.2	6000	550	**For milling non-ferrous materials.** A PVD coating with excellent surface hardness and wear resistance, and very low coefficient of friction to reduce material adhesion.
DLC-HGUSS	Iridescent Green	DLC (SP3 Rich)	0.8	6000	550	**For milling non-ferrous materials.** A thick-film PVD coating with excellent surface hardness and wear resistance for both high tool durability and good machining accuracy.
BR	-	-	-	-	-	**For general machining of all materials.** The uncoated substrate provides good wear resistance and durability in general machining applications.

OSG Product Overview - The Total Solution

The purpose of this Brand Index is to illustrate OSG's Brand hierarchy and to better help you select the best tool for your machining needs.

From the value products under our OSG Standard brands to the high performance products under the EXOCARB®, EXOPRO® and our A Brand, OSG offers a broad range of tools to meet your application requirements.



The A Brand

A Brand

OSG's tooling master class of advanced performance tooling solutions for drilling, milling and threading applications. Elevate your manufacturing endeavors with unsurpassed performance for an extensive range of materials and applications. Quality, reliability, and satisfaction. Bring your A game with OSG's A Brand.

EXOPRO®

Ultra premium high performance carbide tooling wiith OSG's proprietary coatings for maximum productivity in specialized applications.

EXOPRO®

EXOCARB®

EXOCARB®

High performance carbide tooling with OSG's proprietary coatings for high-speed performance and high production applications in difficult to machine materials.

PHOENIX®

OSG's comprehensive line up of our PHOENIX® high-performance Indexable products are designed for rough and finish milling and drilling in a variety of applications.

EXO®

EXO®

Premium high speed steel tooling with OSG's proprietary coatings for increased performance in a wide range of materials.

HY-PRO®

Performance tooling with OSG's propriety coatings to offer the ideal blend of performance and cost-efficiency.

HY-PRO

Web & Social Media

OSG Online

osgtool.com

Our website, osgtool.com, is designed to help you find all your cutting tool solutions. We continuously strive to deliver a website that provides a value added experience by focusing on functionality, usability, and appearance while being responsive across all your devices.



OSG News: *See What's New at OSG*

- Press Releases
- New Products
- Blog

Resources: *Tools to Make it Easier*

- Digital Catalog
- Product Search
- Find a Distributor
- Competitor Crossover
- MSDS Download
- Tap-Drill Size Calculator

OSG's Tool Selector: *The Right Tool Right Now*

- With OSG's tool selector, you are never more than 5 simple steps away from the right tool for your job.

Online Live Chat

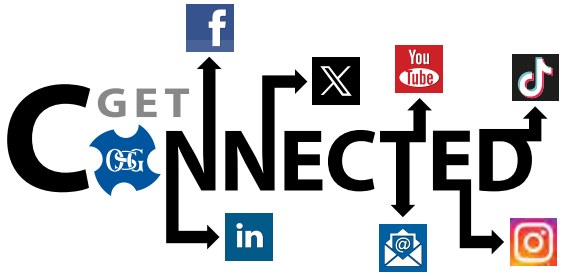
- During regular business hours, OSG provides online support for customers looking for an alternative way to get their technical product assistance.

Social Media

Connect with OSG

Follow and interact with OSG on popular social media sites including Facebook, Twitter, LinkedIn, Instagram, and YouTube.

Facebook: *facebook.com/osgtool*
Twitter: *twitter.com/OSGTOOL*
LinkedIn: *linkedin.com/company/osg-usa-inc*
Instagram: *instagram.com/osgtool/*
YouTube: *youtube.com/osgtool*
OSG E-CLUB: Subscribe: *eclub@osgtool.com*



The A Brand

The A Brand represents a new evolution in cutting tool technology. With a commitment to only the best, the A Brand emanates innovations essential for shaping the future of global manufacturing. The A Brand is not only a premium tooling brand, it also represents the quality assurance OSG guarantees to each and every customer. The A Brand is composed of OSG's latest high performance threading, drilling and milling tool innovations. Developed with attention to the finest details, manufacturers will experience the level of quality, reliability and satisfaction that can only be delivered by the A Brand tooling master class.

Advanced tool qualities have been incorporated into the A Brand products, including a versatility that enables a wide range of processing in different work materials, an excellent capability to perform difficult processing tasks, and high efficiency that leads to shortened production time and cost savings. Expectations have risen that the A Brand will bring innovations into the manufacturing field, and pass on OSG's technologies from today to the future. To better understand the concept of the A Brand, interviews were conducted with OSG experts who have devoted their manufacturing careers to the development of A Brand products. They spoke enthusiastically about how their passions underpinned the development process.



DRILLING

The A Brand

OSG's premium tooling brand. Features products that are designed to exceed the evolving manufacturing needs of our customers.

EXOPRO®

OSG's ultra-premium tooling series. Features supreme performance carbide drills with OSG's proprietary coatings, like EgiAs, WXS® and DIA , for maximum cost-efficiency.

EXOCARB®

High performance sub-micrograin carbide drills with OSG's proprietary EXO®, WXS and SS coatings.

EXOCARB® MAX

Maximum performance carbide coolant-through drills for ultra high-speed drilling.

HY-PRO® CARB

Premium micrograin carbide drills with OSG EgiAs coating. Perfect blend of performance and cost-efficiency.

CARBIDE

Micrograin carbide drills and reamers.

V Products

Premium powdered metal and cobalt high speed steel drills with OSG's proprietary V or WXL coating.

NEXUS

Premium high speed steel drills with OSG's proprietary WD1 coating.

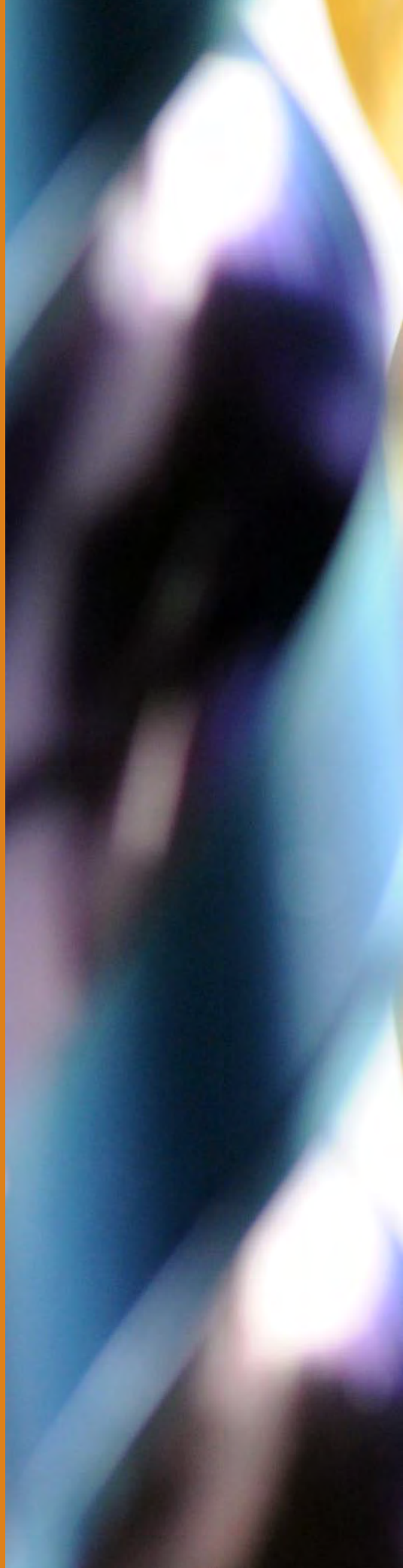
EX-GOLD®

Premium high speed steel drills with TiN & TiAlN coating.

OSG PHOENIX®

OSG's high performance indexable tooling for drilling in a variety of applications.







	Work Material	Material Designation	Material Condition	Hardness	
				BHN	HRC
P	Low Carbon Steel	1010, 1018	Normalized	~190	~10
P	Medium Carbon Steel	1035, 1045	Normalized	~208	~15
P	High Carbon Steel	1065, 1095	Normalized	~253	~25
P	Alloy Steel	4140, 4340, 8620	Normalized	253~301	25~32
P		4140, 4340, 8620	Hardened	327~390	35~42
M	Stainless Steel	300 Series / 400 Series	Annealed	~253	~25
M		300 Series / 400 Series	Hardened	327~390	35~42
M		17-4, 15-5, A286	Annealed	~253	~25
M		17-4, 15-5, A286	Hardened	327~390	35~42
K	Cast Iron	Nodular, Grey	As Cast	~208	~15
N	Aluminum Alloy	6061, 7075, 2011	Normalized	~150	
N	Die Cast Aluminum	356AL, 390AL	As Cast	~150	
S	Nickel Based Alloy	Inconel 718, 625	Annealed	253~301	25~32
S		Inconel 718	Hardened	327~390	35~42
S		Hastelloy, Waspaloy	Normalized		25~40
S		Kovar	Normalized		25~40
S	Titanium Alloy	6Al4V	Annealed	253~301	25~32
S		6Al4V, 6AL6V	Hardened	327~390	35~42
H	Tool Steel	D2, H13, P20, S7	Annealed	190~253	10~25
H		H13	Hardened	327~450	35~48
H		D2, A2	Hardened		48~55
H		D2, A2	Hardened		55~70
Other	Magnesium			~100	
Other	Brass, Bronze			~150	
Other	Copper			~150	
Other	Beryllium Copper			~253	~25
Other	Cobalt-Chrome	Stellite			

Carbide														Powdered Metal		HSS-Va & HSS-Co					
78-85	99-102	103-107	86-90	36-49	50-60	91-98	61-77	114-117	127-129	131	132	146-157	158-165	187-195	196-198	199-200	201-207	208-210	211-215	216-219	220-253
A Brand ADO-TRS *Coolant-Through*	A Brand ADFO *Coolant-Through*	A Brand ADF	A Brand ADO-MICRO *Coolant-Through*	A Brand ADO 3D-8D *Coolant-Through*	A Brand ADO 10D-50D *Coolant-Through*	A Brand AD	A Brand ADO-SUS *Coolant-Through*	EXOPRO® WHO-Ni *Coolant-Through*	EXOCARB® WH70	EXOCARB® MAX-OIL AL *Coolant-Through*	EXOCARB® MAX-MINI*	HY-PRO® CARB *Coolant-Through*	HY-PRO® CARB	VPH GDS & GDR	VP® GDR	V-HO GDR *Coolant-Through*	HELIOS®	V-Select	NEXUS	EX-GOLD®	EX-SUS-GOLD
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*EXOCARB® MAX-MINI covers different materials for each list number.
Verify recommended materials on each product page.

○ good ◎ best

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
≤2D						
5700		A Brand ADF	1/64" - 3/4" 0.20mm - 20.00mm	2D, Flat Bottom — Inch, Metric, CARBIDE, EgiAs, IchAda	103-107	318-319
5705		A Brand ADFLS	1/8" - 3/4" 3.00mm - 20.00mm	2D, Flat Bottom, Long Shank — Inch, Metric, CARBIDE, EgiAs	108-109	320
6300		A Brand AD	1/8" - 3/4" 2.00mm - 20.00mm	2D — Inch, Metric, CARBIDE, EgiAs	91-94	316
6501		A Brand ADO-MICRO	0.70mm - 2.00mm	2D — Metric, CARBIDE, IchAda	86	314
5172		EXOCARB® EX-H-DRL	2.00mm - 12mm	Tap Extractor — Metric, CARBIDE, BR	130	328
≤3D						
6600		A Brand ADO-TRS	1/8" - 3/4 3.00mm - 20.00mm	3D, 3 Flute — Inch, Metric, CARBIDE, EgiAs	78-81	313
5720		A Brand ADFO	1/8" - 3/4" 3.00mm - 20.00mm	3D, Flat Bottom — Inch, Metric, CARBIDE, EgiAs	99-102	317
6500		A Brand ADO-3D	3/32" - 3/4" 2.00mm - 20.00mm	3D — Inch, Metric, CARBIDE, EgiAs	36-41	306
5200		A Brand ADO-SUS	3/32" - 3/4" 2.00mm - 20.00mm	3D — Inch, Metric, CARBIDE, WXL	61-67	312
5950Ni		EXOPRO® WHO-NI	1/8" - 1/2" 3.00mm - 12.70mm	3D — Inch, Metric, CARBIDE, DURAREY	114-115	323
5330		EXOCARB® WX-MS-GDS	0.20mm - 5.00mm	Miniature — Metric, CARBIDE, TiAlN	136-143	332
HP243		HY-PRO® CARB	3/64" - 3/4" 1.00mm - 20.00mm	3D — Inch, Metric, CARBIDE, EgiAs	158-161	336 - 337
HP253		HY-PRO® CARB OH	1/8" - 3/4" 3.00mm - 20.00mm	3D — Inch, Metric, CARBIDE, EgiAs	146-149	334 - 335
1900		V-SERIES VPH-GDS	0.50mm - 20.00mm	Stub — Metric, XPM, V	187-193	342 - 343
1150		NEXUS-GDS	#54 - 1/2" 1.00mm - 12.70mm	Stub — Inch, Metric, HSSE, WD1	211-213	350 - 351
1000		EX-GOLD EX-GDS	#47 - 1/2" 1.99mm - 12.70mm	Stub — Inch, Metric, HSS-Co, TiN	216-217	352
1100		EX-SUS-GOLD EX-SUS-GDS	0.50mm - 32.00mm	Stub — Metric, HSSE, TiN, TiAlN	220-240	353
≤5D						
6310		A Brand AD	1/8" - 3/4" 2.00mm - 20.00mm	4D — Inch, Metric, CARBIDE, EgiAs	95-98	316
6610		A Brand ADO-TRS	1/8" - 3/4" 3.00mm - 20.00mm	5D, 3 Flute — Inch, Metric, CARBIDE, EgiAs	82-85	313
6510		A Brand ADO	3/32" - 3/4" 2.00mm - 20.00mm	5D — Inch, Metric, CARBIDE, EgiAs	42-46	306
5210		A Brand ADO-SUS	3/32" - 3/4" 2.00mm - 20.00mm	5D, Mega Cooler — Inch, Metric, CARBIDE, WXL	68-73	312
6502		A Brand ADO-MICRO	0.70mm - 2.00mm	5D — Metric, CARBIDE, IchAda	87	314
5955Ni		EXOPRO® WHO-NI	1/8" - 1/2" 3.00mm - 12.70mm	5D — Inch, Metric, CARBIDE, DURAREY	116-117	323

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
≤2D																	
5700	◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		
5705	◎	◎	◎	◎	◎	○	○	○	◎	○	○			○	○		
6300	◎	◎	◎	○	○				◎					○			
6501	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
5172																	◎
≤3D																	
6600	◎	◎	◎	◎	◎		◎	○	◎		○		○	◎	○	○	
5720	◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		
6500	◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	
5200	◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			
5950Ni	○	○	○	◎	○				○			◎		○	○	◎	○
5330	◎	◎	◎	○	○	○	○	○	○	◎	◎		○				
HP243	◎	◎	◎	◎	◎				◎		○			◎	○		
HP253	◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		
1900	○	◎	◎	◎	◎		○	○	◎	○	○	◎	○	◎	◎	○	
1150	◎	◎	○	◎	◎	○	○	○	○	◎	◎	○	○	○			
1000	◎	◎	○	◎	◎			○	○		○			○	○		
1100	◎	○				◎	◎	○	○	◎	◎						
≤5D																	
6310	◎	◎	◎	○	○				◎					○			
6610	◎	◎	◎	◎	◎		◎	○	◎		○		○	◎	○		
6510	◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	
5210	◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			
6502	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
5955Ni	○	○	○	◎	○				○			◎		○	○	◎	○

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List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
≤5D (Continued)						
5171		EXOCARB® WH70-DRL	2.00mm - 18.60mm	Metric, CARBIDE, WXS	127-129	328
5320		EXOCARB® MAX-MINI UVM-DRL	0.02mm - 0.08mm	5D, Miniature, Metric, CARBIDE, SS	134	331
HP245		HY-PRO® CARB	3/64" - 3/4" 1.00mm - 20.00mm	5D, Inch, Metric, CARBIDE, EgiAs	162-165	336 - 337
HP255		HY-PRO® CARB OH	1/8" 3/4" 3.00mm - 20.00mm	5D, Inch, Metric, CARBIDE, EgiAs	150-153	334 - 335
215		OSG CARBIDE SLOW SPIRAL DRILL	3/64" - 1/2" 1.00mm - 12.70mm	Jobber, Slow Spiral, Inch, Metric, CARBIDE, BR	166-170	338 - 340
220D		OSG CARBIDE TWIST DRILL	#56 - 1/2" 1.18mm - 12.70mm	Jobber, Inch, Metric, CARBIDE, BR	171-173	338 - 340
233		OSG CARBIDE THREE FLUTE DRILL	1/8" - 3/4" 3.00mm - 19.05mm	Jobber, 3 Flute, Inch, Metric, CARBIDE, BR	174	338 - 340
200		OSG CARBIDE STRAIGHT DRILL	#56 - 1/2" 1.18mm - 12.70mm	Straight Flute, Jobber, Inch, Metric, CARBIDE, BR	175-177	338 - 340
1950		V-SERIES VPH-GDR	#47 - 11/16" 1.99mm - 17.46mm	Jobber, Inch, Metric, XPM, V	194-195	342 - 343
2000		V-SERIES VP-GDR	2.00mm - 32.00mm	Jobber, Metric, XPM, V	196-198	344 - 345
1700		V-SERIES V-HO-GDR	15/64" - 1-1/4" 5.95mm - 31.75mm	Jobber, Inch, Metric, HSS-Co, V	199-200	346 - 347
1800		V-SELECT V-SDR	1/2" 2.00mm - 13.00mm	Jobber, Inch, Metric, HSSE, V	208-210	349
1650		NEXUS-GDR	#43 - 1/2" 2.00mm - 12.70mm	Jobber, Inch, Metric, HSSE, WD1	214-215	350 - 351
1500		EX-GOLD EX-GDR	#47 - 3/4" 1.99mm - 19.05mm	Jobber, Inch, Metric, HSS-Co, TiN	218-219	352
1600		EX-SUS-GOLD EX-SUS-GDR	2.00mm - 32.00mm	Jobbe, Inch, Metric, HSSE, TiN, TiAlN	241-253	353
≤8D						
6520		A Brand ADO	3/32" - 5/8" 2.00mm - 15.88mm	8D, Inch, Metric, CARBIDE, EgiAs	47-49	306
5220		A Brand ADO-SUS	3/32"- 1/2" 2.00mm - 12.70mm	8D, Inch, Metric, CARBIDE, WXL	74-77	312
HP258		HY-PRO® CARB OH	1/8" - 3/4" 3.00mm - 20.00mm	8D, Inch, Metric, CARBIDE, EgiAs	154-157	334 - 335
≥10D						
6530		A Brand ADO	3/32" - 9/16" 2.00mm - 14.29mm	10D, Inch, Metric, CARBIDE, EgiAs	50-52	307 - 308
6535		A Brand ADO	1/8" - 9/16" 3.00mm - 14.29mm	15D, Inch, Metric, CARBIDE, EgiAs	53-54	307 - 308
6540		A Brand ADO	1/8" - 9/16" 3.00mm - 14.29mm	20D, Inch, Metric, CARBIDE, EgiAs	55-56	307 - 308
6550		A Brand ADO	1/8" - 9/16" 3.00mm - 14.29mm	30D, Inch, Metric, CARBIDE, EgiAs	57-58	307 - 308
6560		A Brand ADO	1/8" - 3/8" 3.00mm - 10.00mm	40D, Inch, Metric, CARBIDE, EgiAs	59	309
6570		A Brand ADO	1/8" - 5/16" 3.00mm - 8.00mm	50D, Inch, Metric, CARBIDE, EgiAs	60	309

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC

≤5D (Continued)

5171																	◎
5320						◎	◎	◎		○	○	◎	○	○	○	◎	
HP245	◎	◎	◎	◎	◎				◎		○			◎	○		
HP255	◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		
215	○	○	○	○	○		○	○	○		○	○	○	○	○		
220D	○	○	○	○			○	○	○	○	○			○			
233	○								○								
200	○								○								
1950	○	◎	◎	◎	◎		○	○	◎	○	○	◎	○	◎	◎	○	
2000	○	○	◎	◎	◎				◎	○	○	○		◎	○		
1700	◎	◎	◎	◎	○	◎	◎	○	○	○	○		○	○	○		
1800	○	○	○	○	○			○	○	○	○						
1650	◎	◎	○	◎	◎	○	○	○	○	◎	◎	○	○	○			
1500	◎	◎	○	◎	◎			○	○		○			○			
1600	◎	○				◎	◎	○		◎	◎						

≤8D

6520	◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	
5220	◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			
HP258	◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		

≥10D

6530	◎	◎	◎	◎	◎	○	○	○	◎					○			
6535	◎	◎	◎	◎	◎	○	○	○	◎					○			
6540	◎	◎	◎	◎	◎	○	○	○	◎					○			
6550	◎	◎	◎	◎	◎	○	○	○	◎					○			
6560	◎	◎	◎	◎	◎	○	○	○	◎					○			
6570	◎	◎	◎	◎	◎	○	○	○	◎					○			

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List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
≥10D (Continued)						
6503		A Brand ADO-MICRO	1.00mm - 2.00mm	12D · Metric · CARBIDE · IchAda	88	315
6504		A Brand ADO-MICRO	1.00mm - 2.00mm	20D · Metric · CARBIDE · IchAda	89	315
6505		A Brand ADO-MICRO	1.00mm - 2.00mm	30D · Metric · CARBIDE · IchAda	90	315
5630		EXOPRO TRS-HO	13/64" - 5/8" 5.00mm - 15.88mm	10D, 3 Flute, Mega Muscle® · Inch · Metric · CARBIDE · EgiAs	111-113	322
5275		EXOCARB® MAX-OIL AL	3.00mm - 10.00mm	15-30D · Metric · CARBIDE · BR	131	329
5310		EXOCARB® MAX-MINI FHL-GDTS	1.00mm - 3.00mm	Up to 20D · Metric · CARBIDE · EXO	132	330
5325		EXOCARB® MAX-MINI UVM-DRL	0.02mm - 0.08mm	10D, Miniature · Metric · CARBIDE · SS	135	331
5340		EXOCARB® MAX-MINI MRS-GDL	0.50mm - 3.00mm	Miniature · Metric · CARBIDE · SS	144-145	333
1750		V-SERIES HELIOS	5/64" - 45/64" 1.60mm - 17.86mm	10D · Inch · Metric · HSS-Co · WXL	201-203	348
1760		V-SERIES HELIOS	5/64" - 45/64" 1.60mm - 17.86mm	15D · Inch · Metric · HSS-Co · WXL	204-205	348
1770		V-SERIES HELIOS	5/64" - 9/16" 1.60mm - 14.29mm	20D · Inch · Metric · HSS-Co · WXL	206-207	348
Centering/Countersinking						
5190		A Brand AD-LDS	1/4" - 3/4" 3.00mm - 25.00mm	90°/120°/140° Spot Drill · Inch · Metric · CARBIDE · EgiAs	110	321
5315		EXOCARB® MAX-MINI UVM-LDS	0.050mm	Miniature, Pilot Drill · Metric · CARBIDE · SS	133	331
235		OSG CARBIDE DRILL/ COUNTERSINK	3/64" - 7/32"	Drill/ Countersink · Inch · CARBIDE · BR	178	-
700		OSG CARBIDE COUNTERSINK	1/8" - 1"	1 Flute, Countersink · Inch · CARBIDE · BR	184	-
701		OSG CARBIDE COUNTERSINK	1/4" - 1"	Multiple Flute, Countersink · Inch · CARBIDE · BR	185	-
706		OSG CARBIDE COUNTERSINK	1/4" - 1"	6 Flute, Countersink · Inch · CARBIDE · BR	186	-
1200		EX-GOLD TIN-NC-LDS	3.00mm - 25.00mm	Stub, 60°/ 90°/ 120° Spot Drill · Metric · HSS · BR · TiN	254	354
1250		EX-GOLD LS-NC-LDS	3.00mm - 25.00mm	Stub, Long Shank 90° Spot Drill · Metric · HSS · BR	255	354
Chucking Reamer						
300D		OSG CARBIDE CHUCKING REAMER	3/64" - 1/2" 0.80mm - 13.00mm	Multiple Flutes, Reamer · Inch · Metric · CARBIDE · BR	179-183	341

≥10D (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6503	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
6504	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
6505	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
5630	◎	◎	◎	◎	◎				◎		○			○			
5275										◎	◎						
5310														○	○	◎	◎
5325						◎	◎	◎		○	○	◎	○	○	○	◎	
5340	○	○	○	○	○	◎	◎	◎		◎	◎		○				
1750	◎	◎	◎	◎	◎	○	○	○	◎	○	○		○	◎	○		
1760	◎	◎	◎	◎	◎	○	○	○	◎	○	○		○	◎	○		
1770	◎	◎	◎	◎	◎	○	○	○	◎	○	○		○	◎	○		

Centering/Countersinking

5190	◎	◎	◎	◎	◎				◎		○	○	○	◎	◎	◎	
5315						◎	◎	◎		○	○	◎	○	○	○	◎	
235	○	○	○	◎		○	○	○	○	○	○	○	○	○			
700	○	○		○					○	○	○						
701			○	○					○					○	○	○	
706	○	○		○						○	○						
1200	◎	◎	◎	○	○	○	○	○		○	○			○			
1250	◎	◎	◎	○	○				○	○	○						

Chucking Reamer

300D	○	○		○		○	○	○	○	○	○						

○ good ◎ best

CONTINUED

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
Composite Drills						
7501		EXOPRO® AERO-STAD	#40 - 1/2" 2.50mm - 12.73mm	Triple Angle — Inch, Metric, CARBIDE, DIA	119	324
7520		EXOPRO® AERO-LHX	#40 - 1/2" 2.50mm - 12.73mm	Low Helix — Inch, Metric, CARBIDE, DIA	120	324
7500		EXOPRO® AERO-D-REAM	#40 - 1/2" 2.50mm - 12.73mm	Tapered Drill/ Reamer — Inch, Metric, CARBIDE, DIA	118	324
7530		EXOPRO® AERO-S	#40 - 1/2" 2.50mm - 12.73mm	High Helix, Stack Drill — Inch, Metric, CARBIDE, DIA	121	325
7532		EXOPRO® AERO-H	#40 - 1/2" 2.50mm - 12.73mm	Stack Drill — Inch, Metric, CARBIDE, DIA	122	326
5732		EXOCARB® AERO-H	#11 - 1/2" 4.86mm - 12.73mm	Stack Drill — Inch, Metric, CARBIDE, TiAlN	123	326
HP700		HY-PRO® CARB NEPTUNE	#40 - 1/4" 2.49mm - 6.35mm	3 Flute, Hand Drill — Inch, Metric, CARBIDE, TiAlN	124	327
257		OSG CARBIDE AERO-D-REAM	#40 - 1/2" 2.49mm - 12.70mm	Tapered Drill/ Reamer — Inch, Metric, CARBIDE, BR	125-126	324

Composite Drills

List No.	Other											
	Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber / Aluminum Stack	Carbon Fiber / Titanium Stack	Carbon Fiber / Al / Ti / CRES Stack
				CFRP/Nomex	GFRP/Nomex	AFRP	CFRP/Al	Al/Al				
7501	◎	○		◎	◎		◎	○	◎	○		
7520	◎	○		◎	◎		◎		◎			
7500	◎	○		◎	◎		◎		◎			
7530	◎	◎		○	○		◎	◎		◎		
7532	◎									○	◎	◎
5732	◎									○	◎	◎
HP700	◎									◎	◎	◎
257	◎	○		◎	◎		◎	◎	◎			

○ good ◎ best

CONTINUED

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
≤2D						
52502		OSG PHOENIX P2D	0.484" - 2.500"	Indexable Drill, 2D — Inch, STEEL	265-266	362
78031		OSG PHOENIX P2D	12.00mm - 63.00mm	Indexable Drill, 2D — Metric, STEEL	267-269	362
52513		OSG PHOENIX PDZ	0.688" - 1.500"	Indexable Flat Bottom Drill, 2D — Inch, STEEL	288	368
78537		OSG PHOENIX PDZ	16.00mm - 43.00mm	Indexable Flat Bottom Drill, 2D — Metric, STEEL	289	368
≤3D						
52400		OSG PHOENIX PXD	0.551" - 1.023"	Exchangeable Head Drill, 3D & 5D — Inch, STEEL	256	361
78310		OSG PHOENIX PXD	14.00mm - 25.99mm	Exchangeable Head Drill, 3D & 5D — Metric, STEEL	257	361
52503		OSG PHOENIX P3D	0.484" - 2.500"	Indexable Drill, 3D — Inch, STEEL	270-271	362
78032		OSG PHOENIX P3D	12.00mm - 63.00mm	Indexable Drill, 3D — Metric, STEEL	272-273	362
78001		OSG PHOENIX PHP	14.00mm - 40.00mm	High Performance Drill, 3D — Metric, STEEL	285	367
52514		OSG PHOENIX PDZ	0.688" - 1.500"	Indexable Flat Bottom Drill, 3D — Inch, STEEL	290	368
78538		OSG PHOENIX PDZ	16.00mm - 43.00mm	Indexable Flat Bottom Drill, 3D — Metric, STEEL	291	368
≤5D						
52400		OSG PHOENIX PXD	0.551" - 1.023"	Exchangeable Head Drill, 3D & 5D — Inch, STEEL	256	361
78310		OSG PHOENIX PXD	14.00mm - 25.99mm	Exchangeable Head Drill, 3D & 5D — Metric, STEEL	257	361
52504		OSG PHOENIX P4D	0.484" - 2.500"	Indexable Drill, 4D — Inch, STEEL	274-275	363
78033		OSG PHOENIX P4D	12.00mm - 63.00mm	Indexable Drill, 4D — Metric, STEEL	276-277	363
52505		OSG PHOENIX P5D	0.484" - 2.500"	Indexable Drill, 5D — Inch, STEEL	278-279	364
78027		OSG PHOENIX P5D	12.00mm - 63.00mm	Indexable Drill, 5D — Metric, STEEL	280-281	364
Centering/Countersinking						
52510		OSG PHOENIX PZAG SA	0.531" - 1.813"	Indexable Counterbore Cutter, SA — Inch, STEEL	294	370
78321		OSG PHOENIX PZAG SS	14.00mm - 48.00mm	Indexable Counterbore Cutter, SS — Metric, STEEL	295	370
52511		OSG PHOENIX PZAG Bore	2.000" - 3.125"	Indexable Counterbore Cutter, Bore — Inch, STEEL	296	370
78421		OSG PHOENIX PZAG Bore	54.00mm - 82.00mm	Indexable Counterbore Cutter, Bore — Metric, STEEL	297	370
52512		OSG PHOENIX PLDS SA	0.567" - 0.681"	Indexable Centering & Chamfering Cutter, SA — Inch, STEEL	300	371
78034		OSG PHOENIX PLDS SS	14.40mm - 17.30mm	Indexable Centering & Chamfering Cutter, SS — Metric, STEEL	301	371
78134		OSG PHOENIX PLDS SF	14.40mm - 17.30mm	Indexable Centering & Chamfering Cutter, SF — Metric, STEEL	302	371

Indexable Inserts

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
78PXD		OSG PHOENIX PXD Inserts	-	Exchangeable Drill Heads	258-263	-
78P5D		OSG PHOENIX PD Inserts	-	Indexable Drill Inserts	282-283	-
78PHP		OSG PHOENIX PHP Inserts	-	High Performance Drill Inserts	286	-
78PZAG		OSG PHOENIX PZAG Inserts	-	Indexable Counterbore Inserts	298	-
78PLDS		OSG PHOENIX PLDS Inserts	-	Indexable Centering & Chamfering Cutter Inserts	303	-

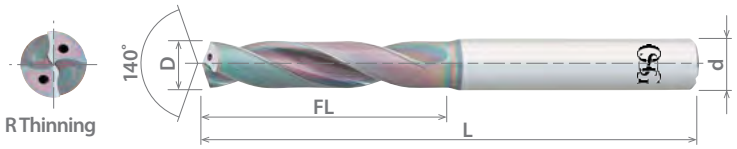
Indexable Accessories

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
7808H		OSG PHOENIX PXD Accessories	-	Exchangeable Head Drill Accessories	264	-
7808H		OSG PHOENIX PD Accessories	-	Indexable Drill Accessories	284	-
7808H		OSG PHOENIX PHP Accessories	-	High Performance Drill Accessories	287	-
7808H		OSG PHOENIX PDZ Accessories	-	Indexable Flat Drill Accessories	293	-
7808H		OSG PHOENIX PZAG Accessories	-	Indexable Counterbore Accessories	299	-
7808H		OSG PHOENIX PLDS Accessories	-	Indexable Centering & Chamfering Cutter Accessories	304	-

List 6500

A BRAND ADO-3D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
650007812	●	-	-	-	2.000	0.07874	12.00	66.00	-	3.00
650008212	●	-	-	-	2.100	0.08268	13.00	66.00	-	3.00
650008612	●	-	-	-	2.200	0.08661	14.00	66.00	-	3.00
8690230	●	-	-	-	2.300	0.09055	14.00	66.00	-	3.00
650009312	●	3/32	-	-	2.381	0.09375	15.00	66.00	-	3.00
650009412	●	-	-	-	2.400	0.09449	15.00	66.00	-	3.00
8690250	●	-	-	-	2.500	0.09843	15.00	66.00	-	3.00
8690260	●	-	-	-	2.600	0.10236	16.00	66.00	-	3.00
650010612	●	-	-	-	2.700	0.10630	17.00	66.00	-	3.00
650010912	●	7/64	-	-	2.778	0.10938	17.00	66.00	-	3.00
8690280	●	-	-	-	2.800	0.11024	17.00	66.00	-	3.00
650011161	●	-	-	-	2.830	0.11142	18.00	66.00	-	3.00
8690290	●	-	-	-	2.900	0.11417	18.00	66.00	-	3.00
650011631	●	-	-	-	2.950	0.11614	18.00	66.00	-	3.00
8690300	●	-	-	-	3.000	0.11811	18.00	66.00	-	3.00
8690310	●	-	-	-	3.100	0.12205	19.00	74.00	-	4.00
650012511	●	1/8	-	-	3.175	0.12500	20.00	74.00	0.125	-
8690320	●	-	-	-	3.200	0.12598	20.00	74.00	-	4.00
8690330	●	-	-	-	3.300	0.12992	20.00	74.00	-	4.00
650013231	●	-	-	-	3.360	0.13228	21.00	74.00	-	4.00
8690340	●	-	-	-	3.400	0.13386	21.00	74.00	-	4.00
650013561	●	-	-	-	3.440	0.13543	21.00	74.00	-	4.00
8690350	●	-	-	-	3.500	0.13780	21.00	74.00	-	4.00
650013871	●	-	-	-	3.520	0.13858	22.00	74.00	-	4.00
650014051	●	-	-	-	3.570	0.14055	22.00	74.00	-	4.00
8690360	●	-	-	-	3.600	0.14173	22.00	74.00	-	4.00
8690370	●	-	-	-	3.700	0.14567	23.00	74.00	-	4.00
650014841	●	-	-	-	3.770	0.14843	23.00	74.00	-	4.00
8690380	●	-	-	-	3.800	0.14961	23.00	74.00	-	4.00
650015211	●	-	-	-	3.860	0.15197	24.00	74.00	-	4.00
8690390	●	-	-	-	3.900	0.15354	24.00	74.00	-	4.00
650015511	●	5/32	-	-	3.969	0.15625	24.00	74.00	0.188	-
8690400	●	-	-	-	4.000	0.15748	24.00	74.00	-	4.00
650015911	●	-	-	-	4.050	0.15945	25.00	80.00	-	6.00
650016011	●	-	20	-	4.089	0.16100	25.00	80.00	-	6.00
8690410	●	-	-	-	4.100	0.16142	25.00	80.00	-	5.00
8700410	●	-	-	-	4.100	0.16142	25.00	80.00	-	6.00
650016311	●	-	-	-	4.160	0.16378	26.00	80.00	-	6.00
8690420	●	-	-	-	4.200	0.16535	26.00	80.00	-	5.00
8700420	●	-	-	-	4.200	0.16535	26.00	80.00	-	6.00
650016711	●	-	-	-	4.270	0.16811	26.00	80.00	-	6.00
8690430	●	-	-	-	4.300	0.16929	26.00	80.00	-	5.00
8700430	●	-	-	-	4.300	0.16929	26.00	80.00	-	6.00
650017111	●	11/64	-	-	4.366	0.17188	27.00	80.00	0.188	-
8690440	●	-	-	-	4.400	0.17323	27.00	80.00	-	5.00
8700440	●	-	-	-	4.400	0.17323	27.00	80.00	-	6.00
650017511	●	-	-	-	4.460	0.17559	27.00	80.00	-	6.00
8690450	●	-	-	-	4.500	0.17717	27.00	80.00	-	5.00
8700450	●	-	-	-	4.500	0.17717	27.00	80.00	-	6.00
8690460	●	-	-	-	4.600	0.18110	28.00	80.00	-	5.00
8700460	●	-	-	-	4.600	0.18110	28.00	80.00	-	6.00
650018311	●	-	-	-	4.660	0.18346	29.00	80.00	-	6.00
8690470	●	-	-	-	4.700	0.18504	29.00	80.00	-	5.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6500 (Continued)

A BRAND ADO-3D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8700470	●	-	-	-	4.700	0.18504	29.00	80.00	-	6.00
650018711	●	3/16	-	-	4.763	0.18750	29.00	80.00	0.188	-
8690480	●	-	-	-	4.800	0.18898	29.00	80.00	-	5.00
8700480	●	-	-	-	4.800	0.18898	29.00	80.00	-	6.00
8690490	●	-	-	-	4.900	0.19291	30.00	80.00	-	5.00
8700490	●	-	-	-	4.900	0.19291	30.00	80.00	-	6.00
8690500	●	-	-	-	5.000	0.19685	25.00	80.00	-	5.00
8700500	●	-	-	-	5.000	0.19685	25.00	80.00	-	6.00
8690510	●	-	-	-	5.100	0.20079	26.00	82.00	-	6.00
650020291	●	-	-	-	5.150	0.20276	26.00	82.00	-	6.00
650020211	●	13/64	-	-	5.159	0.20313	26.00	82.00	0.250	-
8690520	●	-	-	-	5.200	0.20472	26.00	82.00	-	6.00
650020701	●	-	-	-	5.260	0.20709	27.00	82.00	-	6.00
8690530	●	-	-	-	5.300	0.20866	27.00	82.00	-	6.00
8690540	●	-	-	-	5.400	0.21260	27.00	82.00	-	6.00
650021211	●	-	3	-	5.410	0.21300	28.00	82.00	-	6.00
650021521	●	-	-	-	5.470	0.21535	28.00	82.00	-	6.00
8690550	●	-	-	-	5.500	0.21654	28.00	82.00	-	6.00
650021711	●	7/32	-	-	5.556	0.21875	28.00	82.00	0.250	-
8690560	●	-	-	-	5.600	0.22047	28.00	82.00	-	6.00
8690570	●	-	-	-	5.700	0.22441	29.00	82.00	-	6.00
8690580	●	-	-	-	5.800	0.22835	29.00	82.00	-	6.00
8690590	●	-	-	-	5.900	0.23228	30.00	82.00	-	6.00
650023311	●	15/64	-	-	5.953	0.23438	30.00	82.00	0.250	-
8690600	●	-	-	-	6.000	0.23622	30.00	82.00	-	6.00
8690610	●	-	-	-	6.100	0.24016	31.00	88.00	-	7.00
8700610	●	-	-	-	6.100	0.24016	31.00	88.00	-	8.00
650024211	●	-	-	-	6.150	0.24213	31.00	88.00	-	8.00
8690620	●	-	-	-	6.200	0.24409	31.00	88.00	-	7.00
8700620	●	-	-	-	6.200	0.24409	31.00	88.00	-	8.00
8690630	●	-	-	-	6.300	0.24803	32.00	88.00	-	7.00
8700630	●	-	-	-	6.300	0.24803	32.00	88.00	-	8.00
650025011	●	1/4	-	E	6.350	0.25000	32.00	88.00	0.250	-
8690640	●	-	-	-	6.400	0.25197	32.00	88.00	-	7.00
8700640	●	-	-	-	6.400	0.25197	32.00	88.00	-	8.00
8690650	●	-	-	-	6.500	0.25591	33.00	88.00	-	7.00
8700650	●	-	-	-	6.500	0.25591	33.00	88.00	-	8.00
650025611	●	-	-	F	6.528	0.25700	33.00	88.00	-	8.00
8690660	●	-	-	-	6.600	0.25984	33.00	88.00	-	7.00
8700660	●	-	-	-	6.600	0.25984	33.00	88.00	-	8.00
650026211	●	-	-	-	6.650	0.26181	34.00	88.00	-	8.00
8690670	●	-	-	-	6.700	0.26378	34.00	88.00	-	7.00
8700670	●	-	-	-	6.700	0.26378	34.00	88.00	-	8.00
650026411	●	17/64	-	-	6.747	0.26563	34.00	88.00	0.313	-
8690680	●	-	-	-	6.800	0.26772	34.00	88.00	-	7.00
8700680	●	-	-	-	6.800	0.26772	34.00	88.00	-	8.00
650026911	●	-	-	-	6.860	0.27008	35.00	88.00	-	8.00
8690690	●	-	-	-	6.900	0.27165	35.00	88.00	-	7.00
8700690	●	-	-	-	6.900	0.27165	35.00	88.00	-	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

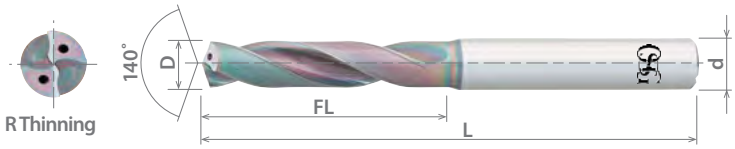
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	

○ Good ◎ Best

List 6500 (Continued)

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-3D



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8690700	●	-	-	-	7.000	0.27559	35.00	88.00	-	7.00
8700700	●	-	-	-	7.000	0.27559	35.00	88.00	-	8.00
650027701	●	-	-	-	7.040	0.27717	36.00	94.00	-	8.00
8690710	●	-	-	-	7.100	0.27953	36.00	94.00	-	8.00
650028011	●	9/32	-	-	7.144	0.28125	36.00	94.00	0.313	-
8690720	●	-	-	-	7.200	0.28346	36.00	94.00	-	8.00
8690730	●	-	-	-	7.300	0.28740	37.00	94.00	-	8.00
8690740	●	-	-	-	7.400	0.29134	37.00	94.00	-	8.00
8690750	●	-	-	-	7.500	0.29528	38.00	94.00	-	8.00
650029611	●	19/64	-	-	7.541	0.29688	38.00	94.00	0.313	-
8690760	●	-	-	-	7.600	0.29921	38.00	94.00	-	8.00
8690770	●	-	-	-	7.700	0.30315	39.00	94.00	-	8.00
8690780	●	-	-	-	7.800	0.30709	39.00	94.00	-	8.00
8690790	●	-	-	-	7.900	0.31102	40.00	94.00	-	8.00
650031211	●	5/16	-	-	7.938	0.31250	40.00	94.00	0.313	-
8690800	●	-	-	-	8.000	0.31496	40.00	94.00	-	8.00
8690810	●	-	-	-	8.100	0.31890	41.00	101.00	-	9.00
8700810	●	-	-	-	8.100	0.31890	41.00	101.00	-	10.00
650032111	●	-	-	-	8.150	0.32087	41.00	101.00	-	10.00
8690820	●	-	-	-	8.200	0.32283	41.00	101.00	-	9.00
8700820	●	-	-	-	8.200	0.32283	41.00	101.00	-	10.00
8690830	●	-	-	-	8.300	0.32677	42.00	101.00	-	9.00
8700830	●	-	-	-	8.300	0.32677	42.00	101.00	-	10.00
650032711	●	21/64	-	-	8.334	0.32813	42.00	101.00	0.375	-
8690840	●	-	-	-	8.400	0.33071	42.00	101.00	-	9.00
8700840	●	-	-	-	8.400	0.33071	42.00	101.00	-	10.00
650033011	●	-	-	Q	8.433	0.33200	43.00	101.00	-	10.00
8690850	●	-	-	-	8.500	0.33465	43.00	101.00	-	9.00
8700850	●	-	-	-	8.500	0.33465	43.00	101.00	-	10.00
650033611	●	-	-	-	8.560	0.33701	43.00	101.00	-	10.00
8690860	●	-	-	-	8.600	0.33858	43.00	101.00	-	9.00
8700860	●	-	-	-	8.600	0.33858	43.00	101.00	-	10.00
650034011	●	-	-	-	8.640	0.34016	44.00	101.00	-	10.00
650034111	●	-	-	-	8.680	0.34173	44.00	101.00	-	10.00
8690870	●	-	-	-	8.700	0.34252	44.00	101.00	-	9.00
8700870	●	-	-	-	8.700	0.34252	44.00	101.00	-	10.00
650034211	●	11/32	-	-	8.731	0.34375	44.00	101.00	0.375	-
8690880	●	-	-	-	8.800	0.34646	44.00	101.00	-	9.00
8700880	●	-	-	-	8.800	0.34646	44.00	101.00	-	10.00
650034811	●	-	-	-	8.860	0.34882	45.00	101.00	-	10.00
8690890	●	-	-	-	8.900	0.35039	45.00	101.00	-	9.00
8700890	●	-	-	-	8.900	0.35039	45.00	101.00	-	10.00
8690900	●	-	-	-	9.000	0.35433	45.00	101.00	-	9.00
8700900	●	-	-	-	9.000	0.35433	45.00	101.00	-	10.00
8690910	●	-	-	-	9.100	0.35827	46.00	106.00	-	10.00
650035811	●	23/64	-	-	9.128	0.35938	46.00	106.00	0.375	-
8690920	●	-	-	-	9.200	0.36220	46.00	106.00	-	10.00
8690930	●	-	-	-	9.300	0.36614	47.00	106.00	-	10.00
8690940	●	-	-	-	9.400	0.37008	47.00	106.00	-	10.00
8690950	●	-	-	-	9.500	0.37402	48.00	106.00	-	10.00
650037511	●	3/8	-	-	9.525	0.37500	48.00	106.00	0.375	-
650037601	●	-	-	-	9.550	0.37598	48.00	106.00	-	10.00
8690960	●	-	-	-	9.600	0.37795	48.00	106.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6500 (Continued)

A BRAND ADO-3D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8690970	●	-	-	-	9.700	0.38189	49.00	106.00	-	10.00
8690980	●	-	-	-	9.800	0.38583	49.00	106.00	-	10.00
8690990	●	-	-	-	9.900	0.38976	50.00	106.00	-	10.00
650038911	●	25/64	-	-	9.922	0.39063	50.00	106.00	0.438	-
8691000	●	-	-	-	10.000	0.39370	50.00	106.00	-	10.00
8691010	●	-	-	-	10.100	0.39764	51.00	113.00	-	11.00
8701010	●	-	-	-	10.100	0.39764	51.00	113.00	-	12.00
8691020	●	-	-	-	10.200	0.40157	51.00	113.00	-	11.00
8701020	●	-	-	-	10.200	0.40157	51.00	113.00	-	12.00
8691030	●	-	-	-	10.300	0.40551	52.00	113.00	-	11.00
8701030	●	-	-	-	10.300	0.40551	52.00	113.00	-	12.00
650040511	●	13/32	-	-	10.319	0.40625	52.00	113.00	0.438	-
8691040	●	-	-	-	10.400	0.40945	52.00	113.00	-	11.00
8701040	●	-	-	-	10.400	0.40945	52.00	113.00	-	12.00
650041011	●	-	-	-	10.440	0.41102	53.00	113.00	-	12.00
8691050	●	-	-	-	10.500	0.41339	53.00	113.00	-	11.00
8701050	●	-	-	-	10.500	0.41339	53.00	113.00	-	12.00
8691060	●	-	-	-	10.600	0.41732	53.00	113.00	-	11.00
8701060	●	-	-	-	10.600	0.41732	53.00	113.00	-	12.00
8691070	●	-	-	-	10.700	0.42126	54.00	113.00	-	11.00
8701070	●	-	-	-	10.700	0.42126	54.00	113.00	-	12.00
650042111	●	27/64	-	-	10.716	0.42188	54.00	113.00	0.438	-
8691080	●	-	-	-	10.800	0.42520	54.00	113.00	-	11.00
8701080	●	-	-	-	10.800	0.42520	54.00	113.00	-	12.00
650042661	●	-	-	-	10.860	0.42756	55.00	113.00	-	12.00
8691090	●	-	-	-	10.900	0.42913	55.00	113.00	-	11.00
8701090	●	-	-	-	10.900	0.42913	55.00	113.00	-	12.00
8691100	●	-	-	-	11.000	0.43307	55.00	113.00	-	11.00
8701100	●	-	-	-	11.000	0.43307	55.00	113.00	-	12.00
8691110	●	-	-	-	11.100	0.43701	56.00	120.00	-	12.00
650043711	●	7/16	-	-	11.113	0.43750	56.00	120.00	0.438	-
8691120	●	-	-	-	11.200	0.44094	56.00	120.00	-	12.00
8691130	●	-	-	-	11.300	0.44488	57.00	120.00	-	12.00
8691140	●	-	-	-	11.400	0.44882	57.00	120.00	-	12.00
8691150	●	-	-	-	11.500	0.45276	58.00	120.00	-	12.00
650045211	●	29/64	-	-	11.509	0.45313	58.00	120.00	0.500	-
8691160	●	-	-	-	11.600	0.45669	58.00	120.00	-	12.00
8691170	●	-	-	-	11.700	0.46063	59.00	120.00	-	12.00
8691180	●	-	-	-	11.800	0.46457	59.00	120.00	-	12.00
8691190	●	-	-	-	11.900	0.46850	60.00	120.00	-	12.00
650046711	●	15/32	-	-	11.906	0.46875	60.00	120.00	0.500	-
8691200	●	-	-	-	12.000	0.47244	60.00	120.00	-	12.00
8691210	●	-	-	-	12.100	0.47638	61.00	128.00	-	13.00
8701210	●	-	-	-	12.100	0.47638	61.00	128.00	-	14.00
8691220	●	-	-	-	12.200	0.48031	61.00	128.00	-	13.00
8701220	●	-	-	-	12.200	0.48031	61.00	128.00	-	14.00
8691230	●	-	-	-	12.300	0.48425	62.00	128.00	-	13.00
8701230	●	-	-	-	12.300	0.48425	62.00	128.00	-	14.00
650048411	●	31/64	-	-	12.303	0.48438	62.00	128.00	0.500	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

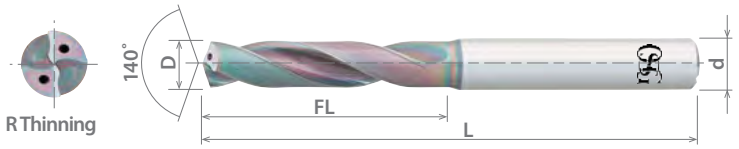
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	

○ Good ◎ Best

List 6500 (Continued)

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-3D



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8691240	●	-	-	-	12.400	0.48819	62.00	128.00	-	13.00
8701240	●	-	-	-	12.400	0.48819	62.00	128.00	-	14.00
650049011	●	-	-	-	12.450	0.49016	63.00	128.00	-	14.00
8691250	●	-	-	-	12.500	0.49213	63.00	128.00	-	13.00
8701250	●	-	-	-	12.500	0.49213	63.00	128.00	-	14.00
8691260	●	-	-	-	12.600	0.49606	63.00	128.00	-	13.00
8701260	●	-	-	-	12.600	0.49606	63.00	128.00	-	14.00
650049811	●	-	-	-	12.680	0.49921	64.00	128.00	-	14.00
650050011	●	1/2	-	-	12.700	0.50000	64.00	128.00	0.500	-
8691270	●	-	-	-	12.700	0.50000	64.00	128.00	-	13.00
8701270	●	-	-	-	12.700	0.50000	64.00	128.00	-	14.00
8691280	●	-	-	-	12.800	0.50394	64.00	128.00	-	13.00
8701280	●	-	-	-	12.800	0.50394	64.00	128.00	-	14.00
8691290	●	-	-	-	12.900	0.50787	65.00	128.00	-	13.00
8701290	●	-	-	-	12.900	0.50787	65.00	128.00	-	14.00
8691300	●	-	-	-	13.000	0.51181	65.00	128.00	-	13.00
8701300	●	-	-	-	13.000	0.51181	65.00	128.00	-	14.00
650051501	●	-	-	-	13.080	0.51496	66.00	134.00	-	14.00
8691310	●	-	-	-	13.100	0.51575	66.00	134.00	-	14.00
8691320	●	-	-	-	13.200	0.51969	66.00	134.00	-	14.00
8691330	●	-	-	-	13.300	0.52362	67.00	134.00	-	14.00
8691340	●	-	-	-	13.400	0.52756	67.00	134.00	-	14.00
650053011	●	17/32	-	-	13.494	0.53125	68.00	134.00	0.625	-
8691350	●	-	-	-	13.500	0.53150	68.00	134.00	-	14.00
8691360	●	-	-	-	13.600	0.53543	68.00	134.00	-	14.00
8691370	●	-	-	-	13.700	0.53937	69.00	134.00	-	14.00
8691380	●	-	-	-	13.800	0.54331	69.00	134.00	-	14.00
650054601	●	-	-	-	13.870	0.54606	70.00	134.00	-	14.00
8691390	●	-	-	-	13.900	0.54724	70.00	134.00	-	14.00
8691400	●	-	-	-	14.000	0.55118	70.00	134.00	-	14.00
8691410	●	-	-	-	14.100	0.55512	71.00	140.00	-	15.00
8701410	●	-	-	-	14.100	0.55512	71.00	140.00	-	16.00
8691420	●	-	-	-	14.200	0.55906	71.00	140.00	-	15.00
8701420	●	-	-	-	14.200	0.55906	71.00	140.00	-	16.00
650056111	●	9/16	-	-	14.288	0.56250	72.00	140.00	0.625	-
8691430	●	-	-	-	14.300	0.56299	72.00	140.00	-	15.00
8701430	●	-	-	-	14.300	0.56299	72.00	140.00	-	16.00
8691440	●	-	-	-	14.400	0.56693	72.00	140.00	-	15.00
8701440	●	-	-	-	14.400	0.56693	72.00	140.00	-	16.00
8691450	●	-	-	-	14.500	0.57087	73.00	140.00	-	15.00
8701450	●	-	-	-	14.500	0.57087	73.00	140.00	-	16.00
8691460	●	-	-	-	14.600	0.57480	73.00	140.00	-	15.00
8701460	●	-	-	-	14.600	0.57480	73.00	140.00	-	16.00
650057711	●	37/64	-	-	14.684	0.57813	74.00	140.00	0.625	-
8691470	●	-	-	-	14.700	0.57874	74.00	140.00	-	15.00
8701470	●	-	-	-	14.700	0.57874	74.00	140.00	-	16.00
8691480	●	-	-	-	14.800	0.58268	74.00	140.00	-	15.00
8701480	●	-	-	-	14.800	0.58268	74.00	140.00	-	16.00
8691490	●	-	-	-	14.900	0.58661	75.00	140.00	-	15.00
8701490	●	-	-	-	14.900	0.58661	75.00	140.00	-	16.00
8691500	●	-	-	-	15.000	0.59055	75.00	140.00	-	15.00
8701500	●	-	-	-	15.000	0.59055	75.00	140.00	-	16.00
8691510	●	-	-	-	15.100	0.59449	76.00	145.00	-	16.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6500 (Continued)

A BRAND ADO-3D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8691520	●	-	-	-	15.200	0.59843	76.00	145.00	-	16.00
8691530	●	-	-	-	15.300	0.60236	77.00	145.00	-	16.00
8691540	●	-	-	-	15.400	0.60630	77.00	145.00	-	16.00
8691550	●	-	-	-	15.500	0.61024	78.00	145.00	-	16.00
8691560	●	-	-	-	15.600	0.61417	78.00	145.00	-	16.00
8691570	●	-	-	-	15.700	0.61811	79.00	145.00	-	16.00
8691580	●	-	-	-	15.800	0.62205	79.00	145.00	-	16.00
650062511	●	5/8	-	-	15.875	0.62500	80.00	145.00	0.625	-
8691590	●	-	-	-	15.900	0.62598	80.00	145.00	-	16.00
8691600	●	-	-	-	16.000	0.62992	80.00	145.00	-	16.00
650063311	●	-	-	-	16.100	0.63386	81.00	150.00	-	18.00
8691650	●	-	-	-	16.500	0.64961	83.00	150.00	-	17.00
8701650	●	-	-	-	16.500	0.64961	83.00	150.00	-	18.00
650065511	●	21/32	-	-	16.669	0.65625	85.00	150.00	0.750	-
650066311	●	-	-	-	16.840	0.66299	85.00	150.00	-	18.00
8691700	●	-	-	-	17.000	0.66929	85.00	150.00	-	17.00
8701700	●	-	-	-	17.000	0.66929	85.00	150.00	-	18.00
8691750	●	-	-	-	17.500	0.68898	88.00	155.00	-	18.00
650069321	●	-	-	-	17.610	0.69331	90.00	155.00	-	18.00
650069601	●	-	-	-	17.680	0.69606	90.00	155.00	-	18.00
650069801	●	-	-	-	17.730	0.69803	90.00	155.00	-	18.00
8691800	●	-	-	-	18.000	0.70866	90.00	155.00	-	18.00
8691850	●	-	-	-	18.500	0.72835	93.00	160.00	-	19.00
8701850	●	-	-	-	18.500	0.72835	93.00	160.00	-	20.00
650073311	●	-	-	-	18.640	0.73386	95.00	160.00	-	20.00
8691900	●	-	-	-	19.000	0.74803	95.00	160.00	-	19.00
8701900	●	-	-	-	19.000	0.74803	95.00	160.00	-	20.00
650075011	●	3/4	-	-	19.050	0.75000	95.00	160.00	0.750	-
650075711	●	-	-	-	19.250	0.75787	97.00	165.00	-	20.00
8691950	●	-	-	-	19.500	0.76772	98.00	165.00	-	20.00
650077401	●	-	-	-	19.660	0.77402	100.00	165.00	-	20.00
650077661	●	-	-	-	19.730	0.77677	100.00	165.00	-	20.00
650077801	●	-	-	-	19.760	0.77795	100.00	165.00	-	20.00
8692000	●	-	-	-	20.000	0.78740	100.00	165.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	

○ Good ◎ Best

List 6510

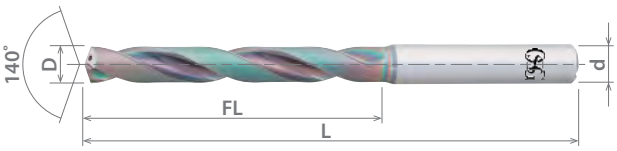
SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-5D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



R Thinning



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
651007812	●	-	-	-	2.000	0.07874	18.00	70.00	-	3.00
651008212	●	-	-	-	2.100	0.08268	19.00	70.00	-	3.00
651008612	●	-	-	-	2.200	0.08661	20.00	70.00	-	3.00
8692230	●	-	-	-	2.300	0.09055	21.00	70.00	-	3.00
651009312	●	3/32	-	-	2.381	0.09375	22.00	70.00	-	3.00
651009412	●	-	-	-	2.400	0.09449	22.00	70.00	-	3.00
8692250	●	-	-	-	2.500	0.09843	23.00	70.00	-	3.00
8692260	●	-	-	-	2.600	0.10236	24.00	78.00	-	3.00
651010612	●	-	-	-	2.700	0.10630	25.00	78.00	-	3.00
8692278	●	7/64	-	-	2.778	0.10938	26.00	78.00	-	3.00
8692280	●	-	-	-	2.800	0.11024	26.00	78.00	-	3.00
8692290	●	-	-	-	2.900	0.11417	27.00	78.00	-	3.00
8692300	●	-	-	-	3.000	0.11811	27.00	78.00	-	3.00
8692310	●	-	-	-	3.100	0.12205	28.00	86.00	-	4.00
651012511	●	1/8	-	-	3.175	0.12500	29.00	86.00	0.125	-
8692320	●	-	-	-	3.200	0.12598	29.00	86.00	-	4.00
8692330	●	-	-	-	3.300	0.12992	30.00	86.00	-	4.00
8692340	●	-	-	-	3.400	0.13386	31.00	86.00	-	4.00
8692350	●	-	-	-	3.500	0.13780	32.00	86.00	-	4.00
8692360	●	-	-	-	3.600	0.14173	33.00	86.00	-	4.00
8692370	●	-	-	-	3.700	0.14567	34.00	86.00	-	4.00
8692380	●	-	-	-	3.800	0.14961	35.00	86.00	-	4.00
8692390	●	-	-	-	3.900	0.15354	36.00	86.00	-	4.00
651015511	●	5/32	-	-	3.969	0.15625	36.00	86.00	0.188	-
8692400	●	-	-	-	4.000	0.15748	36.00	86.00	-	4.00
651016011	●	-	20	-	4.089	0.16100	37.00	95.00	-	6.00
8692410	●	-	-	-	4.100	0.16142	37.00	95.00	-	5.00
8702410	●	-	-	-	4.100	0.16142	37.00	95.00	-	6.00
8692420	●	-	-	-	4.200	0.16535	38.00	95.00	-	5.00
8702420	●	-	-	-	4.200	0.16535	38.00	95.00	-	6.00
8692430	●	-	-	-	4.300	0.16929	39.00	95.00	-	5.00
8702430	●	-	-	-	4.300	0.16929	39.00	95.00	-	6.00
651017111	●	11/64	-	-	4.366	0.17188	40.00	95.00	0.188	-
8692440	●	-	-	-	4.400	0.17323	40.00	95.00	-	5.00
8702440	●	-	-	-	4.400	0.17323	40.00	95.00	-	6.00
8692450	●	-	-	-	4.500	0.17717	41.00	95.00	-	5.00
8702450	●	-	-	-	4.500	0.17717	41.00	95.00	-	6.00
8692460	●	-	-	-	4.600	0.18110	42.00	95.00	-	5.00
8702460	●	-	-	-	4.600	0.18110	42.00	95.00	-	6.00
8692470	●	-	-	-	4.700	0.18504	43.00	95.00	-	5.00
8702470	●	-	-	-	4.700	0.18504	43.00	95.00	-	6.00
651018711	●	3/16	-	-	4.763	0.18750	44.00	95.00	0.188	-
8692480	●	-	-	-	4.800	0.18898	44.00	95.00	-	5.00
8702480	●	-	-	-	4.800	0.18898	44.00	95.00	-	6.00
8692490	●	-	-	-	4.900	0.19291	45.00	95.00	-	5.00
8702490	●	-	-	-	4.900	0.19291	45.00	95.00	-	6.00
8692500	●	-	-	-	5.000	0.19685	45.00	95.00	-	5.00
8702500	●	-	-	-	5.000	0.19685	45.00	95.00	-	6.00
8692510	●	-	-	-	5.100	0.20079	41.00	100.00	-	6.00
651020211	●	13/64	-	-	5.159	0.20313	42.00	100.00	0.250	-
8692520	●	-	-	-	5.200	0.20472	42.00	100.00	-	6.00
8692530	●	-	-	-	5.300	0.20866	43.00	100.00	-	6.00
8692540	●	-	-	-	5.400	0.21260	44.00	100.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6510 (Continued)

A BRAND ADO-5D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
651021311	●	-	3	-	5.410	0.21300	44.00	100.00	0.250	-
8692550	●	-	-	-	5.500	0.21654	44.00	100.00	-	6.00
651021711	●	7/32	-	-	5.556	0.21875	45.00	100.00	0.250	-
8692560	●	-	-	-	5.600	0.22047	45.00	100.00	-	6.00
8692570	●	-	-	-	5.700	0.22441	46.00	100.00	-	6.00
8692580	●	-	-	-	5.800	0.22835	47.00	100.00	-	6.00
8692590	●	-	-	-	5.900	0.23228	48.00	100.00	-	6.00
651023311	●	15/64	-	-	5.953	0.23438	48.00	100.00	0.250	-
8692600	●	-	-	-	6.000	0.23622	48.00	100.00	-	6.00
8692610	●	-	-	-	6.100	0.24016	49.00	109.00	-	7.00
8702610	●	-	-	-	6.100	0.24016	49.00	109.00	-	8.00
8692620	●	-	-	-	6.200	0.24409	50.00	109.00	-	7.00
8702620	●	-	-	-	6.200	0.24409	50.00	109.00	-	8.00
8692630	●	-	-	-	6.300	0.24803	51.00	109.00	-	7.00
8702630	●	-	-	-	6.300	0.24803	51.00	109.00	-	8.00
651025011	●	1/4	-	E	6.350	0.25000	52.00	109.00	0.250	-
8692640	●	-	-	-	6.400	0.25197	52.00	109.00	-	7.00
8702640	●	-	-	-	6.400	0.25197	52.00	109.00	-	8.00
8692650	●	-	-	-	6.500	0.25591	52.00	109.00	-	7.00
8702650	●	-	-	-	6.500	0.25591	52.00	109.00	-	8.00
651025611	●	-	-	F	6.528	0.25700	53.00	109.00	-	8.00
8692660	●	-	-	-	6.600	0.25984	53.00	109.00	-	7.00
8702660	●	-	-	-	6.600	0.25984	53.00	109.00	-	8.00
8692670	●	-	-	-	6.700	0.26378	54.00	109.00	-	7.00
8702670	●	-	-	-	6.700	0.26378	54.00	109.00	-	8.00
651026411	●	17/64	-	-	6.747	0.26563	55.00	109.00	0.313	-
8692680	●	-	-	-	6.800	0.26772	55.00	109.00	-	7.00
8702680	●	-	-	-	6.800	0.26772	55.00	109.00	-	8.00
8692690	●	-	-	-	6.900	0.27165	56.00	109.00	-	7.00
8702690	●	-	-	-	6.900	0.27165	56.00	109.00	-	8.00
8692700	●	-	-	-	7.000	0.27559	56.00	109.00	-	7.00
8702700	●	-	-	-	7.000	0.27559	56.00	109.00	-	8.00
8692710	●	-	-	-	7.100	0.27953	57.00	118.00	-	8.00
651028011	●	9/32	-	-	7.144	0.28125	58.00	118.00	0.313	-
8692720	●	-	-	-	7.200	0.28346	58.00	118.00	-	8.00
8692730	●	-	-	-	7.300	0.28740	59.00	118.00	-	8.00
8692740	●	-	-	-	7.400	0.29134	60.00	118.00	-	8.00
8692750	●	-	-	-	7.500	0.29528	60.00	118.00	-	8.00
651029611	●	19/64	-	-	7.541	0.29688	60.00	118.00	0.313	-
8692760	●	-	-	-	7.600	0.29921	61.00	118.00	-	8.00
8692770	●	-	-	-	7.700	0.30315	62.00	118.00	-	8.00
8692780	●	-	-	-	7.800	0.30709	63.00	118.00	-	8.00
8692790	●	-	-	-	7.900	0.31102	64.00	118.00	-	8.00
651031211	●	5/16	-	-	7.938	0.31250	64.00	118.00	0.313	-
8692800	●	-	-	-	8.000	0.31496	64.00	118.00	-	8.00
8692810	●	-	-	-	8.100	0.31890	65.00	128.00	-	9.00
8702810	●	-	-	-	8.100	0.31890	65.00	128.00	-	10.00
8692820	●	-	-	-	8.200	0.32283	66.00	128.00	-	9.00
8702820	●	-	-	-	8.200	0.32283	66.00	128.00	-	10.00
8692830	●	-	-	-	8.300	0.32677	67.00	128.00	-	9.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED

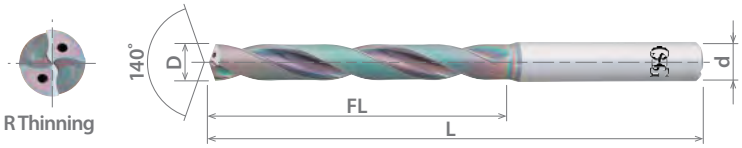
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	

○ Good ◎ Best

List 6510 (Continued)

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-5D



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8702830	●	-	-	-	8.300	0.32677	67.00	128.00	-	10.00
651032711	●	21/64	-	-	8.334	0.32813	67.00	128.00	0.375	-
8692840	●	-	-	-	8.400	0.33071	68.00	128.00	-	9.00
8702840	●	-	-	-	8.400	0.33071	68.00	128.00	-	10.00
651033111	●	-	-	Q	8.433	0.33200	68.00	128.00	0.344	-
8692850	●	-	-	-	8.500	0.33465	68.00	128.00	-	9.00
8702850	●	-	-	-	8.500	0.33465	68.00	128.00	-	10.00
8692860	●	-	-	-	8.600	0.33858	69.00	128.00	-	9.00
8702860	●	-	-	-	8.600	0.33858	69.00	128.00	-	10.00
8692870	●	-	-	-	8.700	0.34252	70.00	128.00	-	9.00
8702870	●	-	-	-	8.700	0.34252	70.00	128.00	-	10.00
651034211	●	11/32	-	-	8.731	0.34375	70.00	128.00	0.375	-
8692880	●	-	-	-	8.800	0.34646	71.00	128.00	-	9.00
8702880	●	-	-	-	8.800	0.34646	71.00	128.00	-	10.00
8692890	●	-	-	-	8.900	0.35039	72.00	128.00	-	9.00
8702890	●	-	-	-	8.900	0.35039	72.00	128.00	-	10.00
8692900	●	-	-	-	9.000	0.35433	72.00	128.00	-	9.00
8702900	●	-	-	-	9.000	0.35433	72.00	128.00	-	10.00
8692910	●	-	-	-	9.100	0.35827	73.00	136.00	-	10.00
651035811	●	23/64	-	-	9.128	0.35938	73.00	136.00	0.375	-
8692920	●	-	-	-	9.200	0.36220	74.00	136.00	-	10.00
8692930	●	-	-	-	9.300	0.36614	75.00	136.00	-	10.00
8692940	●	-	-	-	9.400	0.37008	76.00	136.00	-	10.00
8692950	●	-	-	-	9.500	0.37402	76.00	136.00	-	10.00
651037511	●	3/8	-	-	9.525	0.37500	76.00	136.00	0.375	-
8692960	●	-	-	-	9.600	0.37795	77.00	136.00	-	10.00
8692970	●	-	-	-	9.700	0.38189	78.00	136.00	-	10.00
8692980	●	-	-	-	9.800	0.38583	79.00	136.00	-	10.00
8692990	●	-	-	-	9.900	0.38976	80.00	136.00	-	10.00
651038911	●	25/64	-	-	9.922	0.39063	80.00	136.00	0.438	-
8693000	●	-	-	-	10.000	0.39370	80.00	136.00	-	10.00
8693010	●	-	-	-	10.100	0.39764	81.00	146.00	-	11.00
8703010	●	-	-	-	10.100	0.39764	81.00	146.00	-	12.00
8693020	●	-	-	-	10.200	0.40157	82.00	146.00	-	11.00
8703020	●	-	-	-	10.200	0.40157	82.00	146.00	-	12.00
8693030	●	-	-	-	10.300	0.40551	83.00	146.00	-	11.00
8703030	●	-	-	-	10.300	0.40551	83.00	146.00	-	12.00
651040511	●	13/32	-	-	10.319	0.40625	83.00	146.00	0.438	-
8693040	●	-	-	-	10.400	0.40945	84.00	146.00	-	11.00
8703040	●	-	-	-	10.400	0.40945	84.00	146.00	-	12.00
8693050	●	-	-	-	10.500	0.41339	84.00	146.00	-	11.00
8703050	●	-	-	-	10.500	0.41339	84.00	146.00	-	12.00
8693060	●	-	-	-	10.600	0.41732	85.00	146.00	-	11.00
8703060	●	-	-	-	10.600	0.41732	85.00	146.00	-	12.00
8693070	●	-	-	-	10.700	0.42126	86.00	146.00	-	11.00
8703070	●	-	-	-	10.700	0.42126	86.00	146.00	-	12.00
651042111	●	27/64	-	-	10.716	0.42188	86.00	146.00	0.438	-
8693080	●	-	-	-	10.800	0.42520	87.00	146.00	-	11.00
8703080	●	-	-	-	10.800	0.42520	87.00	146.00	-	12.00
8693090	●	-	-	-	10.900	0.42913	88.00	146.00	-	11.00
8703090	●	-	-	-	10.900	0.42913	88.00	146.00	-	12.00
8693100	●	-	-	-	11.000	0.43307	88.00	146.00	-	11.00
8703100	●	-	-	-	11.000	0.43307	88.00	146.00	-	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6510 (Continued)

A BRAND ADO-5D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8693110	●	-	-	-	11.100	0.43701	89.00	156.00	-	12.00
651043711	●	7/16	-	-	11.113	0.43750	89.00	156.00	0.438	-
8693120	●	-	-	-	11.200	0.44094	90.00	156.00	-	12.00
8693130	●	-	-	-	11.300	0.44488	91.00	156.00	-	12.00
8693140	●	-	-	-	11.400	0.44882	92.00	156.00	-	12.00
8693150	●	-	-	-	11.500	0.45276	92.00	156.00	-	12.00
651045211	●	29/64	-	-	11.509	0.45313	92.00	156.00	0.500	-
8693160	●	-	-	-	11.600	0.45669	93.00	156.00	-	12.00
8693170	●	-	-	-	11.700	0.46063	94.00	156.00	-	12.00
8693180	●	-	-	-	11.800	0.46457	95.00	156.00	-	12.00
8693190	●	-	-	-	11.900	0.46850	96.00	156.00	-	12.00
651046711	●	15/32	-	-	11.906	0.46875	96.00	156.00	0.500	-
8693200	●	-	-	-	12.000	0.47244	96.00	156.00	-	12.00
8693210	●	-	-	-	12.100	0.47638	97.00	167.00	-	13.00
8703210	●	-	-	-	12.100	0.47638	97.00	167.00	-	14.00
8693220	●	-	-	-	12.200	0.48031	98.00	167.00	-	13.00
8703220	●	-	-	-	12.200	0.48031	98.00	167.00	-	14.00
8693230	●	-	-	-	12.300	0.48425	99.00	167.00	-	13.00
8703230	●	-	-	-	12.300	0.48425	99.00	167.00	-	14.00
651048411	●	31/64	-	-	12.303	0.48438	99.00	167.00	0.500	-
8693240	●	-	-	-	12.400	0.48819	100.00	167.00	-	13.00
8703240	●	-	-	-	12.400	0.48819	100.00	167.00	-	14.00
8693250	●	-	-	-	12.500	0.49213	100.00	167.00	-	13.00
8703250	●	-	-	-	12.500	0.49213	100.00	167.00	-	14.00
8693260	●	-	-	-	12.600	0.49606	101.00	167.00	-	13.00
8703260	●	-	-	-	12.600	0.49606	101.00	167.00	-	14.00
651050011	●	1/2	-	-	12.700	0.50000	102.00	167.00	0.500	-
8693270	●	-	-	-	12.700	0.50000	102.00	167.00	-	13.00
8703270	●	-	-	-	12.700	0.50000	102.00	167.00	-	14.00
8693280	●	-	-	-	12.800	0.50394	103.00	167.00	-	13.00
8703280	●	-	-	-	12.800	0.50394	103.00	167.00	-	14.00
8693290	●	-	-	-	12.900	0.50787	104.00	167.00	-	13.00
8703290	●	-	-	-	12.900	0.50787	104.00	167.00	-	14.00
8693300	●	-	-	-	13.000	0.51181	104.00	167.00	-	13.00
8703300	●	-	-	-	13.000	0.51181	104.00	167.00	-	14.00
8693310	●	-	-	-	13.100	0.51575	105.00	176.00	-	14.00
8693320	●	-	-	-	13.200	0.51969	106.00	176.00	-	14.00
8693330	●	-	-	-	13.300	0.52362	107.00	176.00	-	14.00
8693340	●	-	-	-	13.400	0.52756	108.00	176.00	-	14.00
651053011	●	17/32	-	-	13.494	0.53125	108.00	176.00	0.625	-
8693350	●	-	-	-	13.500	0.53150	108.00	176.00	-	14.00
8693360	●	-	-	-	13.600	0.53543	109.00	176.00	-	14.00
8693370	●	-	-	-	13.700	0.53937	110.00	176.00	-	14.00
8693380	●	-	-	-	13.800	0.54331	111.00	176.00	-	14.00
8693390	●	-	-	-	13.900	0.54724	112.00	176.00	-	14.00
8693400	●	-	-	-	14.000	0.55118	112.00	176.00	-	14.00
8693410	●	-	-	-	14.100	0.55512	113.00	185.00	-	15.00
8703410	●	-	-	-	14.100	0.55512	113.00	185.00	-	16.00
8693420	●	-	-	-	14.200	0.55906	114.00	185.00	-	15.00
8703420	●	-	-	-	14.200	0.55906	114.00	185.00	-	16.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	

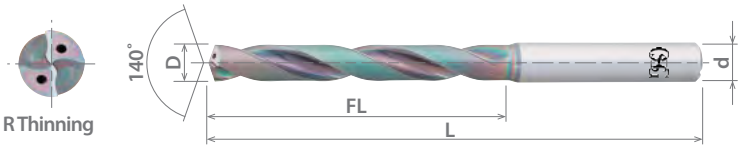
○ Good ◎ Best

List 6510 (Continued)

A BRAND ADO-5D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



R Thinning

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
651056111	●	9/16	-	-	14.288	0.56250	115.00	185.00	0.625	-
8693430	●	-	-	-	14.300	0.56299	115.00	185.00	-	15.00
8703430	●	-	-	-	14.300	0.56299	115.00	185.00	-	16.00
8693440	●	-	-	-	14.400	0.56693	116.00	185.00	-	15.00
8703440	●	-	-	-	14.400	0.56693	116.00	185.00	-	16.00
8693450	●	-	-	-	14.500	0.57087	116.00	185.00	-	15.00
8703450	●	-	-	-	14.500	0.57087	116.00	185.00	-	16.00
8693460	●	-	-	-	14.600	0.57480	117.00	185.00	-	15.00
8703460	●	-	-	-	14.600	0.57480	117.00	185.00	-	16.00
8693470	●	-	-	-	14.700	0.57874	118.00	185.00	-	15.00
8703470	●	-	-	-	14.700	0.57874	118.00	185.00	-	16.00
8693480	●	-	-	-	14.800	0.58268	119.00	185.00	-	15.00
8703480	●	-	-	-	14.800	0.58268	119.00	185.00	-	16.00
8693490	●	-	-	-	14.900	0.58661	120.00	185.00	-	15.00
8703490	●	-	-	-	14.900	0.58661	120.00	185.00	-	16.00
8693500	●	-	-	-	15.000	0.59055	120.00	185.00	-	15.00
8703500	●	-	-	-	15.000	0.59055	120.00	185.00	-	16.00
8693510	●	-	-	-	15.100	0.59449	121.00	193.00	-	16.00
8693520	●	-	-	-	15.200	0.59843	122.00	193.00	-	16.00
8693530	●	-	-	-	15.300	0.60236	123.00	193.00	-	16.00
8693540	●	-	-	-	15.400	0.60630	124.00	193.00	-	16.00
8693550	●	-	-	-	15.500	0.61024	124.00	193.00	-	16.00
8693560	●	-	-	-	15.600	0.61417	125.00	193.00	-	16.00
8693570	●	-	-	-	15.700	0.61811	126.00	193.00	-	16.00
8693580	●	-	-	-	15.800	0.62205	127.00	193.00	-	16.00
651062511	●	5/8	-	-	15.875	0.62500	128.00	193.00	0.625	-
8693590	●	-	-	-	15.900	0.62598	128.00	193.00	-	16.00
8693600	●	-	-	-	16.000	0.62992	128.00	193.00	-	16.00
651063311	●	-	-	-	16.100	0.63386	129.00	201.00	-	18.00
8693650	●	-	-	-	16.500	0.64961	132.00	201.00	-	17.00
8703650	●	-	-	-	16.500	0.64961	132.00	201.00	-	18.00
651065511	●	21/32	-	-	16.669	0.65625	134.00	201.00	0.750	-
8693700	●	-	-	-	17.000	0.66929	136.00	201.00	-	17.00
8703700	●	-	-	-	17.000	0.66929	136.00	201.00	-	18.00
8693750	●	-	-	-	17.500	0.68898	140.00	209.00	-	18.00
8693800	●	-	-	-	18.000	0.70866	144.00	209.00	-	18.00
8693850	●	-	-	-	18.500	0.72835	148.00	217.00	-	19.00
8703850	●	-	-	-	18.500	0.72835	148.00	217.00	-	20.00
8693900	●	-	-	-	19.000	0.74803	152.00	217.00	-	19.00
8703900	●	-	-	-	19.000	0.74803	152.00	217.00	-	20.00
651075011	●	3/4	-	-	19.050	0.75000	154.00	217.00	0.750	-
651075711	●	-	-	-	19.250	0.75787	154.00	217.00	-	20.00
8693950	●	-	-	-	19.500	0.76772	156.00	225.00	-	20.00
8694000	●	-	-	-	20.000	0.78740	160.00	225.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	

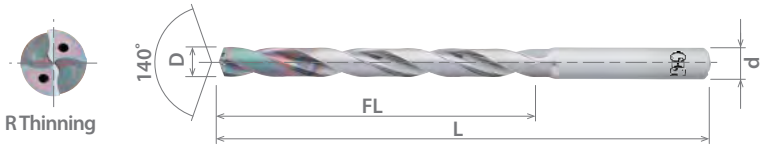
○ Good ◎ Best

List 6520

A BRAND ADO-8D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 15.88	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8694200	●	-	-	-	2.000	0.07874	22.00	75.00	-	3.00
8694210	●	-	-	-	2.100	0.08268	24.00	75.00	-	3.00
8694220	●	-	-	-	2.200	0.08661	25.00	75.00	-	3.00
8694230	●	-	-	-	2.300	0.09055	26.00	75.00	-	3.00
652009312	●	3/32	-	-	2.381	0.09375	27.00	75.00	-	3.00
8694240	●	-	-	-	2.400	0.09449	27.00	75.00	-	3.00
8694250	●	-	-	-	2.500	0.09843	28.00	75.00	-	3.00
8694260	●	-	-	-	2.600	0.10236	29.00	80.00	-	3.00
8694270	●	-	-	-	2.700	0.10630	30.00	80.00	-	3.00
652010911	●	7/64	-	-	2.778	0.10938	31.00	80.00	-	3.00
8694280	●	-	-	-	2.800	0.11024	31.00	80.00	-	3.00
8694290	●	-	-	-	2.900	0.11417	32.00	80.00	-	3.00
8694300	●	-	-	-	3.000	0.11811	33.00	80.00	-	3.00
8694310	●	-	-	-	3.100	0.12205	34.00	95.00	-	4.00
652012511	●	1/8	-	-	3.175	0.12500	35.00	95.00	0.125	-
8694320	●	-	-	-	3.200	0.12598	36.00	95.00	-	4.00
8694330	●	-	-	-	3.300	0.12992	36.00	95.00	-	4.00
8694340	●	-	-	-	3.400	0.13386	37.00	95.00	-	4.00
8694350	●	-	-	-	3.500	0.13780	39.00	95.00	-	4.00
8694360	●	-	-	-	3.600	0.14173	40.00	95.00	-	4.00
8694370	●	-	-	-	3.700	0.14567	41.00	95.00	-	4.00
8694380	●	-	-	-	3.800	0.14961	42.00	95.00	-	4.00
8694390	●	-	-	-	3.900	0.15354	43.00	95.00	-	4.00
652015511	●	5/32	-	-	3.969	0.15625	44.00	95.00	0.188	-
8694400	●	-	-	-	4.000	0.15748	44.00	95.00	-	4.00
652016011	●	-	20	-	4.089	0.16100	45.00	105.00	-	6.00
8704410	●	-	-	-	4.100	0.16142	45.00	105.00	-	6.00
8704420	●	-	-	-	4.200	0.16535	46.00	105.00	-	6.00
8704430	●	-	-	-	4.300	0.16929	47.00	105.00	-	6.00
652017111	●	11/64	-	-	4.366	0.17188	47.00	105.00	0.188	-
8704440	●	-	-	-	4.400	0.17323	48.00	105.00	-	6.00
8694450	●	-	-	-	4.500	0.17717	50.00	105.00	-	5.00
8704450	●	-	-	-	4.500	0.17717	50.00	105.00	-	6.00
8704460	●	-	-	-	4.600	0.18110	51.00	105.00	-	6.00
8704470	●	-	-	-	4.700	0.18504	52.00	105.00	-	6.00
652018711	●	3/16	-	-	4.763	0.18750	52.00	105.00	0.188	-
8704480	●	-	-	-	4.800	0.18898	53.00	105.00	-	6.00
8704490	●	-	-	-	4.900	0.19291	54.00	105.00	-	6.00
8694500	●	-	-	-	5.000	0.19685	55.00	105.00	-	5.00
8704500	●	-	-	-	5.000	0.19685	55.00	105.00	-	6.00
8704510	●	-	-	-	5.100	0.20079	56.00	115.00	-	6.00
652020211	●	13/64	-	-	5.159	0.20313	57.00	115.00	0.250	-
8704520	●	-	-	-	5.200	0.20472	57.00	115.00	-	6.00
8704530	●	-	-	-	5.300	0.20866	58.00	115.00	-	6.00
8704540	●	-	-	-	5.400	0.21260	59.00	115.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	

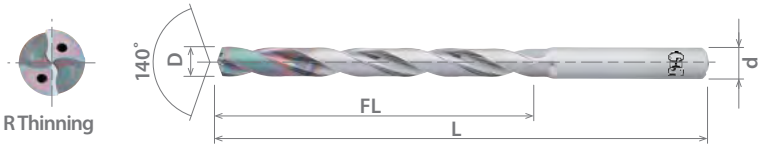
○ Good ◎ Best

List 6520 (Continued)

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-8D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 15.88	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
652021311	●	-	3	-	5.410	0.21300	60.00	115.00	0.250	-
8694550	●	-	-	-	5.500	0.21654	61.00	115.00	-	6.00
652021711	●	7/32	-	-	5.556	0.21875	61.00	115.00	0.250	-
8704560	●	-	-	-	5.600	0.22047	62.00	115.00	-	6.00
8704570	●	-	-	-	5.700	0.22441	63.00	115.00	-	6.00
8704580	●	-	-	-	5.800	0.22835	64.00	115.00	-	6.00
8704590	●	-	-	-	5.900	0.23228	65.00	115.00	-	6.00
652023311	●	15/64	-	-	5.953	0.23438	66.00	115.00	0.250	-
8694600	●	-	-	-	6.000	0.23622	66.00	115.00	-	6.00
8704610	●	-	-	-	6.100	0.24016	67.00	125.00	-	8.00
8704620	●	-	-	-	6.200	0.24409	68.00	125.00	-	8.00
8704630	●	-	-	-	6.300	0.24803	69.00	125.00	-	8.00
652025011	●	1/4	-	E	6.350	0.25000	70.00	125.00	0.250	-
8704640	●	-	-	-	6.400	0.25197	70.00	125.00	-	8.00
8694650	●	-	-	-	6.500	0.25591	72.00	125.00	-	7.00
8704650	●	-	-	-	6.500	0.25591	72.00	125.00	-	8.00
652025611	●	-	-	F	6.528	0.25700	72.00	125.00	-	8.00
8704660	●	-	-	-	6.600	0.25984	73.00	125.00	-	8.00
8704670	●	-	-	-	6.700	0.26378	74.00	125.00	-	8.00
652026411	●	17/64	-	-	6.747	0.26563	74.00	125.00	0.313	-
8704680	●	-	-	-	6.800	0.26772	75.00	125.00	-	8.00
8704690	●	-	-	-	6.900	0.27165	76.00	125.00	-	8.00
8694700	●	-	-	-	7.000	0.27559	77.00	125.00	-	7.00
8704700	●	-	-	-	7.000	0.27559	77.00	125.00	-	8.00
8704710	●	-	-	-	7.100	0.27953	78.00	140.00	-	8.00
652028011	●	9/32	-	-	7.144	0.28125	79.00	140.00	0.313	-
8704720	●	-	-	-	7.200	0.28346	79.00	140.00	-	8.00
8704730	●	-	-	-	7.300	0.28740	80.00	140.00	-	8.00
8704740	●	-	-	-	7.400	0.29134	81.00	140.00	-	8.00
8694750	●	-	-	-	7.500	0.29528	83.00	140.00	-	8.00
652029611	●	19/64	-	-	7.541	0.29688	84.00	140.00	0.313	-
8704760	●	-	-	-	7.600	0.29921	84.00	140.00	-	8.00
8704770	●	-	-	-	7.700	0.30315	85.00	140.00	-	8.00
8704780	●	-	-	-	7.800	0.30709	86.00	140.00	-	8.00
8704790	●	-	-	-	7.900	0.31102	87.00	140.00	-	8.00
652031211	●	5/16	-	-	7.938	0.31250	87.00	140.00	0.313	-
8694800	●	-	-	-	8.000	0.31496	88.00	140.00	-	8.00
8704810	●	-	-	-	8.100	0.31890	89.00	150.00	-	10.00
8704820	●	-	-	-	8.200	0.32283	90.00	150.00	-	10.00
8704830	●	-	-	-	8.300	0.32677	91.00	150.00	-	10.00
652032711	●	21/64	-	-	8.334	0.32813	92.00	150.00	0.375	-
8704840	●	-	-	-	8.400	0.33071	92.00	150.00	-	10.00
652033111	●	-	-	Q	8.433	0.33200	93.00	150.00	0.344	-
8694850	●	-	-	-	8.500	0.33465	94.00	150.00	-	9.00
8704850	●	-	-	-	8.500	0.33465	94.00	150.00	-	10.00
8704860	●	-	-	-	8.600	0.33858	95.00	150.00	-	10.00
8704870	●	-	-	-	8.700	0.34252	96.00	150.00	-	10.00
652035211	●	11/32	-	-	8.733	0.34375	96.00	150.00	0.375	-
8704880	●	-	-	-	8.800	0.34646	97.00	150.00	-	10.00
8704890	●	-	-	-	8.900	0.35039	98.00	150.00	-	10.00
8694900	●	-	-	-	9.000	0.35433	99.00	150.00	-	9.00
8704900	●	-	-	-	9.000	0.35433	99.00	150.00	-	10.00
8704910	●	-	-	-	9.100	0.35827	100.00	160.00	-	10.00
652035711	●	23/64	-	-	9.128	0.35938	101.00	160.00	0.375	-
8704920	●	-	-	-	9.200	0.36220	101.00	160.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6520 (Continued)

A BRAND ADO-8D

SPEED FEED 306 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8704930	●	-	-	-	9.300	0.36614	102.00	160.00	-	10.00
8704940	●	-	-	-	9.400	0.37008	103.00	160.00	-	10.00
8694950	●	-	-	-	9.500	0.37402	105.00	160.00	-	10.00
652037511	●	3/8	-	-	9.525	0.37500	105.00	160.00	0.375	-
8704960	●	-	-	-	9.600	0.37795	106.00	160.00	-	10.00
8704970	●	-	-	-	9.700	0.38189	107.00	160.00	-	10.00
8704980	●	-	-	-	9.800	0.38583	108.00	160.00	-	10.00
8704990	●	-	-	-	9.900	0.38976	109.00	160.00	-	10.00
652038811	●	25/64	-	-	9.922	0.39063	110.00	160.00	0.438	-
8695000	●	-	-	-	10.000	0.39370	110.00	160.00	-	10.00
8705010	●	-	-	-	10.100	0.39764	111.00	182.00	-	12.00
8705020	●	-	-	-	10.200	0.40157	112.00	182.00	-	12.00
8705030	●	-	-	-	10.300	0.40551	113.00	182.00	-	12.00
652040711	●	13/32	-	-	10.319	0.40625	113.00	182.00	0.438	-
8705040	●	-	-	-	10.400	0.40945	114.00	182.00	-	12.00
8695050	●	-	-	-	10.500	0.41339	116.00	182.00	-	11.00
8705050	●	-	-	-	10.500	0.41339	116.00	182.00	-	12.00
8705060	●	-	-	-	10.600	0.41732	117.00	182.00	-	12.00
8705070	●	-	-	-	10.700	0.42126	118.00	182.00	-	12.00
652042111	●	27/64	-	-	10.716	0.42188	118.00	182.00	0.438	-
8705080	●	-	-	-	10.800	0.42520	119.00	182.00	-	12.00
8705090	●	-	-	-	10.900	0.42913	120.00	182.00	-	12.00
8695100	●	-	-	-	11.000	0.43307	121.00	182.00	-	11.00
8705100	●	-	-	-	11.000	0.43307	121.00	182.00	-	12.00
8705110	●	-	-	-	11.100	0.43701	122.00	194.00	-	12.00
652043811	●	7/16	-	-	11.113	0.43750	122.00	194.00	0.438	-
8705120	●	-	-	-	11.200	0.44094	123.00	194.00	-	12.00
8705130	●	-	-	-	11.300	0.44488	124.00	194.00	-	12.00
8705140	●	-	-	-	11.400	0.44882	125.00	194.00	-	12.00
8695150	●	-	-	-	11.500	0.45276	127.00	194.00	-	12.00
652045211	●	29/64	-	-	11.509	0.45313	127.00	194.00	0.500	-
8705160	●	-	-	-	11.600	0.45669	128.00	194.00	-	12.00
8705170	●	-	-	-	11.700	0.46063	129.00	194.00	-	12.00
8705180	●	-	-	-	11.800	0.46457	130.00	194.00	-	12.00
8705190	●	-	-	-	11.900	0.46850	131.00	194.00	-	12.00
8695200	●	-	-	-	12.000	0.47244	132.00	194.00	-	12.00
8705210	●	-	-	-	12.100	0.47638	133.00	206.00	-	14.00
8705220	●	-	-	-	12.200	0.48031	134.00	206.00	-	14.00
8705230	●	-	-	-	12.300	0.48425	135.00	206.00	-	14.00
8705240	●	-	-	-	12.400	0.48819	136.00	206.00	-	14.00
8695250	●	-	-	-	12.500	0.49213	138.00	206.00	-	13.00
8705250	●	-	-	-	12.500	0.49213	138.00	206.00	-	14.00
8705260	●	-	-	-	12.600	0.49606	139.00	206.00	-	14.00
652050011	●	1/2	-	-	12.700	0.50000	140.00	206.00	0.500	-
652053011	●	17/32	-	-	13.494	0.53125	149.00	218.00	0.625	-
8705350	●	-	-	-	13.500	0.53150	149.00	218.00	-	14.00
8705400	●	-	-	-	14.000	0.55118	154.00	218.00	-	14.00
652056111	●	9/16	-	-	14.288	0.56250	157.00	230.00	0.625	-
8705450	●	-	-	-	14.500	0.57087	160.00	230.00	-	16.00
652062511	●	5/8	-	-	15.875	0.62500	175.00	241.00	0.625	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	○	○	

○ Good ◎ Best

A Brand *ADO*

Advanced Performance Coolant-Through Carbide Drills

List 6530

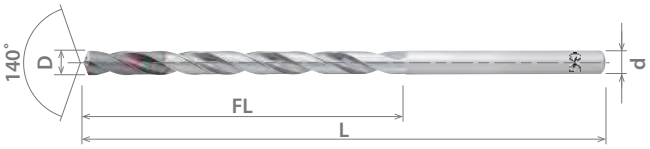
A BRAND ADO-10D

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.288	-0.032 / -0.059	-0.0013 / -0.0023



R Thinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
653007812	●	-	-	-	2.000	0.07874	26.00	75.00	-	3.00
653008212	●	-	-	-	2.100	0.08268	33.00	75.00	-	3.00
653008612	●	-	-	-	2.200	0.08661	33.00	75.00	-	3.00
653009012	●	-	-	-	2.300	0.09055	33.00	75.00	-	3.00
653009312	●	3/32	-	-	2.381	0.09375	33.00	75.00	-	3.00
653009412	●	-	-	-	2.400	0.09449	33.00	75.00	-	3.00
653009812	●	-	-	-	2.500	0.09843	33.00	75.00	-	3.00
653010212	●	-	-	-	2.600	0.10236	40.00	90.00	-	3.00
653010612	●	-	-	-	2.700	0.10630	40.00	90.00	-	3.00
653010912	●	7/64	-	-	2.778	0.10938	40.00	90.00	-	3.00
653011012	●	-	-	-	2.800	0.11024	40.00	90.00	-	3.00
653011412	●	-	-	-	2.900	0.11417	40.00	90.00	-	3.00
8696300	●	-	-	-	3.000	0.11811	40.00	90.00	-	3.00
653012212	●	-	-	-	3.100	0.12205	45.00	100.00	-	4.00
653012512	●	1/8	-	-	3.175	0.12500	45.00	100.00	0.125	-
653012612	●	-	-	-	3.200	0.12598	45.00	100.00	-	4.00
653012912	●	-	-	-	3.300	0.12992	45.00	100.00	-	4.00
653013312	●	-	-	-	3.400	0.13386	50.00	100.00	-	4.00
8696350	●	-	-	-	3.500	0.13780	50.00	100.00	-	4.00
653014112	●	-	-	-	3.600	0.14173	50.00	100.00	-	4.00
653014512	●	-	-	-	3.700	0.14567	50.00	100.00	-	4.00
653014912	●	-	-	-	3.800	0.14961	50.00	100.00	-	4.00
653015312	●	-	-	-	3.900	0.15354	50.00	100.00	-	4.00
653015612	●	5/32	-	-	3.969	0.15625	50.00	100.00	0.188	-
8696400	●	-	-	-	4.000	0.15748	50.00	100.00	-	4.00
653016012	●	-	20	-	4.089	0.16100	55.00	115.00	-	6.00
8710410	●	-	-	-	4.100	0.16142	55.00	115.00	-	6.00
8710420	●	-	-	-	4.200	0.16535	55.00	115.00	-	6.00
8710430	●	-	-	-	4.300	0.16929	60.00	115.00	-	6.00
8710440	●	-	-	-	4.400	0.17323	60.00	115.00	-	6.00
8696450	●	-	-	-	4.500	0.17717	60.00	115.00	-	5.00
8710450	●	-	-	-	4.500	0.17717	60.00	115.00	-	6.00
8710460	●	-	-	-	4.600	0.18110	60.00	115.00	-	6.00
8710470	●	-	-	-	4.700	0.18504	65.00	115.00	-	6.00
653018712	●	3/16	-	-	4.763	0.18750	65.00	115.00	0.188	-
8710480	●	-	-	-	4.800	0.18898	65.00	115.00	-	6.00
8710490	●	-	-	-	4.900	0.19291	65.00	115.00	-	6.00
8696500	●	-	-	-	5.000	0.19685	65.00	115.00	-	5.00
8710500	●	-	-	-	5.000	0.19685	65.00	115.00	-	6.00
653020012	●	-	-	-	5.100	0.20079	70.00	128.00	-	6.00
653020212	●	13/64	-	-	5.159	0.20313	70.00	128.00	0.250	-
653020412	●	-	-	-	5.200	0.20472	70.00	128.00	-	6.00
653020812	●	-	-	-	5.300	0.20866	70.00	128.00	-	6.00
653021212	●	-	-	-	5.400	0.21260	78.00	128.00	-	6.00
653021112	●	-	3	-	5.410	0.21300	78.00	128.00	-	6.00
8696550	●	-	-	-	5.500	0.21654	78.00	128.00	-	6.00
653021712	●	7/32	-	-	5.556	0.21875	78.00	128.00	0.250	-
653022012	●	-	-	-	5.600	0.22047	78.00	128.00	-	6.00
653022412	●	-	-	-	5.700	0.22441	78.00	128.00	-	6.00
653022812	●	-	-	-	5.800	0.22835	78.00	128.00	-	6.00
653023212	●	-	-	-	5.900	0.23228	78.00	128.00	-	6.00
8696600	●	-	-	-	6.000	0.23622	78.00	128.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6530 (Continued)

A BRAND ADO-10D

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8710610	●	-	-	-	6.100	0.24016	87.00	140.00	-	8.00
8696620	●	-	-	-	6.200	0.24409	87.00	140.00	-	7.00
8710620	●	-	-	-	6.200	0.24409	87.00	140.00	-	8.00
8710630	●	-	-	-	6.300	0.24803	87.00	140.00	-	8.00
653025012	●	1/4	-	E	6.350	0.25000	87.00	140.00	0.250	-
8710640	●	-	-	-	6.400	0.25197	87.00	140.00	-	8.00
8696650	●	-	-	-	6.500	0.25591	87.00	140.00	-	7.00
8710650	●	-	-	-	6.500	0.25591	87.00	140.00	-	8.00
653025612	●	-	-	F	6.528	0.25700	87.00	140.00	-	8.00
8710660	●	-	-	-	6.600	0.25984	87.00	140.00	-	8.00
8710670	●	-	-	-	6.700	0.26378	87.00	140.00	-	8.00
653026412	●	17/64	-	-	6.747	0.26563	90.00	140.00	0.313	-
8710680	●	-	-	-	6.800	0.26772	90.00	140.00	-	8.00
8710690	●	-	-	-	6.900	0.27165	90.00	140.00	-	8.00
8696700	●	-	-	-	7.000	0.27559	90.00	140.00	-	7.00
8710700	●	-	-	-	7.000	0.27559	90.00	140.00	-	8.00
653027912	●	-	-	-	7.100	0.27953	100.00	155.00	-	8.00
653028012	●	9/32	-	-	7.144	0.28125	100.00	155.00	0.313	-
653028312	●	-	-	-	7.200	0.28346	100.00	155.00	-	8.00
653028712	●	-	-	-	7.300	0.28740	100.00	155.00	-	8.00
653029112	●	-	-	-	7.400	0.29134	100.00	155.00	-	8.00
8696750	●	-	-	-	7.500	0.29528	100.00	155.00	-	8.00
653029912	●	-	-	-	7.600	0.29921	105.00	155.00	-	8.00
653030312	●	-	-	-	7.700	0.30315	105.00	155.00	-	8.00
653030712	●	-	-	-	7.800	0.30709	105.00	155.00	-	8.00
653031112	●	-	-	-	7.900	0.31102	105.00	155.00	-	8.00
653031212	●	5/16	-	-	7.938	0.31250	105.00	155.00	0.313	-
8696800	●	-	-	-	8.000	0.31496	105.00	155.00	-	8.00
8710810	●	-	-	-	8.100	0.31890	110.00	165.00	-	10.00
8710820	●	-	-	-	8.200	0.32283	110.00	165.00	-	10.00
8696830	●	-	-	-	8.300	0.32677	110.00	165.00	-	9.00
8710830	●	-	-	-	8.300	0.32677	110.00	165.00	-	10.00
8710840	●	-	-	-	8.400	0.33071	110.00	165.00	-	10.00
653033112	●	-	-	Q	8.433	0.33200	110.00	165.00	-	10.00
8696850	●	-	-	-	8.500	0.33465	110.00	165.00	-	9.00
8710850	●	-	-	-	8.500	0.33465	110.00	165.00	-	10.00
8710860	●	-	-	-	8.600	0.33858	115.00	165.00	-	10.00
8710870	●	-	-	-	8.700	0.34252	115.00	165.00	-	10.00
653034212	●	11/32	-	-	8.731	0.34375	115.00	165.00	0.375	-
8710880	●	-	-	-	8.800	0.34646	115.00	165.00	-	10.00
8710890	●	-	-	-	8.900	0.35039	115.00	165.00	-	10.00
8696900	●	-	-	-	9.000	0.35433	115.00	165.00	-	9.00
8710900	●	-	-	-	9.000	0.35433	115.00	165.00	-	10.00
653035812	●	-	-	-	9.100	0.35827	125.00	190.00	-	10.00
653036212	●	-	-	-	9.200	0.36220	125.00	190.00	-	10.00
653036612	●	-	-	-	9.300	0.36614	125.00	190.00	-	10.00
653037012	●	-	-	-	9.400	0.37008	125.00	190.00	-	10.00
8696950	●	-	-	-	9.500	0.37402	125.00	190.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					○			

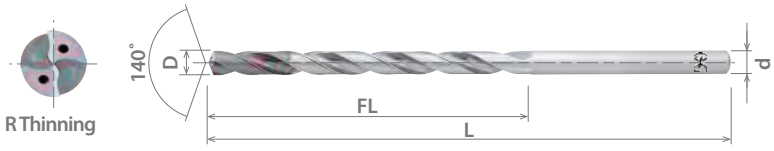
○ Good ◎ Best

List 6530 (Continued)

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-10D

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.288	-0.032 / -0.059	-0.0013 / -0.0023



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
653037512	●	3/8	-	-	9.525	0.37500	130.00	190.00	0.375	-
653037812	●	-	-	-	9.600	0.37795	130.00	190.00	-	10.00
653038112	●	-	-	-	9.700	0.38189	130.00	190.00	-	10.00
653038512	●	-	-	-	9.800	0.38583	130.00	190.00	-	10.00
653038912	●	-	-	-	9.900	0.38976	130.00	190.00	-	10.00
8697000	●	-	-	-	10.000	0.39370	130.00	190.00	-	10.00
8711010	●	-	-	-	10.100	0.39764	140.00	205.00	-	12.00
8711020	●	-	-	-	10.200	0.40157	140.00	205.00	-	12.00
8711030	●	-	-	-	10.300	0.40551	140.00	205.00	-	12.00
8711040	●	-	-	-	10.400	0.40945	140.00	205.00	-	12.00
8711050	●	-	-	-	10.500	0.41339	140.00	205.00	-	12.00
8711060	●	-	-	-	10.600	0.41732	140.00	205.00	-	12.00
8711070	●	-	-	-	10.700	0.42126	140.00	205.00	-	12.00
653042312	●	27/64	-	-	10.716	0.42188	145.00	205.00	0.438	-
8711080	●	-	-	-	10.800	0.42520	145.00	205.00	-	12.00
8711090	●	-	-	-	10.900	0.42913	145.00	205.00	-	12.00
8697100	●	-	-	-	11.000	0.43307	145.00	205.00	-	11.00
8711100	●	-	-	-	11.000	0.43307	145.00	205.00	-	12.00
653043712	●	-	-	-	11.100	0.43701	155.00	215.00	-	12.00
653043812	●	7/16	-	-	11.113	0.43750	155.00	215.00	0.438	-
653044012	●	-	-	-	11.200	0.44094	155.00	215.00	-	12.00
653044412	●	-	-	-	11.300	0.44488	155.00	215.00	-	12.00
653044812	●	-	-	-	11.400	0.44882	155.00	215.00	-	12.00
653045212	●	-	-	-	11.500	0.45276	155.00	215.00	-	12.00
653045412	●	29/64	-	-	11.509	0.45313	155.00	215.00	0.500	-
653045612	●	-	-	-	11.600	0.45669	155.00	215.00	-	12.00
653046012	●	-	-	-	11.700	0.46063	155.00	215.00	-	12.00
653046412	●	-	-	-	11.800	0.46457	155.00	215.00	-	12.00
653046812	●	-	-	-	11.900	0.46850	155.00	215.00	-	12.00
8697200	●	-	-	-	12.000	0.47244	155.00	215.00	-	12.00
8711250	●	-	-	-	12.500	0.49213	155.00	215.00	-	14.00
653050012	●	1/2	-	-	12.700	0.50000	155.00	215.00	0.500	-
653056112	●	9/16	-	-	14.288	0.56250	180.00	230.00	0.625	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					○			

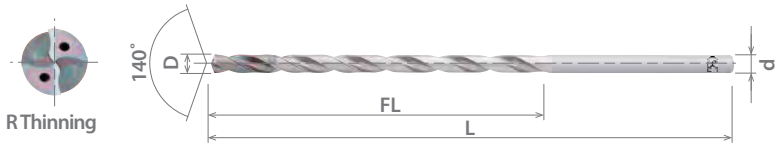
○ Good ◎ Best

List 6535

A BRAND ADO-15D

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
D = 3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.288	-0.032 / -0.059	-0.0013 / -0.0023



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8698300	●	-	-	-	3.000	0.11811	55.00	105.00	-	3.00
653512512	●	1/8	-	-	3.175	0.12500	60.00	125.00	0.125	-
8698320	●	-	-	-	3.200	0.12598	60.00	125.00	-	4.00
8698350	●	-	-	-	3.500	0.13780	65.00	125.00	-	4.00
653514112	●	9/64	-	-	3.572	0.14063	65.00	125.00	0.156	-
653515612	●	5/32	-	-	3.969	0.15625	75.00	125.00	0.188	-
8698400	●	-	-	-	4.000	0.15748	75.00	125.00	-	4.00
653517212	●	11/64	-	-	4.366	0.17188	85.00	140.00	0.188	-
8712440	●	-	-	-	4.400	0.17323	85.00	140.00	-	6.00
8712450	●	-	-	-	4.500	0.17717	85.00	140.00	-	6.00
653518712	●	3/16	-	-	4.763	0.18750	90.00	140.00	0.188	-
8712480	●	-	-	-	4.800	0.18898	90.00	140.00	-	6.00
8712500	●	-	-	-	5.000	0.19685	90.00	140.00	-	6.00
8712510	●	-	-	-	5.100	0.20079	95.00	160.00	-	6.00
653520312	●	13/64	-	-	5.159	0.20313	95.00	160.00	0.250	-
8712520	●	-	-	-	5.200	0.20472	95.00	160.00	-	6.00
653521312	●	-	-	-	5.410	0.21299	110.00	160.00	-	6.00
8698550	●	-	-	-	5.500	0.21654	110.00	160.00	-	6.00
653521912	●	7/32	-	-	5.556	0.21875	110.00	160.00	0.250	-
653523412	●	15/64	-	-	5.953	0.23438	110.00	160.00	0.250	-
8698600	●	-	-	-	6.000	0.23622	110.00	160.00	-	6.00
8712620	●	-	-	-	6.200	0.24409	120.00	175.00	-	8.00
653525012	●	1/4	-	E	6.350	0.25000	120.00	175.00	0.250	-
8712650	●	-	-	-	6.500	0.25591	120.00	175.00	-	8.00
653526612	●	17/64	-	-	6.747	0.26563	125.00	175.00	0.313	-
8712700	●	-	-	-	7.000	0.27559	125.00	175.00	-	8.00
653528112	●	9/32	-	-	7.144	0.28125	135.00	195.00	0.313	-
8698750	●	-	-	-	7.500	0.29528	145.00	195.00	-	8.00
653529712	●	19/64	-	-	7.541	0.29688	145.00	195.00	0.313	-
653531312	●	5/16	-	-	7.938	0.31250	145.00	195.00	0.313	-
8698800	●	-	-	-	8.000	0.31496	145.00	195.00	-	8.00
8712810	●	-	-	-	8.100	0.31890	155.00	210.00	-	10.00
8712820	●	-	-	-	8.200	0.32283	155.00	210.00	-	10.00
653532812	●	21/64	-	-	8.334	0.32813	155.00	210.00	0.375	-
8712850	●	-	-	-	8.500	0.33465	155.00	210.00	-	10.00
653534412	●	11/32	-	-	8.731	0.34375	160.00	210.00	0.375	-
8712900	●	-	-	-	9.000	0.35433	160.00	210.00	-	10.00
653535912	●	23/64	-	-	9.128	0.35938	170.00	240.00	0.375	-
8712940	●	-	-	-	9.400	0.37008	170.00	240.00	-	10.00
8698950	●	-	-	-	9.500	0.37402	170.00	240.00	-	10.00
653537512	●	3/8	-	-	9.525	0.37500	180.00	240.00	0.375	-
8712980	●	-	-	-	9.800	0.38583	180.00	240.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎					○			

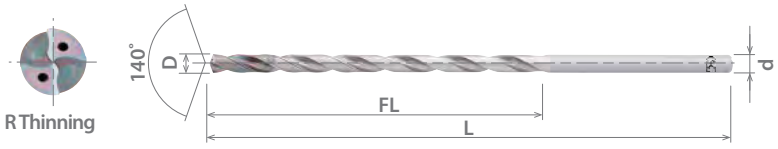
○ Good ◎ Best

List 6535 (Continued)

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-15D

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
D = 3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.288	-0.032 / -0.059	-0.0013 / -0.0023



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
653539112	●	25/64	-	-	9.922	0.39063	180.00	240.00	0.438	-
8699000	●	-	-	-	10.000	0.39370	180.00	240.00	-	10.00
653540612	●	13/32	-	-	10.319	0.40625	190.00	260.00	0.438	-
8713050	●	-	-	-	10.500	0.41339	190.00	260.00	-	12.00
653542212	●	27/64	-	-	10.716	0.42188	200.00	260.00	0.438	-
8713100	●	-	-	-	11.000	0.43307	200.00	260.00	-	12.00
653543712	●	7/16	-	-	11.113	0.43750	210.00	280.00	0.438	-
8713150	●	-	-	-	11.500	0.45276	210.00	280.00	-	12.00
653545312	●	29/64	-	-	11.509	0.45313	210.00	280.00	0.500	-
653546912	●	15/32	-	-	11.906	0.46875	215.00	280.00	0.500	-
8699200	●	-	-	-	12.000	0.47244	215.00	280.00	-	12.00
8713250	●	-	-	-	12.500	0.49213	225.00	290.00	-	14.00
653550012	●	1/2	-	-	12.700	0.50000	230.00	295.00	0.500	-
653553112	●	17/32	-	-	13.494	0.53125	245.00	315.00	0.625	-
653556312	●	9/16	-	-	14.288	0.56250	260.00	330.00	0.625	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					○			

○ Good ◎ Best

List 6540

A BRAND ADO-20D

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
D = 3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.288	-0.032 / -0.059	-0.0013 / -0.0023



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8706300	●	-	-	-	3.000	0.11811	70.00	120.00	-	3.00
654012512	●	1/8	-	-	3.175	0.12500	70.00	120.00	0.125	-
8706320	●	-	-	-	3.200	0.12598	80.00	140.00	-	4.00
8706350	●	-	-	-	3.500	0.13780	85.00	140.00	-	4.00
654014012	●	9/64	-	-	3.572	0.14063	85.00	140.00	0.156	-
654015612	●	5/32	-	-	3.969	0.15625	90.00	140.00	0.188	-
8706400	●	-	-	-	4.000	0.15748	90.00	140.00	-	4.00
654017212	●	11/64	-	-	4.366	0.17188	110.00	165.00	0.188	-
8706450	●	-	-	-	4.500	0.17717	110.00	165.00	-	5.00
8714450	●	-	-	-	4.500	0.17717	110.00	165.00	-	6.00
654018712	●	3/16	-	-	4.763	0.18750	110.00	165.00	0.188	-
8714480	●	-	-	-	4.800	0.18898	115.00	165.00	-	6.00
8706500	●	-	-	-	5.000	0.19685	115.00	165.00	-	5.00
8714500	●	-	-	-	5.000	0.19685	115.00	165.00	-	6.00
8714510	●	-	-	-	5.100	0.20079	120.00	190.00	-	6.00
654020212	●	13/64	-	-	5.159	0.20313	120.00	190.00	0.250	-
8714520	●	-	-	-	5.200	0.20472	120.00	190.00	-	6.00
654021312	●	-	-	-	5.410	0.21299	140.00	190.00	-	6.00
8706550	●	-	-	-	5.500	0.21654	140.00	190.00	-	6.00
654021712	●	7/32	-	-	5.556	0.21875	140.00	190.00	0.250	-
654023412	●	15/64	-	-	5.953	0.23438	140.00	190.00	0.250	-
8706600	●	-	-	-	6.000	0.23622	140.00	190.00	-	6.00
8714620	●	-	-	-	6.200	0.24409	155.00	210.00	-	8.00
654025012	●	1/4	-	E	6.350	0.25000	150.00	200.00	0.250	-
8706650	●	-	-	-	6.500	0.25591	155.00	210.00	-	7.00
8714650	●	-	-	-	6.500	0.25591	155.00	210.00	-	8.00
654026412	●	17/64	-	-	6.747	0.26563	155.00	210.00	0.313	-
8706700	●	-	-	-	7.000	0.27559	160.00	210.00	-	7.00
8714700	●	-	-	-	7.000	0.27559	160.00	210.00	-	8.00
654028012	●	9/32	-	-	7.144	0.28125	170.00	230.00	0.313	-
8706750	●	-	-	-	7.500	0.29528	170.00	230.00	-	8.00
654029612	●	19/64	-	-	7.541	0.29688	180.00	230.00	0.313	-
654031212	●	5/16	-	-	7.938	0.31250	180.00	230.00	0.313	-
8706800	●	-	-	-	8.000	0.31496	180.00	230.00	-	8.00
8714810	●	-	-	-	8.100	0.31890	195.00	260.00	-	10.00
654032812	●	21/64	-	-	8.334	0.32813	195.00	260.00	0.375	-
8706850	●	-	-	-	8.500	0.33465	195.00	260.00	-	9.00
8714850	●	-	-	-	8.500	0.33465	195.00	260.00	-	10.00
654034212	●	11/32	-	-	8.731	0.34375	210.00	260.00	0.375	-
8706900	●	-	-	-	9.000	0.35433	210.00	260.00	-	9.00
8714900	●	-	-	-	9.000	0.35433	210.00	260.00	-	10.00
654035912	●	23/64	-	-	9.128	0.35938	220.00	290.00	0.375	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					○			

○ Good ◎ Best

List 6540

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-20D



Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
D = 3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.288	-0.032 / -0.059	-0.0013 / -0.0023

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8714940	●	-	-	-	9.400	0.37008	220.00	290.00	-	10.00
8706950	●	-	-	-	9.500	0.37402	220.00	290.00	-	10.00
654037512	●	3/8	-	-	9.525	0.37500	220.00	290.00	0.375	-
8714980	●	-	-	-	9.800	0.38583	230.00	290.00	-	10.00
654039012	●	25/64	-	-	9.922	0.39063	230.00	290.00	0.438	-
8707000	●	-	-	-	10.000	0.39370	230.00	290.00	-	10.00
654040612	●	13/32	-	-	10.319	0.40625	250.00	310.00	0.438	-
8715050	●	-	-	-	10.500	0.41339	250.00	310.00	-	12.00
654042112	●	27/64	-	-	10.716	0.42188	250.00	310.00	0.438	-
8707100	●	-	-	-	11.000	0.43307	250.00	310.00	-	11.00
8715100	●	-	-	-	11.000	0.43307	250.00	310.00	-	12.00
654043712	●	7/16	-	-	11.113	0.43750	270.00	330.00	0.438	-
654045212	●	-	-	-	11.500	0.45276	270.00	330.00	-	12.00
654045412	●	29/64	-	-	11.509	0.45313	270.00	330.00	0.500	-
654046812	●	15/32	-	-	11.906	0.46875	270.00	330.00	0.500	-
8707200	●	-	-	-	12.000	0.47244	270.00	330.00	-	12.00
8715250	●	-	-	-	12.500	0.49213	280.00	330.00	-	14.00
654050012	●	1/2	-	-	12.700	0.50000	280.00	330.00	0.500	-
654053112	●	17/32	-	-	13.494	0.53125	310.00	380.00	0.625	-
654056112	●	9/16	-	-	14.288	0.56250	315.00	365.00	0.625	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					○			

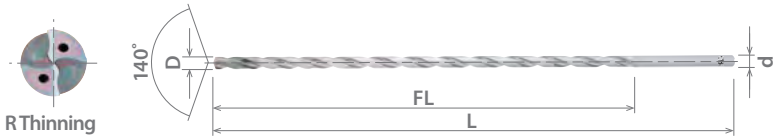
○ Good ◎ Best

List 6550

A BRAND ADO-30D

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
D = 3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.288	-0.032 / -0.059	-0.0013 / -0.0023



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
655011812	●	-	-	-	3.000	0.11811	85.00	135.00	-	3.00
655012512	●	1/8	-	-	3.175	0.12500	95.00	165.00	0.125	-
8708320	●	-	-	-	3.200	0.12598	105.00	185.00	-	4.00
8708350	●	-	-	-	3.500	0.13780	116.00	185.00	-	4.00
655014012	●	9/64	-	-	3.572	0.14063	116.00	185.00	0.156	-
655015612	●	5/32	-	-	3.969	0.15625	132.00	185.00	0.188	-
8708400	●	-	-	-	4.000	0.15748	132.00	185.00	-	4.00
655017212	●	11/64	-	-	4.366	0.17188	150.00	215.00	0.188	-
8708450	●	-	-	-	4.500	0.17717	150.00	215.00	-	5.00
8716450	●	-	-	-	4.500	0.17717	150.00	215.00	-	6.00
655018712	●	3/16	-	-	4.763	0.18750	155.00	210.00	0.188	-
8716480	●	-	-	-	4.800	0.18898	165.00	215.00	-	6.00
8708500	●	-	-	-	5.000	0.19685	165.00	215.00	-	5.00
8716500	●	-	-	-	5.000	0.19685	165.00	215.00	-	6.00
8716510	●	-	-	-	5.100	0.20079	180.00	250.00	-	6.00
655020212	●	13/64	-	-	5.159	0.20313	180.00	250.00	0.250	-
8716520	●	-	-	-	5.200	0.20472	180.00	250.00	-	6.00
655021312	●	-	-	-	5.410	0.21299	200.00	250.00	-	6.00
8708550	●	-	-	-	5.500	0.21654	200.00	250.00	-	6.00
655021712	●	7/32	-	-	5.556	0.21875	200.00	250.00	0.250	-
655023412	●	15/64	-	-	5.953	0.23438	200.00	250.00	0.250	-
8708600	●	-	-	-	6.000	0.23622	200.00	250.00	-	6.00
8716620	●	-	-	-	6.200	0.24409	215.00	280.00	-	8.00
655025012	●	1/4	-	E	6.350	0.25000	215.00	280.00	0.250	-
8708650	●	-	-	-	6.500	0.25591	215.00	280.00	-	7.00
8716650	●	-	-	-	6.500	0.25591	215.00	280.00	-	8.00
655026412	●	17/64	-	-	6.747	0.26563	230.00	280.00	0.313	-
8708700	●	-	-	-	7.000	0.27559	230.00	280.00	-	7.00
8716700	●	-	-	-	7.000	0.27559	230.00	280.00	-	8.00
655028012	●	9/32	-	-	7.144	0.28125	250.00	315.00	0.313	-
8708750	●	-	-	-	7.500	0.29528	250.00	315.00	-	8.00
655029612	●	19/64	-	-	7.541	0.29688	265.00	315.00	0.313	-
655031212	●	5/16	-	-	7.938	0.31250	265.00	315.00	0.375	-
8708800	●	-	-	-	8.000	0.31496	265.00	315.00	-	8.00
8716810	●	-	-	-	8.100	0.31890	280.00	350.00	-	10.00
655032812	●	21/64	-	-	8.334	0.32813	280.00	350.00	0.375	-
8708850	●	-	-	-	8.500	0.33465	280.00	350.00	-	9.00
8716850	●	-	-	-	8.500	0.33465	280.00	350.00	-	10.00
655034212	●	11/32	-	-	8.733	0.34375	300.00	350.00	0.375	-
8708900	●	-	-	-	9.000	0.35433	300.00	350.00	-	9.00
8716900	●	-	-	-	9.000	0.35433	300.00	350.00	-	10.00
655035912	●	23/64	-	-	9.128	0.35938	315.00	390.00	0.375	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎					○			

○ Good ◎ Best

List 6550 (Continued)

SPEED FEED 307-308 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-30D

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
D=3	-0.014 / -0.028	-0.0006 / -0.0011
3<D≤6	-0.020 / -0.038	-0.0008 / -0.0015
6<D≤10	-0.025 / -0.047	-0.0010 / -0.0019
10<D≤14.288	-0.032 / -0.059	-0.0013 / -0.0023



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8716940	●	-	-	-	9.400	0.37008	315.00	390.00	-	10.00
8708950	●	-	-	-	9.500	0.37402	315.00	390.00	-	10.00
655037512	●	3/8	-	-	9.525	0.37500	315.00	390.00	0.313	-
8716980	●	-	-	-	9.800	0.38583	330.00	390.00	-	10.00
655039012	●	25/64	-	-	9.922	0.39063	330.00	390.00	0.438	-
8709000	●	-	-	-	10.000	0.39370	330.00	390.00	-	10.00
655040612	●	13/32	-	-	10.319	0.40625	340.00	400.00	0.438	-
655041212	●	-	-	-	10.500	0.41339	350.00	400.00	-	12.00
655042112	●	27/64	-	-	10.716	0.42188	350.00	400.00	0.438	-
655043212	●	-	-	-	11.000	0.43307	350.00	400.00	-	12.00
655043712	●	7/16	-	-	11.113	0.43750	350.00	400.00	0.438	-
655045212	●	-	-	-	11.500	0.45276	350.00	400.00	-	12.00
655045412	●	29/64	-	-	11.509	0.45313	350.00	400.00	0.500	-
655046812	●	15/32	-	-	11.906	0.46875	340.00	400.00	0.500	-
655047212	●	-	-	-	12.000	0.47244	350.00	400.00	-	12.00
655049112	●	-	-	-	12.500	0.49213	350.00	400.00	-	14.00
655050012	●	1/2	-	-	12.700	0.50000	350.00	400.00	0.500	-
655053112	●	17/32	-	-	13.494	0.53125	340.00	400.00	0.625	-
655056112	●	9/16	-	-	14.288	0.56250	350.00	400.00	0.625	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					○			

○ Good ◎ Best

List 6560

A BRAND ADO-40D

SPEED FEED 309 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 25° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
D = 3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019



EDP Number		Diameter					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8717300	●	-	-	-	3.000	0.11811	129.00	179.00	-	3.00
656012512	●	1/8	-	-	3.175	0.12500	136.74	186.74	0.125	-
656014012	○	9/64	-	-	3.572	0.14063	154.00	204.00	0.156	-
656015612	●	5/32	-	-	3.969	0.15625	170.71	220.71	0.188	-
8717400	●	-	-	-	4.000	0.15748	172.00	222.00	-	4.00
656017212	○	11/64	-	-	4.366	0.17188	188.00	238.00	0.188	-
656018712	●	3/16	-	-	4.763	0.18750	204.68	254.68	0.188	-
8717500	●	-	-	-	5.000	0.19685	215.00	265.00	-	5.00
656020212	○	13/64	-	-	5.159	0.20313	221.88	271.88	0.250	-
656021712	○	7/32	-	-	5.556	0.21875	239.08	289.08	0.250	-
656023412	○	15/64	-	-	5.953	0.23438	255.85	305.85	0.250	-
8717600	●	-	-	-	6.000	0.23622	258.00	308.00	-	6.00
656025012	●	1/4	-	-	6.350	0.25000	273.05	323.05	0.250	-
656026412	○	17/64	-	-	6.747	0.26563	290.00	340.00	0.313	-
656028012	○	9/32	-	-	7.144	0.28125	307.00	357.00	0.313	-
656029612	○	19/64	-	-	7.541	0.29688	324.00	374.00	0.313	-
656031212	●	5/16	-	-	7.938	0.31250	341.42	391.42	0.313	-
8717800	●	-	-	-	8.000	0.31496	344.00	394.00	-	8.00
656032812	○	21/64	-	-	8.334	0.32813	358.00	408.00	0.375	-
656034212	○	11/32	-	-	8.731	0.34375	375.00	425.00	0.375	-
656035912	○	23/64	-	-	9.128	0.35938	393.00	443.00	0.375	-
656037512	●	3/8	-	-	9.525	0.37500	409.79	459.79	0.375	-
656039012	○	25/64	-	-	9.922	0.39063	427.00	477.00	0.438	-
8718000	●	-	-	-	10.000	0.39370	430.00	490.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					○			

○ Good ◎ Best

List 6570

SPEED FEED 309 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 25° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-50D

Cutting Diameter Tolerance (e8)		
Size (mm)	mm	inch
D=3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 8	-0.025 / -0.047	-0.0010 / -0.0019



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8718300	●	-	-	-	3.000	0.11811	159.00	209.00	-	3.00
657012512	●	1/8	-	-	3.175	0.12500	168.54	218.54	0.125	-
657014012	○	9/64	-	-	3.572	0.14063	189.00	239.00	0.156	-
657015612	●	5/32	-	-	3.969	0.15625	210.41	260.41	0.188	-
8718400	●	-	-	-	4.000	0.15748	212.00	262.00	-	4.00
657017212	○	11/64	-	-	4.366	0.17188	232.00	282.00	0.188	-
657018712	●	3/16	-	-	4.763	0.18750	252.28	302.28	0.188	-
8718500	●	-	-	-	5.000	0.19685	265.00	315.00	-	5.00
657020212	○	13/64	-	-	5.159	0.20313	273.00	323.00	0.250	-
657021712	○	7/32	-	-	5.556	0.21875	295.00	345.00	0.250	-
657023412	○	15/64	-	-	5.953	0.23438	315.00	365.00	0.250	-
8718600	●	-	-	-	6.000	0.23622	318.00	368.00	-	6.00
657025012	●	1/4	-	-	6.350	0.25000	336.55	386.55	0.250	-
657026412	○	17/64	-	-	6.747	0.26563	358.00	408.00	0.313	-
657028012	○	9/32	-	-	7.144	0.28125	378.00	428.00	0.313	-
657029612	○	19/64	-	-	7.541	0.29688	400.00	450.00	0.313	-
657031212	●	5/16	-	-	7.938	0.31250	420.82	470.82	0.313	-
8718800	●	-	-	-	8.000	0.31496	424.00	474.00	-	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					○			

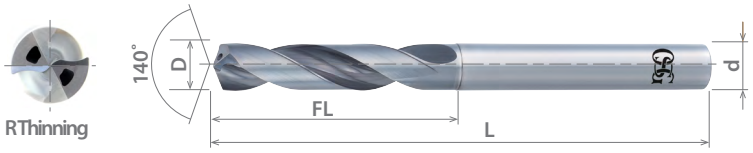
○ Good ◎ Best

List 5200

A BRAND ADO-SUS-3D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8665200	●	-	-	-	2.000	0.07874	12.00	66.00	-	3.00
8665210	●	-	-	-	2.100	0.08268	13.00	66.00	-	3.00
8665220	●	-	-	-	2.200	0.08661	14.00	66.00	-	3.00
8665230	●	-	-	-	2.300	0.09055	14.00	66.00	-	3.00
520009312	●	3/32	-	-	2.381	0.09375	15.00	66.00	-	3.00
8665240	●	-	-	-	2.400	0.09449	15.00	66.00	-	3.00
8665250	●	-	-	-	2.500	0.09843	15.00	66.00	-	3.00
8665260	●	-	-	-	2.600	0.10236	16.00	66.00	-	3.00
8665270	●	-	-	-	2.700	0.10630	17.00	66.00	-	3.00
520010912	●	7/64	-	-	2.778	0.10938	17.00	66.00	-	3.00
8665280	●	-	-	-	2.800	0.11024	17.00	66.00	-	3.00
8665290	●	-	-	-	2.900	0.11417	18.00	66.00	-	3.00
520011612	●	-	-	-	2.950	0.11614	18.00	66.00	-	3.00
8665300	●	-	-	-	3.000	0.11811	18.00	66.00	-	3.00
8665310	●	-	-	-	3.100	0.12205	19.00	74.00	-	4.00
8665315	●	-	-	-	3.150	0.12402	19.00	74.00	-	4.00
520012512	●	1/8	-	-	3.175	0.12500	20.00	74.00	0.125	-
8665320	●	-	-	-	3.200	0.12598	20.00	74.00	-	4.00
8665326	●	-	-	-	3.260	0.12835	20.00	74.00	-	4.00
8665330	●	-	-	-	3.300	0.12992	20.00	74.00	-	4.00
520013212	●	-	-	-	3.360	0.13228	21.00	74.00	-	4.00
8665340	●	-	-	-	3.400	0.13386	21.00	74.00	-	4.00
520013512	●	-	-	-	3.440	0.13543	21.00	74.00	-	4.00
8665350	●	-	-	-	3.500	0.13780	21.00	74.00	-	4.00
520013812	●	-	-	-	3.520	0.13858	22.00	74.00	-	4.00
520014012	●	-	-	-	3.572	0.14063	22.00	74.00	-	4.00
8665360	●	-	-	-	3.600	0.14173	22.00	74.00	-	4.00
8665370	●	-	-	-	3.700	0.14567	23.00	74.00	-	4.00
8665375	●	-	-	-	3.750	0.14764	23.00	74.00	-	4.00
520014812	●	-	-	-	3.770	0.14843	23.00	74.00	-	4.00
8665380	●	-	-	-	3.800	0.14961	23.00	74.00	-	4.00
520015212	●	-	-	-	3.860	0.15197	24.00	74.00	-	4.00
8665390	●	-	-	-	3.900	0.15354	24.00	74.00	-	4.00
520015612	●	5/32	-	-	3.969	0.15625	24.00	74.00	-	4.00
8665400	●	-	-	-	4.000	0.15748	24.00	74.00	-	4.00
520015912	●	-	-	-	4.050	0.15945	25.00	80.00	-	6.00
520016112	●	-	20	-	4.089	0.16100	25.00	80.00	-	6.00
8665410	●	-	-	-	4.100	0.16142	25.00	80.00	-	5.00
8680410	●	-	-	-	4.100	0.16142	25.00	80.00	-	6.00
520016312	●	-	-	-	4.160	0.16378	26.00	80.00	-	6.00
8665420	●	-	-	-	4.200	0.16535	26.00	80.00	-	5.00
8680420	●	-	-	-	4.200	0.16535	26.00	80.00	-	6.00
520016812	●	-	-	-	4.270	0.16811	26.00	80.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

CONTINUED ›

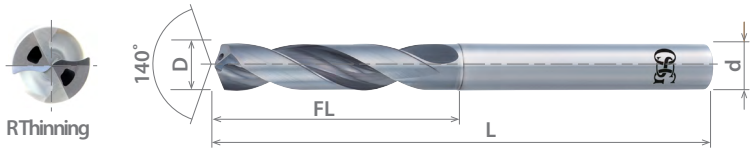
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

○ Good ◎ Best

List 5200 (Continued)

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-SUS-3D



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8665430	●	-	-	-	4.300	0.16929	26.00	80.00	-	5.00
8680430	●	-	-	-	4.300	0.16929	26.00	80.00	-	6.00
520017112	●	11/64	-	-	4.366	0.17188	27.00	80.00	0.188	-
8665440	●	-	-	-	4.400	0.17323	27.00	80.00	-	5.00
8680440	●	-	-	-	4.400	0.17323	27.00	80.00	-	6.00
520017512	●	-	-	-	4.460	0.17559	27.00	80.00	-	6.00
8665450	●	-	-	-	4.500	0.17717	27.00	80.00	-	5.00
8680450	●	-	-	-	4.500	0.17717	27.00	80.00	-	6.00
8665460	●	-	-	-	4.600	0.18110	28.00	80.00	-	5.00
8680460	●	-	-	-	4.600	0.18110	28.00	80.00	-	6.00
520018312	●	-	-	-	4.660	0.18346	29.00	80.00	-	6.00
8665470	●	-	-	-	4.700	0.18504	29.00	80.00	-	5.00
8680470	●	-	-	-	4.700	0.18504	29.00	80.00	-	6.00
520018712	●	3/16	-	-	4.763	0.18750	29.00	80.00	0.188	-
8665480	●	-	-	-	4.800	0.18898	29.00	80.00	-	5.00
8680480	●	-	-	-	4.800	0.18898	29.00	80.00	-	6.00
8665485	●	-	-	-	4.850	0.19094	29.00	80.00	-	6.00
8665490	●	-	-	-	4.900	0.19291	30.00	80.00	-	5.00
8680490	●	-	-	-	4.900	0.19291	30.00	80.00	-	6.00
8665500	●	-	-	-	5.000	0.19685	25.00	80.00	-	5.00
8680500	●	-	-	-	5.000	0.19685	25.00	80.00	-	6.00
8665510	●	-	-	-	5.100	0.20079	26.00	82.00	-	6.00
520020212	●	-	-	-	5.150	0.20276	26.00	82.00	-	6.00
520020312	●	13/64	-	-	5.159	0.20313	26.00	82.00	0.250	-
8665520	●	-	-	-	5.200	0.20472	26.00	82.00	-	6.00
8665525	●	-	-	-	5.250	0.20669	27.00	82.00	-	6.00
520020712	●	-	-	-	5.260	0.20709	27.00	82.00	-	6.00
8665530	●	-	-	-	5.300	0.20866	27.00	82.00	-	6.00
8665540	●	-	-	-	5.400	0.21260	27.00	82.00	-	6.00
520021312	●	-	3	-	5.410	0.21300	28.00	82.00	-	6.00
520021512	●	-	-	-	5.470	0.21535	28.00	82.00	-	6.00
8665550	●	-	-	-	5.500	0.21654	28.00	82.00	-	6.00
520021812	●	7/32	-	-	5.556	0.21875	28.00	82.00	0.250	-
8665560	●	-	-	-	5.600	0.22047	28.00	82.00	-	6.00
8665570	●	-	-	-	5.700	0.22441	29.00	82.00	-	6.00
8665580	●	-	-	-	5.800	0.22835	29.00	82.00	-	6.00
8665590	●	-	-	-	5.900	0.23228	30.00	82.00	-	6.00
520023412	●	15/64	-	-	5.953	0.23438	30.00	82.00	0.250	-
8665600	●	-	-	-	6.000	0.23622	30.00	82.00	-	6.00
8665610	●	-	-	-	6.100	0.24016	31.00	88.00	-	7.00
8680610	●	-	-	-	6.100	0.24016	31.00	88.00	-	8.00
520024212	●	-	-	-	6.150	0.24213	31.00	88.00	-	8.00
8665620	●	-	-	-	6.200	0.24409	31.00	88.00	-	7.00
8680620	●	-	-	-	6.200	0.24409	31.00	88.00	-	8.00
8665625	●	-	-	-	6.250	0.24606	32.00	88.00	-	7.00
8665630	●	-	-	-	6.300	0.24803	32.00	88.00	-	7.00
8680630	●	-	-	-	6.300	0.24803	32.00	88.00	-	8.00
8665635	●	1/4	-	E	6.350	0.25000	32.00	88.00	0.250	-
8665640	●	-	-	-	6.400	0.25197	32.00	88.00	-	7.00
8680640	●	-	-	-	6.400	0.25197	32.00	88.00	-	8.00
8665650	●	-	-	-	6.500	0.25591	33.00	88.00	-	7.00
8680650	●	-	-	-	6.500	0.25591	33.00	88.00	-	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

List 5200 (Continued)

A BRAND ADO-SUS-3D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
520025712	●	-	-	F	6.528	0.25700	33.00	88.00	-	8.00
8665660	●	-	-	-	6.600	0.25984	33.00	88.00	-	7.00
8680660	●	-	-	-	6.600	0.25984	33.00	88.00	-	8.00
520026112	●	-	-	-	6.650	0.26181	34.00	88.00	-	8.00
8665670	●	-	-	-	6.700	0.26378	34.00	88.00	-	7.00
8680670	●	-	-	-	6.700	0.26378	34.00	88.00	-	8.00
520026512	●	17/64	-	-	6.747	0.26563	34.00	88.00	0.313	-
8665675	●	-	-	-	6.750	0.26575	34.00	88.00	-	7.00
8665680	●	-	-	-	6.800	0.26772	34.00	88.00	-	7.00
8680680	●	-	-	-	6.800	0.26772	34.00	88.00	-	8.00
520027012	●	-	-	-	6.860	0.27008	35.00	88.00	-	8.00
8665690	●	-	-	-	6.900	0.27165	35.00	88.00	-	7.00
8680690	●	-	-	-	6.900	0.27165	35.00	88.00	-	8.00
8665700	●	-	-	-	7.000	0.27559	35.00	88.00	-	7.00
8680700	●	-	-	-	7.000	0.27559	35.00	88.00	-	8.00
520027712	●	-	-	-	7.040	0.27717	36.00	94.00	-	8.00
8665710	●	-	-	-	7.100	0.27953	36.00	94.00	-	8.00
520028112	●	9/32	-	-	7.144	0.28125	36.00	94.00	0.313	-
8665720	●	-	-	-	7.200	0.28346	36.00	94.00	-	8.00
8665725	●	-	-	-	7.250	0.28543	37.00	94.00	-	8.00
8665730	●	-	-	-	7.300	0.28740	37.00	94.00	-	8.00
8665740	●	-	-	-	7.400	0.29134	37.00	94.00	-	8.00
8665750	●	-	-	-	7.500	0.29528	38.00	94.00	-	8.00
520029612	●	19/64	-	-	7.541	0.29688	38.00	94.00	0.313	-
8665760	●	-	-	-	7.600	0.29921	38.00	94.00	-	8.00
8665770	●	-	-	-	7.700	0.30315	39.00	94.00	-	8.00
8665775	●	-	-	-	7.750	0.30512	39.00	94.00	-	8.00
8665780	●	-	-	-	7.800	0.30709	39.00	94.00	-	8.00
8665790	●	-	-	-	7.900	0.31102	40.00	94.00	-	8.00
520031212	●	5/16	-	-	7.938	0.31250	40.00	94.00	0.313	-
8665800	●	-	-	-	8.000	0.31496	40.00	94.00	-	8.00
8665810	●	-	-	-	8.100	0.31890	41.00	101.00	-	9.00
8680810	●	-	-	-	8.100	0.31890	41.00	101.00	-	10.00
520032012	●	-	-	-	8.150	0.32087	41.00	101.00	-	10.00
8665820	●	-	-	-	8.200	0.32283	41.00	101.00	-	9.00
8680820	●	-	-	-	8.200	0.32283	41.00	101.00	-	10.00
8665825	●	-	-	-	8.250	0.32480	42.00	101.00	-	9.00
8665830	●	-	-	-	8.300	0.32677	42.00	101.00	-	9.00
8680830	●	-	-	-	8.300	0.32677	42.00	101.00	-	10.00
520032812	●	21/64	-	-	8.334	0.32813	42.00	101.00	0.375	-
8665840	●	-	-	-	8.400	0.33071	42.00	101.00	-	9.00
8680840	●	-	-	-	8.400	0.33071	42.00	101.00	-	10.00
520033212	●	-	-	Q	8.433	0.33200	43.00	101.00	-	10.00
8665850	●	-	-	-	8.500	0.33465	43.00	101.00	-	9.00
8680850	●	-	-	-	8.500	0.33465	43.00	101.00	-	10.00
520033712	●	-	-	-	8.560	0.33701	43.00	101.00	-	10.00
8665860	●	-	-	-	8.600	0.33858	43.00	101.00	-	9.00
8680860	●	-	-	-	8.600	0.33858	43.00	101.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

○ Good ◎ Best

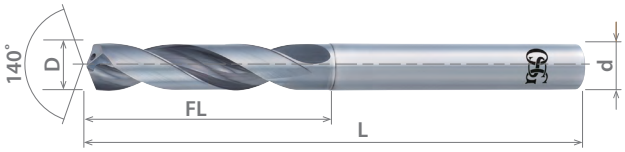
List 5200 (Continued)

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-SUS-3D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013





EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
520034012	●	-	-	-	8.640	0.34016	44.00	101.00	-	10.00
520034112	●	-	-	-	8.680	0.34173	44.00	101.00	-	10.00
8665870	●	-	-	-	8.700	0.34252	44.00	101.00	-	9.00
8680870	●	-	-	-	8.700	0.34252	44.00	101.00	-	10.00
520034312	●	11/32	-	-	8.731	0.34375	44.00	101.00	0.375	-
8665875	●	-	-	-	8.750	0.34449	44.00	101.00	-	9.00
8665880	●	-	-	-	8.800	0.34646	44.00	101.00	-	9.00
8680880	●	-	-	-	8.800	0.34646	44.00	101.00	-	10.00
520034812	●	-	-	-	8.860	0.34882	45.00	101.00	-	10.00
8665890	●	-	-	-	8.900	0.35039	45.00	101.00	-	9.00
8680890	●	-	-	-	8.900	0.35039	45.00	101.00	-	10.00
8665900	●	-	-	-	9.000	0.35433	45.00	101.00	-	9.00
8680900	●	-	-	-	9.000	0.35433	45.00	101.00	-	10.00
8665910	●	-	-	-	9.100	0.35827	46.00	106.00	-	10.00
520035912	●	23/64	-	-	9.128	0.35938	46.00	106.00	0.375	-
8665920	●	-	-	-	9.200	0.36220	46.00	106.00	-	10.00
8665925	●	-	-	-	9.250	0.36417	47.00	106.00	-	10.00
8665930	●	-	-	-	9.300	0.36614	47.00	106.00	-	10.00
8665940	●	-	-	-	9.400	0.37008	47.00	106.00	-	10.00
8665950	●	-	-	-	9.500	0.37402	48.00	106.00	-	10.00
520037512	●	3/8	-	-	9.525	0.37500	48.00	106.00	0.375	-
520037612	●	-	-	-	9.550	0.37598	48.00	106.00	-	10.00
8665960	●	-	-	-	9.600	0.37795	48.00	106.00	-	10.00
8665970	●	-	-	-	9.700	0.38189	49.00	106.00	-	10.00
8665975	●	-	-	-	9.750	0.38386	49.00	106.00	-	10.00
8665980	●	-	-	-	9.800	0.38583	49.00	106.00	-	10.00
8665990	●	-	-	-	9.900	0.38976	50.00	106.00	-	10.00
520039012	●	25/64	-	-	9.922	0.39063	50.00	106.00	0.438	-
8666000	●	-	-	-	10.000	0.39370	50.00	106.00	-	10.00
8666010	●	-	-	-	10.100	0.39764	51.00	113.00	-	11.00
8681010	●	-	-	-	10.100	0.39764	51.00	113.00	-	12.00
8666020	●	-	-	-	10.200	0.40157	51.00	113.00	-	11.00
8681020	●	-	-	-	10.200	0.40157	51.00	113.00	-	12.00
8666025	●	-	-	-	10.250	0.40354	52.00	113.00	-	11.00
8666030	●	-	-	-	10.300	0.40551	52.00	113.00	-	11.00
8681030	●	-	-	-	10.300	0.40551	52.00	113.00	-	12.00
520040612	●	13/32	-	-	10.319	0.40625	52.00	113.00	0.438	-
8666040	●	-	-	-	10.400	0.40945	52.00	113.00	-	11.00
8681040	●	-	-	-	10.400	0.40945	52.00	113.00	-	12.00
520041112	●	-	-	-	10.440	0.41102	53.00	113.00	-	12.00
8666050	●	-	-	-	10.500	0.41339	53.00	113.00	-	11.00
8681050	●	-	-	-	10.500	0.41339	53.00	113.00	-	12.00
8666060	●	-	-	-	10.600	0.41732	53.00	113.00	-	11.00
8681060	●	-	-	-	10.600	0.41732	53.00	113.00	-	12.00
8666070	●	-	-	-	10.700	0.42126	54.00	113.00	-	11.00
8681070	●	-	-	-	10.700	0.42126	54.00	113.00	-	12.00
520042212	●	27/64	-	-	10.716	0.42188	54.00	113.00	0.438	-
8666075	●	-	-	-	10.750	0.42323	54.00	113.00	-	11.00
8666080	●	-	-	-	10.800	0.42520	54.00	113.00	-	11.00
8681080	●	-	-	-	10.800	0.42520	54.00	113.00	-	12.00
520042712	●	-	-	-	10.860	0.42756	55.00	113.00	-	12.00
8666090	●	-	-	-	10.900	0.42913	55.00	113.00	-	11.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

List 5200 (Continued)

A BRAND ADO-SUS-3D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8681090	●	-	-	-	10.900	0.42913	55.00	113.00	-	12.00
8666100	●	-	-	-	11.000	0.43307	55.00	113.00	-	11.00
8681100	●	-	-	-	11.000	0.43307	55.00	113.00	-	12.00
8666110	●	-	-	-	11.100	0.43701	56.00	120.00	-	12.00
520043712	●	7/16	-	-	11.113	0.43750	56.00	120.00	0.438	-
8666120	●	-	-	-	11.200	0.44094	56.00	120.00	-	12.00
8666130	●	-	-	-	11.300	0.44488	57.00	120.00	-	12.00
8666140	●	-	-	-	11.400	0.44882	57.00	120.00	-	12.00
8666150	●	-	-	-	11.500	0.45276	58.00	120.00	-	12.00
520045312	●	29/64	-	-	11.509	0.45313	58.00	120.00	0.500	-
8666160	●	-	-	-	11.600	0.45669	58.00	120.00	-	12.00
8666170	●	-	-	-	11.700	0.46063	59.00	120.00	-	12.00
8666180	●	-	-	-	11.800	0.46457	59.00	120.00	-	12.00
8666190	●	-	-	-	11.900	0.46850	60.00	120.00	-	12.00
520046912	●	15/32	-	-	11.906	0.46875	60.00	120.00	0.500	-
8666200	●	-	-	-	12.000	0.47244	60.00	120.00	-	12.00
8666210	●	-	-	-	12.100	0.47638	61.00	128.00	-	13.00
8681210	●	-	-	-	12.100	0.47638	61.00	128.00	-	14.00
8666220	●	-	-	-	12.200	0.48031	61.00	128.00	-	13.00
8681220	●	-	-	-	12.200	0.48031	61.00	128.00	-	14.00
8666230	●	-	-	-	12.300	0.48425	62.00	128.00	-	13.00
8681230	●	-	-	-	12.300	0.48425	62.00	128.00	-	14.00
520048512	●	31/64	-	-	12.303	0.48438	62.00	128.00	0.500	-
8666240	●	-	-	-	12.400	0.48819	62.00	128.00	-	13.00
8681240	●	-	-	-	12.400	0.48819	62.00	128.00	-	14.00
520049012	●	-	-	-	12.450	0.49016	63.00	128.00	-	14.00
8666250	●	-	-	-	12.500	0.49213	63.00	128.00	-	13.00
8681250	●	-	-	-	12.500	0.49213	63.00	128.00	-	14.00
8666260	●	-	-	-	12.600	0.49606	63.00	128.00	-	13.00
8681260	●	-	-	-	12.600	0.49606	63.00	128.00	-	14.00
520049912	●	-	-	-	12.680	0.49921	64.00	128.00	-	14.00
520050012	●	1/2	-	-	12.700	0.50000	64.00	128.00	0.500	-
8666270	●	-	-	-	12.700	0.50000	64.00	128.00	-	13.00
8666275	●	-	-	-	12.750	0.50197	64.00	128.00	-	13.00
8666280	●	-	-	-	12.800	0.50394	64.00	128.00	-	13.00
8681280	●	-	-	-	12.800	0.50394	64.00	128.00	-	14.00
8666290	●	-	-	-	12.900	0.50787	65.00	128.00	-	13.00
8681290	●	-	-	-	12.900	0.50787	65.00	128.00	-	14.00
8666300	●	-	-	-	13.000	0.51181	65.00	128.00	-	13.00
8681300	●	-	-	-	13.000	0.51181	65.00	128.00	-	14.00
520051512	●	-	-	-	13.080	0.51496	66.00	134.00	-	14.00
8666310	●	-	-	-	13.100	0.51575	66.00	134.00	-	14.00
8666320	●	-	-	-	13.200	0.51969	66.00	134.00	-	14.00
8666330	●	-	-	-	13.300	0.52362	67.00	134.00	-	14.00
8666340	●	-	-	-	13.400	0.52756	67.00	134.00	-	14.00
520053112	●	17/32	-	-	13.494	0.53125	68.00	134.00	0.625	-
8666350	●	-	-	-	13.500	0.53150	68.00	134.00	-	14.00
8666360	●	-	-	-	13.600	0.53543	68.00	134.00	-	14.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

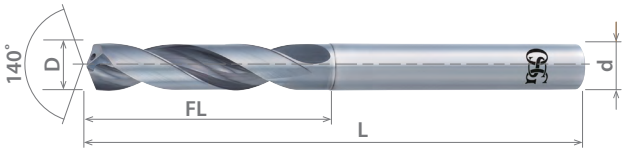
○ Good ◎ Best

List 5200 (Continued)

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-SUS-3D





Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8666370	●	-	-	-	13.700	0.53937	69.00	134.00	-	14.00
8666380	●	-	-	-	13.800	0.54331	69.00	134.00	-	14.00
520054612	●	-	-	-	13.870	0.54606	70.00	134.00	-	14.00
8666390	●	-	-	-	13.900	0.54724	70.00	134.00	-	14.00
8666400	●	-	-	-	14.000	0.55118	70.00	134.00	-	14.00
8666410	●	-	-	-	14.100	0.55512	71.00	140.00	-	15.00
520055512	●	-	-	-	14.100	0.55512	71.00	140.00	-	16.00
8666420	●	-	-	-	14.200	0.55906	71.00	140.00	-	15.00
520055912	●	-	-	-	14.200	0.55906	71.00	140.00	-	16.00
520056212	●	9/16	-	-	14.288	0.56250	72.00	140.00	0.625	-
8666430	●	-	-	-	14.300	0.56299	72.00	140.00	-	15.00
520056312	●	-	-	-	14.300	0.56299	72.00	140.00	-	16.00
8666440	●	-	-	-	14.400	0.56693	72.00	140.00	-	15.00
520056612	●	-	-	-	14.400	0.56693	72.00	140.00	-	16.00
8666450	●	-	-	-	14.500	0.57087	73.00	140.00	-	15.00
8681450	●	-	-	-	14.500	0.57087	73.00	140.00	-	16.00
8666460	●	-	-	-	14.600	0.57480	73.00	140.00	-	15.00
520057412	●	-	-	-	14.600	0.57480	73.00	140.00	-	16.00
520057812	●	-	-	-	14.684	0.57813	74.00	140.00	0.625	-
8666470	●	-	-	-	14.700	0.57874	74.00	140.00	-	15.00
520057912	●	-	-	-	14.700	0.57874	74.00	140.00	-	16.00
8666480	●	-	-	-	14.800	0.58268	74.00	140.00	-	15.00
520058212	●	-	-	-	14.800	0.58268	74.00	140.00	-	16.00
8666490	●	-	-	-	14.900	0.58661	75.00	140.00	-	15.00
520058612	●	-	-	-	14.900	0.58661	75.00	140.00	-	16.00
8666500	●	-	-	-	15.000	0.59055	75.00	140.00	-	15.00
8681500	●	-	-	-	15.000	0.59055	75.00	140.00	-	16.00
8666510	●	-	-	-	15.100	0.59449	76.00	145.00	-	16.00
8666520	●	-	-	-	15.200	0.59843	76.00	145.00	-	16.00
8666530	●	-	-	-	15.300	0.60236	77.00	145.00	-	16.00
8666540	●	-	-	-	15.400	0.60630	77.00	145.00	-	16.00
8666550	●	-	-	-	15.500	0.61024	78.00	145.00	-	16.00
8666560	●	-	-	-	15.600	0.61417	78.00	145.00	-	16.00
8666570	●	-	-	-	15.700	0.61811	79.00	145.00	-	16.00
8666580	●	-	-	-	15.800	0.62205	79.00	145.00	-	16.00
520062512	●	5/8	-	-	15.875	0.62500	80.00	145.00	0.625	-
8666590	●	-	-	-	15.900	0.62598	80.00	145.00	-	16.00
8666600	●	-	-	-	16.000	0.62992	80.00	145.00	-	16.00
520063312	●	-	-	-	16.100	0.63386	81.00	150.00	-	18.00
8666650	●	-	-	-	16.500	0.64961	83.00	150.00	-	17.00
8681650	●	-	-	-	16.500	0.64961	83.00	150.00	-	18.00
520065612	●	21/32	-	-	16.669	0.65625	85.00	150.00	0.750	-
520066312	●	-	-	-	16.840	0.66299	85.00	150.00	-	18.00
8666700	●	-	-	-	17.000	0.66929	85.00	150.00	-	17.00
8681700	●	-	-	-	17.000	0.66929	85.00	150.00	-	18.00
8666750	●	-	-	-	17.500	0.68898	88.00	155.00	-	18.00
520069312	●	-	-	-	17.610	0.69331	90.00	155.00	-	18.00
520069612	●	-	-	-	17.680	0.69606	90.00	155.00	-	18.00
520069812	●	-	-	-	17.730	0.69803	90.00	155.00	-	18.00
8666800	●	-	-	-	18.000	0.70866	90.00	155.00	-	18.00
8666850	●	-	-	-	18.500	0.72835	93.00	160.00	-	19.00
8681850	●	-	-	-	18.500	0.72835	93.00	160.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

List 5200 (Continued)

A BRAND ADO-SUS-3D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
520073312	●	-	-	-	18.640	0.73386	95.00	160.00	-	20.00
8666900	●	-	-	-	19.000	0.74803	95.00	160.00	-	19.00
8681900	●	-	-	-	19.000	0.74803	95.00	160.00	-	20.00
520075012	●	3/4	-	-	19.050	0.75000	95.00	160.00	0.750	-
520075712	●	-	-	-	19.250	0.75787	97.00	165.00	-	20.00
8666950	●	-	-	-	19.500	0.76772	98.00	165.00	-	20.00
520077412	●	-	-	-	19.660	0.77402	100.00	165.00	-	20.00
520077612	●	-	-	-	19.730	0.77677	100.00	165.00	-	20.00
520077812	●	-	-	-	19.760	0.77795	100.00	165.00	-	20.00
8667000	●	-	-	-	20.000	0.78740	100.00	165.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

○ Good ◎ Best

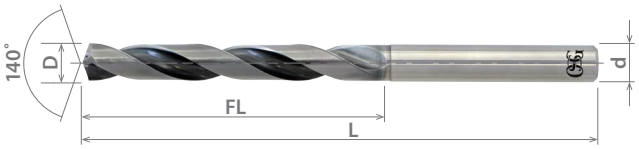
List 5210

A BRAND ADO-SUS-5D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013


RThinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8667200	●	-	-	-	2.000	0.07874	18.00	70.00	-	3.00
8667210	●	-	-	-	2.100	0.08268	19.00	70.00	-	3.00
8667220	●	-	-	-	2.200	0.08661	20.00	70.00	-	3.00
8667230	●	-	-	-	2.300	0.09055	21.00	70.00	-	3.00
521009312	●	3/32	-	-	2.381	0.09375	22.00	70.00	-	3.00
8667240	●	-	-	-	2.400	0.09449	22.00	70.00	-	3.00
8667250	●	-	-	-	2.500	0.09843	23.00	70.00	-	3.00
8667260	●	-	-	-	2.600	0.10236	24.00	78.00	-	3.00
8667270	●	-	-	-	2.700	0.10630	25.00	78.00	-	3.00
8667276	●	-	-	-	2.760	0.10866	25.00	78.00	-	3.00
8667278	●	-	-	-	2.780	0.10945	26.00	78.00	-	3.00
8667280	●	-	-	-	2.800	0.11024	26.00	78.00	-	3.00
8667290	●	-	-	-	2.900	0.11417	27.00	78.00	-	3.00
8667300	●	-	-	-	3.000	0.11811	27.00	78.00	-	3.00
8667310	●	-	-	-	3.100	0.12205	28.00	86.00	-	4.00
8667315	●	-	-	-	3.150	0.12402	29.00	86.00	-	4.00
521012512	●	1/8	-	-	3.175	0.12500	29.00	86.00	0.125	-
8667320	●	-	-	-	3.200	0.12598	29.00	86.00	-	4.00
8667326	●	-	-	-	3.260	0.12835	29.00	86.00	-	4.00
8667330	●	-	-	-	3.300	0.12992	30.00	86.00	-	4.00
8667340	●	-	-	-	3.400	0.13386	31.00	86.00	-	4.00
8667350	●	-	-	-	3.500	0.13780	32.00	86.00	-	4.00
8667360	●	-	-	-	3.600	0.14173	33.00	86.00	-	4.00
8667366	●	-	-	-	3.660	0.14409	33.00	86.00	-	4.00
8667368	●	-	-	-	3.680	0.14488	34.00	86.00	-	4.00
8667370	●	-	-	-	3.700	0.14567	34.00	86.00	-	4.00
8667375	●	-	-	-	3.750	0.14764	34.00	86.00	-	4.00
8667380	●	-	-	-	3.800	0.14961	35.00	86.00	-	4.00
8667390	●	-	-	-	3.900	0.15354	36.00	86.00	-	4.00
521015612	●	5/32	-	-	3.969	0.15625	36.00	86.00	-	4.00
8667400	●	-	-	-	4.000	0.15748	36.00	86.00	-	4.00
521016112	●	-	20	-	4.089	0.16100	37.00	95.00	-	6.00
8667410	●	-	-	-	4.100	0.16142	37.00	95.00	-	5.00
8682410	●	-	-	-	4.100	0.16142	37.00	95.00	-	6.00
8667420	●	-	-	-	4.200	0.16535	38.00	95.00	-	5.00
8682420	●	-	-	-	4.200	0.16535	38.00	95.00	-	6.00
8667430	●	-	-	-	4.300	0.16929	39.00	95.00	-	5.00
8682430	●	-	-	-	4.300	0.16929	39.00	95.00	-	6.00
521017112	●	11/64	-	-	4.366	0.17188	40.00	95.00	0.188	-
8667440	●	-	-	-	4.400	0.17323	40.00	95.00	-	5.00
8682440	●	-	-	-	4.400	0.17323	40.00	95.00	-	6.00
8667450	●	-	-	-	4.500	0.17717	41.00	95.00	-	5.00
8682450	●	-	-	-	4.500	0.17717	41.00	95.00	-	6.00
8667460	●	-	-	-	4.600	0.18110	42.00	95.00	-	5.00
8682460	●	-	-	-	4.600	0.18110	42.00	95.00	-	6.00
8667462	●	-	-	-	4.620	0.18189	42.00	95.00	-	5.00
8667464	●	-	-	-	4.640	0.18268	42.00	95.00	-	5.00
8667470	●	-	-	-	4.700	0.18504	43.00	95.00	-	5.00
8682470	●	-	-	-	4.700	0.18504	43.00	95.00	-	6.00
521018712	●	3/16	-	-	4.763	0.18750	44.00	95.00	0.188	-
8667480	●	-	-	-	4.800	0.18898	44.00	95.00	-	5.00
8682480	●	-	-	-	4.800	0.18898	44.00	95.00	-	6.00
8667485	●	-	-	-	4.850	0.19094	44.00	95.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

List 5210 (Continued)

A BRAND ADO-SUS-5D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8667490	●	-	-	-	4.900	0.19291	45.00	95.00	-	5.00
8682490	●	-	-	-	4.900	0.19291	45.00	95.00	-	6.00
8667500	●	-	-	-	5.000	0.19685	45.00	95.00	-	5.00
8682500	●	-	-	-	5.000	0.19685	45.00	95.00	-	6.00
8667510	●	-	-	-	5.100	0.20079	41.00	100.00	-	6.00
521020312	●	13/64	-	-	5.159	0.20313	42.00	100.00	0.250	-
8667520	●	-	-	-	5.200	0.20472	42.00	100.00	-	6.00
8667525	●	-	-	-	5.250	0.20669	42.00	100.00	-	6.00
8667530	●	-	-	-	5.300	0.20866	43.00	100.00	-	6.00
8667540	●	-	-	-	5.400	0.21260	44.00	100.00	-	6.00
521021312	●	-	3	-	5.410	0.21300	44.00	100.00	-	6.00
8667550	●	-	-	-	5.500	0.21654	44.00	100.00	-	6.00
8667552	●	-	-	-	5.520	0.21732	45.00	100.00	-	6.00
8667554	●	-	-	-	5.540	0.21811	45.00	100.00	-	6.00
521021812	●	7/32	-	-	5.556	0.21875	45.00	100.00	0.250	-
8667560	●	-	-	-	5.600	0.22047	45.00	100.00	-	6.00
8667570	●	-	-	-	5.700	0.22441	46.00	100.00	-	6.00
8667580	●	-	-	-	5.800	0.22835	47.00	100.00	-	6.00
8667590	●	-	-	-	5.900	0.23228	48.00	100.00	-	6.00
521023412	●	15/64	-	-	5.953	0.23438	48.00	100.00	0.250	-
8667600	●	-	-	-	6.000	0.23622	48.00	100.00	-	6.00
8667610	●	-	-	-	6.100	0.24016	49.00	109.00	-	7.00
8682610	●	-	-	-	6.100	0.24016	49.00	109.00	-	8.00
8667620	●	-	-	-	6.200	0.24409	50.00	109.00	-	7.00
8682620	●	-	-	-	6.200	0.24409	50.00	109.00	-	8.00
8667625	●	-	-	-	6.250	0.24606	50.00	109.00	-	7.00
8667630	●	-	-	-	6.300	0.24803	51.00	109.00	-	7.00
8682630	●	-	-	-	6.300	0.24803	51.00	109.00	-	8.00
8667635	●	1/4	-	E	6.350	0.25000	52.00	109.00	0.250	-
8667640	●	-	-	-	6.400	0.25197	52.00	109.00	-	7.00
8682640	●	-	-	-	6.400	0.25197	52.00	109.00	-	8.00
8667650	●	-	-	-	6.500	0.25591	52.00	109.00	-	7.00
8682650	●	-	-	-	6.500	0.25591	52.00	109.00	-	8.00
521025712	●	-	-	F	6.528	0.25700	53.00	109.00	-	8.00
8667660	●	-	-	-	6.600	0.25984	53.00	109.00	-	7.00
8682660	●	-	-	-	6.600	0.25984	53.00	109.00	-	8.00
8667670	●	-	-	-	6.700	0.26378	54.00	109.00	-	7.00
8682670	●	-	-	-	6.700	0.26378	54.00	109.00	-	8.00
521026512	●	17/64	-	-	6.747	0.26563	55.00	109.00	0.313	-
8667675	●	-	-	-	6.750	0.26575	54.00	109.00	-	7.00
8667680	●	-	-	-	6.800	0.26772	55.00	109.00	-	7.00
8682680	●	-	-	-	6.800	0.26772	55.00	109.00	-	8.00
8667690	●	-	-	-	6.900	0.27165	56.00	109.00	-	7.00
8682690	●	-	-	-	6.900	0.27165	56.00	109.00	-	8.00
8667700	●	-	-	-	7.000	0.27559	56.00	109.00	-	7.00
8682700	●	-	-	-	7.000	0.27559	56.00	109.00	-	8.00
8667710	●	-	-	-	7.100	0.27953	57.00	118.00	-	8.00
521028112	●	9/32	-	-	7.144	0.28125	58.00	118.00	0.313	-
8667720	●	-	-	-	7.200	0.28346	58.00	118.00	-	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

○ Good ◎ Best

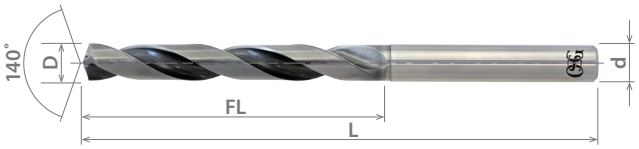
List 5210 (Continued)

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-SUS-5D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013


RThinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8667725	●	-	-	-	7.250	0.28543	58.00	118.00	-	8.00
8667730	●	-	-	-	7.300	0.28740	59.00	118.00	-	8.00
8667736	●	-	-	-	7.360	0.28976	59.00	118.00	-	8.00
8667738	●	-	-	-	7.380	0.29055	60.00	118.00	-	8.00
8667740	●	-	-	-	7.400	0.29134	60.00	118.00	-	8.00
8667750	●	-	-	-	7.500	0.29528	60.00	118.00	-	8.00
8667752	●	-	-	-	7.520	0.29606	61.00	118.00	-	8.00
8667754	●	-	-	-	7.540	0.29685	61.00	118.00	-	8.00
521029612	●	19/64	-	-	7.541	0.29690	60.00	118.00	0.313	-
8667760	●	-	-	-	7.600	0.29921	61.00	118.00	-	8.00
8667770	●	-	-	-	7.700	0.30315	62.00	118.00	-	8.00
8667775	●	-	-	-	7.750	0.30512	62.00	118.00	-	8.00
8667780	●	-	-	-	7.800	0.30709	63.00	118.00	-	8.00
8667790	●	-	-	-	7.900	0.31102	64.00	118.00	-	8.00
521031212	●	5/16	-	-	7.938	0.31250	64.00	118.00	0.313	-
8667800	●	-	-	-	8.000	0.31496	64.00	118.00	-	8.00
8667810	●	-	-	-	8.100	0.31890	65.00	128.00	-	9.00
8682810	●	-	-	-	8.100	0.31890	65.00	128.00	-	10.00
8667820	●	-	-	-	8.200	0.32283	66.00	128.00	-	9.00
8682820	●	-	-	-	8.200	0.32283	66.00	128.00	-	10.00
8667825	●	-	-	-	8.250	0.32480	66.00	128.00	-	9.00
8667830	●	-	-	-	8.300	0.32677	67.00	128.00	-	9.00
8682830	●	-	-	-	8.300	0.32677	67.00	128.00	-	10.00
521032812	●	21/64	-	-	8.334	0.32813	67.00	128.00	0.375	-
8667840	●	-	-	-	8.400	0.33071	68.00	128.00	-	9.00
8682840	●	-	-	-	8.400	0.33071	68.00	128.00	-	10.00
521033212	●	-	-	Q	8.433	0.33200	68.00	128.00	-	10.00
8667850	●	-	-	-	8.500	0.33465	68.00	128.00	-	9.00
8682850	●	-	-	-	8.500	0.33465	68.00	128.00	-	10.00
8667860	●	-	-	-	8.600	0.33858	69.00	128.00	-	9.00
8682860	●	-	-	-	8.600	0.33858	69.00	128.00	-	10.00
8667870	●	-	-	-	8.700	0.34252	70.00	128.00	-	9.00
8682870	●	-	-	-	8.700	0.34252	70.00	128.00	-	10.00
521034312	●	11/32	-	-	8.731	0.34375	70.00	128.00	0.375	-
8667875	●	-	-	-	8.750	0.34449	70.00	128.00	-	9.00
8667880	●	-	-	-	8.800	0.34646	71.00	128.00	-	9.00
8682880	●	-	-	-	8.800	0.34646	71.00	128.00	-	10.00
8667890	●	-	-	-	8.900	0.35039	72.00	128.00	-	9.00
8682890	●	-	-	-	8.900	0.35039	72.00	128.00	-	10.00
8667900	●	-	-	-	9.000	0.35433	72.00	128.00	-	9.00
8682900	●	-	-	-	9.000	0.35433	72.00	128.00	-	10.00
8667910	●	-	-	-	9.100	0.35827	73.00	136.00	-	10.00
521035912	●	23/64	-	-	9.128	0.35938	73.00	136.00	0.375	-
8667920	●	-	-	-	9.200	0.36220	74.00	136.00	-	10.00
8667924	●	-	-	-	9.240	0.36378	74.00	136.00	-	10.00
8667925	●	-	-	-	9.250	0.36417	74.00	136.00	-	10.00
8667926	●	-	-	-	9.260	0.36457	75.00	136.00	-	10.00
8667930	●	-	-	-	9.300	0.36614	75.00	136.00	-	10.00
8667936	●	-	-	-	9.360	0.36850	75.00	136.00	-	10.00
8667938	●	-	-	-	9.380	0.36929	76.00	136.00	-	10.00
8667940	●	-	-	-	9.400	0.37008	76.00	136.00	-	10.00
8667950	●	-	-	-	9.500	0.37402	76.00	136.00	-	10.00
8667952	●	-	-	-	9.520	0.37480	77.00	136.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

List 5210 (Continued)

A BRAND ADO-SUS-5D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
521037512	●	3/8	-	-	9.525	0.37500	76.00	136.00	0.375	-
8667954	●	-	-	-	9.540	0.37559	77.00	136.00	-	10.00
8667960	●	-	-	-	9.600	0.37795	77.00	136.00	-	10.00
8667970	●	-	-	-	9.700	0.38189	78.00	136.00	-	10.00
8667975	●	-	-	-	9.750	0.38386	78.00	136.00	-	10.00
8667980	●	-	-	-	9.800	0.38583	79.00	136.00	-	10.00
8667990	●	-	-	-	9.900	0.38976	80.00	136.00	-	10.00
521039012	●	25/64	-	-	9.922	0.39063	80.00	136.00	0.438	-
8668000	●	-	-	-	10.000	0.39370	80.00	136.00	-	10.00
8668010	●	-	-	-	10.100	0.39764	81.00	146.00	-	11.00
8683010	●	-	-	-	10.100	0.39764	81.00	146.00	-	12.00
8668020	●	-	-	-	10.200	0.40157	82.00	146.00	-	11.00
8683020	●	-	-	-	10.200	0.40157	82.00	146.00	-	12.00
8668025	●	-	-	-	10.250	0.40354	82.00	146.00	-	11.00
8668030	●	-	-	-	10.300	0.40551	83.00	146.00	-	11.00
8683030	●	-	-	-	10.300	0.40551	83.00	146.00	-	12.00
521040612	●	13/32	-	-	10.319	0.40625	83.00	146.00	0.438	-
8668040	●	-	-	-	10.400	0.40945	84.00	146.00	-	11.00
8683040	●	-	-	-	10.400	0.40945	84.00	146.00	-	12.00
8668050	●	-	-	-	10.500	0.41339	84.00	146.00	-	11.00
8683050	●	-	-	-	10.500	0.41339	84.00	146.00	-	12.00
8668060	●	-	-	-	10.600	0.41732	85.00	146.00	-	11.00
8683060	●	-	-	-	10.600	0.41732	85.00	146.00	-	12.00
8668070	●	-	-	-	10.700	0.42126	86.00	146.00	-	11.00
8683070	●	-	-	-	10.700	0.42126	86.00	146.00	-	12.00
521042212	●	27/64	-	-	10.716	0.42188	86.00	146.00	0.438	-
8668075	●	-	-	-	10.750	0.42323	86.00	146.00	-	11.00
8668080	●	-	-	-	10.800	0.42520	87.00	146.00	-	11.00
8683080	●	-	-	-	10.800	0.42520	87.00	146.00	-	12.00
8668090	●	-	-	-	10.900	0.42913	88.00	146.00	-	11.00
8683090	●	-	-	-	10.900	0.42913	88.00	146.00	-	12.00
8668100	●	-	-	-	11.000	0.43307	88.00	146.00	-	11.00
8683100	●	-	-	-	11.000	0.43307	88.00	146.00	-	12.00
8668110	●	-	-	-	11.100	0.43701	89.00	156.00	-	12.00
521043812	●	7/16	-	-	11.113	0.43750	89.00	156.00	0.438	-
8668120	●	-	-	-	11.200	0.44094	90.00	156.00	-	12.00
8668122	●	-	-	-	11.220	0.44173	90.00	156.00	-	12.00
8668124	●	-	-	-	11.240	0.44252	90.00	156.00	-	12.00
8668130	●	-	-	-	11.300	0.44488	91.00	156.00	-	12.00
8668136	●	-	-	-	11.360	0.44724	91.00	156.00	-	12.00
8668138	●	-	-	-	11.380	0.44803	92.00	156.00	-	12.00
8668140	●	-	-	-	11.400	0.44882	92.00	156.00	-	12.00
8668150	●	-	-	-	11.500	0.45276	92.00	156.00	-	12.00
521045312	●	29/64	-	-	11.509	0.45313	92.00	156.00	0.500	-
8668160	●	-	-	-	11.600	0.45669	93.00	156.00	-	12.00
8668170	●	-	-	-	11.700	0.46063	94.00	156.00	-	12.00
8668180	●	-	-	-	11.800	0.46457	95.00	156.00	-	12.00
8668190	●	-	-	-	11.900	0.46850	96.00	156.00	-	12.00
521046912	●	15/32	-	-	11.906	0.46875	96.00	156.00	0.500	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

○ Good ◎ Best

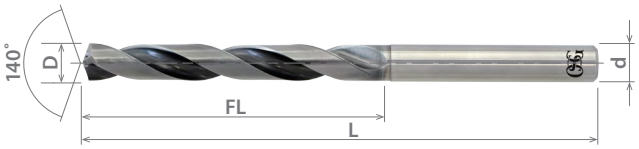
List 5210 (Continued)

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-SUS-5D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013


RThinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8668200	●	-	-	-	12.000	0.47244	96.00	156.00	-	12.00
8668210	●	-	-	-	12.100	0.47638	97.00	167.00	-	13.00
8683210	●	-	-	-	12.100	0.47638	97.00	167.00	-	14.00
8668220	●	-	-	-	12.200	0.48031	98.00	167.00	-	13.00
8683220	●	-	-	-	12.200	0.48031	98.00	167.00	-	14.00
8668230	●	-	-	-	12.300	0.48425	99.00	167.00	-	13.00
8683230	●	-	-	-	12.300	0.48425	99.00	167.00	-	14.00
521048512	●	31/64	-	-	12.303	0.48438	99.00	167.00	0.500	-
8668240	●	-	-	-	12.400	0.48819	100.00	167.00	-	13.00
8683240	●	-	-	-	12.400	0.48819	100.00	167.00	-	14.00
8668250	●	-	-	-	12.500	0.49213	100.00	167.00	-	13.00
8683250	●	-	-	-	12.500	0.49213	100.00	167.00	-	14.00
8668260	●	-	-	-	12.600	0.49606	101.00	167.00	-	13.00
8683260	●	-	-	-	12.600	0.49606	101.00	167.00	-	14.00
521050012	●	1/2	-	-	12.700	0.50000	102.00	167.00	0.500	-
8668270	●	-	-	-	12.700	0.50000	102.00	167.00	-	13.00
8668275	●	-	-	-	12.750	0.50197	103.00	167.00	-	13.00
8668280	●	-	-	-	12.800	0.50394	103.00	167.00	-	13.00
8683280	●	-	-	-	12.800	0.50394	103.00	167.00	-	14.00
8668290	●	-	-	-	12.900	0.50787	104.00	167.00	-	13.00
8683290	●	-	-	-	12.900	0.50787	104.00	167.00	-	14.00
8668300	●	-	-	-	13.000	0.51181	104.00	167.00	-	13.00
8683300	●	-	-	-	13.000	0.51181	104.00	167.00	-	14.00
8668310	●	-	-	-	13.100	0.51575	105.00	176.00	-	14.00
8668320	●	-	-	-	13.200	0.51969	106.00	176.00	-	14.00
8668325	●	-	-	-	13.250	0.52165	106.00	176.00	-	14.00
8668330	●	-	-	-	13.300	0.52362	107.00	176.00	-	14.00
8668340	●	-	-	-	13.400	0.52756	108.00	176.00	-	14.00
521053112	●	17/32	-	-	13.494	0.53125	108.00	176.00	0.625	-
8668350	●	-	-	-	13.500	0.53150	108.00	176.00	-	14.00
8668360	●	-	-	-	13.600	0.53543	109.00	176.00	-	14.00
8668370	●	-	-	-	13.700	0.53937	110.00	176.00	-	14.00
8668380	●	-	-	-	13.800	0.54331	111.00	176.00	-	14.00
8668390	●	-	-	-	13.900	0.54724	112.00	176.00	-	14.00
8668400	●	-	-	-	14.000	0.55118	112.00	176.00	-	14.00
8668410	●	-	-	-	14.100	0.55512	113.00	185.00	-	15.00
521055512	●	-	-	-	14.100	0.55512	113.00	185.00	-	16.00
8668420	●	-	-	-	14.200	0.55906	114.00	185.00	-	15.00
521055912	●	-	-	-	14.200	0.55906	114.00	185.00	-	16.00
521056212	●	9/16	-	-	14.288	0.56250	115.00	185.00	0.625	-
8668430	●	-	-	-	14.300	0.56299	115.00	185.00	-	15.00
521056312	●	-	-	-	14.300	0.56299	115.00	185.00	-	16.00
8668440	●	-	-	-	14.400	0.56693	116.00	185.00	-	15.00
521056612	●	-	-	-	14.400	0.56693	116.00	185.00	-	16.00
8668450	●	-	-	-	14.500	0.57087	116.00	185.00	-	15.00
8683450	●	-	-	-	14.500	0.57087	116.00	185.00	-	16.00
8668460	●	-	-	-	14.600	0.57480	117.00	185.00	-	15.00
521057412	●	-	-	-	14.600	0.57480	117.00	185.00	-	16.00
8668470	●	-	-	-	14.700	0.57874	118.00	185.00	-	15.00
521057812	●	-	-	-	14.700	0.57874	118.00	185.00	-	16.00
8668480	●	-	-	-	14.800	0.58268	119.00	185.00	-	15.00
521058212	●	-	-	-	14.800	0.58268	119.00	185.00	-	16.00
8668490	●	-	-	-	14.900	0.58661	120.00	185.00	-	15.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

List 5210 (Continued)

A BRAND ADO-SUS-5D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
521058612	●	-	-	-	14.900	0.58661	120.00	185.00	-	16.00
8668500	●	-	-	-	15.000	0.59055	120.00	185.00	-	15.00
8683500	●	-	-	-	15.000	0.59055	120.00	185.00	-	16.00
8668510	●	-	-	-	15.100	0.59449	121.00	193.00	-	16.00
8668520	●	-	-	-	15.200	0.59843	122.00	193.00	-	16.00
8668525	●	-	-	-	15.250	0.60039	122.00	193.00	-	16.00
8668530	●	-	-	-	15.300	0.60236	123.00	193.00	-	16.00
8668540	●	-	-	-	15.400	0.60630	124.00	193.00	-	16.00
8668550	●	-	-	-	15.500	0.61024	124.00	193.00	-	16.00
8668560	●	-	-	-	15.600	0.61417	125.00	193.00	-	16.00
8668570	●	-	-	-	15.700	0.61811	126.00	193.00	-	16.00
8668580	●	-	-	-	15.800	0.62205	127.00	193.00	-	16.00
521062512	●	5/8	-	-	15.875	0.62500	128.00	193.00	0.625	-
8668590	●	-	-	-	15.900	0.62598	128.00	193.00	-	16.00
8668600	●	-	-	-	16.000	0.62992	128.00	193.00	-	16.00
521063312	●	-	-	-	16.100	0.63386	113.00	184.00	-	18.00
8668650	●	-	-	-	16.500	0.64961	116.00	184.00	-	17.00
8683650	●	-	-	-	16.500	0.64961	116.00	184.00	-	18.00
521065612	●	21/32	-	-	16.669	0.65625	117.00	184.00	0.750	-
8668700	●	-	-	-	17.000	0.66929	119.00	184.00	-	17.00
8683700	●	-	-	-	17.000	0.66929	119.00	184.00	-	18.00
8668750	●	-	-	-	17.500	0.68898	123.00	191.00	-	18.00
8668800	●	-	-	-	18.000	0.70866	126.00	191.00	-	18.00
8668850	●	-	-	-	18.500	0.72835	130.00	198.00	-	19.00
8683850	●	-	-	-	18.500	0.72835	130.00	198.00	-	20.00
8668900	●	-	-	-	19.000	0.74803	133.00	198.00	-	19.00
8683900	●	-	-	-	19.000	0.74803	133.00	198.00	-	20.00
521075012	●	3/4	-	-	19.050	0.75000	134.00	205.00	0.750	-
521075712	●	-	-	-	19.250	0.75787	135.00	205.00	-	20.00
8668950	●	-	-	-	19.500	0.76772	137.00	205.00	-	20.00
8669000	●	-	-	-	20.000	0.78740	140.00	205.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: MEGA COOLER applies only to diameter sizes over 6mm.

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

○ Good ◎ Best

List 5220

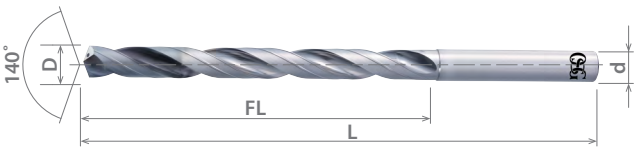
A BRAND ADO-SUS-8D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011



RThinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8686200	●	-	-	-	2.000	0.07874	22.00	75.00	-	3.00
8686210	●	-	-	-	2.100	0.08268	24.00	75.00	-	3.00
8686220	●	-	-	-	2.200	0.08661	25.00	75.00	-	3.00
8686230	●	-	-	-	2.300	0.09055	26.00	75.00	-	3.00
522009312	●	3/32	-	-	2.381	0.09375	27.00	75.00	-	3.00
8686240	●	-	-	-	2.400	0.09449	27.00	75.00	-	3.00
8686250	●	-	-	-	2.500	0.09843	28.00	75.00	-	3.00
8686260	●	-	-	-	2.600	0.10236	29.00	80.00	-	3.00
8686270	●	-	-	-	2.700	0.10630	30.00	80.00	-	3.00
522010912	●	7/64	-	-	2.778	0.10938	31.00	80.00	-	3.00
8686280	●	-	-	-	2.800	0.11024	31.00	80.00	-	3.00
8686290	●	-	-	-	2.900	0.11417	32.00	80.00	-	3.00
8686300	●	-	-	-	3.000	0.11811	33.00	80.00	-	3.00
8684310	●	-	-	-	3.100	0.12205	34.00	95.00	-	4.00
522012512	●	1/8	-	-	3.175	0.12500	35.00	95.00	0.125	-
8684320	●	-	-	-	3.200	0.12598	36.00	95.00	-	4.00
8684330	●	-	-	-	3.300	0.12992	36.00	95.00	-	4.00
8684340	●	-	-	-	3.400	0.13386	37.00	95.00	-	4.00
8684350	●	-	-	-	3.500	0.13780	39.00	95.00	-	4.00
8684360	●	-	-	-	3.600	0.14173	40.00	95.00	-	4.00
8684370	●	-	-	-	3.700	0.14567	41.00	95.00	-	4.00
8684380	●	-	-	-	3.800	0.14961	42.00	95.00	-	4.00
8684390	●	-	-	-	3.900	0.15354	43.00	95.00	-	4.00
522015612	●	5/32	-	-	3.970	0.15625	44.00	95.00	0.188	-
8684400	●	-	-	-	4.000	0.15748	44.00	95.00	-	4.00
522016112	●	-	20	-	4.089	0.16100	45.00	105.00	-	6.00
8684410	●	-	-	-	4.100	0.16142	45.00	105.00	-	6.00
8686410	●	-	-	-	4.100	0.16142	45.00	105.00	-	5.00
8684420	●	-	-	-	4.200	0.16535	46.00	105.00	-	6.00
8686420	●	-	-	-	4.200	0.16535	46.00	105.00	-	5.00
8684430	●	-	-	-	4.300	0.16929	47.00	105.00	-	6.00
8686430	●	-	-	-	4.300	0.16929	47.00	105.00	-	5.00
522017212	●	11/64	-	-	4.366	0.17188	47.00	105.00	0.188	-
8684440	●	-	-	-	4.400	0.17323	48.00	105.00	-	6.00
8686440	●	-	-	-	4.400	0.17323	48.00	105.00	-	5.00
8684450	●	-	-	-	4.500	0.17717	50.00	105.00	-	6.00
8686450	●	-	-	-	4.500	0.17717	50.00	105.00	-	5.00
8684460	●	-	-	-	4.600	0.18110	51.00	105.00	-	6.00
8686460	●	-	-	-	4.600	0.18110	51.00	105.00	-	5.00
8684470	●	-	-	-	4.700	0.18504	52.00	105.00	-	6.00
8686470	●	-	-	-	4.700	0.18504	52.00	105.00	-	5.00
522018712	●	3/16	-	-	4.763	0.18750	52.00	105.00	0.188	-
8684480	●	-	-	-	4.800	0.18898	53.00	105.00	-	6.00
8686480	●	-	-	-	4.800	0.18898	53.00	105.00	-	5.00
8684490	●	-	-	-	4.900	0.19291	54.00	105.00	-	6.00
8686490	●	-	-	-	4.900	0.19291	54.00	105.00	-	5.00
8684500	●	-	-	-	5.000	0.19685	55.00	105.00	-	6.00
8686500	●	-	-	-	5.000	0.19685	55.00	105.00	-	5.00
8684510	●	-	-	-	5.100	0.20079	56.00	115.00	-	6.00
522020312	●	13/64	-	-	5.159	0.20313	57.00	115.00	0.250	-
8684520	●	-	-	-	5.200	0.20472	57.00	115.00	-	6.00
8684530	●	-	-	-	5.300	0.20866	58.00	115.00	-	6.00
8684540	●	-	-	-	5.400	0.21260	59.00	115.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 5220 (Continued)

A BRAND ADO-SUS-8D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
522021312	●	-	3	-	5.410	0.21300	60.00	115.00	0.250	-
8684550	●	-	-	-	5.500	0.21654	61.00	115.00	-	6.00
522021812	●	7/32	-	-	5.556	0.21875	61.00	115.00	0.250	-
8684560	●	-	-	-	5.600	0.22047	62.00	115.00	-	6.00
8684570	●	-	-	-	5.700	0.22441	63.00	115.00	-	6.00
8684580	●	-	-	-	5.800	0.22835	64.00	115.00	-	6.00
8684590	●	-	-	-	5.900	0.23228	65.00	115.00	-	6.00
522023412	●	15/64	-	-	5.953	0.23438	66.00	115.00	0.250	-
8684600	●	-	-	-	6.000	0.23622	66.00	115.00	-	6.00
8684610	●	-	-	-	6.100	0.24016	67.00	125.00	-	8.00
8686610	●	-	-	-	6.100	0.24016	67.00	125.00	-	7.00
8684620	●	-	-	-	6.200	0.24409	68.00	125.00	-	8.00
8686620	●	-	-	-	6.200	0.24409	68.00	125.00	-	7.00
8684630	●	-	-	-	6.300	0.24803	69.00	125.00	-	8.00
8686630	●	-	-	-	6.300	0.24803	69.00	125.00	-	7.00
522025012	●	1/4	-	E	6.350	0.25000	70.00	125.00	0.250	-
8684640	●	-	-	-	6.400	0.25197	70.00	125.00	-	8.00
8686640	●	-	-	-	6.400	0.25197	70.00	125.00	-	7.00
8684650	●	-	-	-	6.500	0.25591	72.00	125.00	-	8.00
8686650	●	-	-	-	6.500	0.25591	72.00	125.00	-	7.00
522025712	●	-	-	F	6.528	0.25700	72.00	125.00	-	8.00
8684660	●	-	-	-	6.600	0.25984	73.00	125.00	-	8.00
8686660	●	-	-	-	6.600	0.25984	73.00	125.00	-	7.00
8684670	●	-	-	-	6.700	0.26378	74.00	125.00	-	8.00
8686670	●	-	-	-	6.700	0.26378	74.00	125.00	-	7.00
522026512	●	17/64	-	-	6.747	0.26563	74.00	125.00	0.313	-
8684680	●	-	-	-	6.800	0.26772	75.00	125.00	-	8.00
8686680	●	-	-	-	6.800	0.26772	75.00	125.00	-	7.00
8684690	●	-	-	-	6.900	0.27165	76.00	125.00	-	8.00
8686690	●	-	-	-	6.900	0.27165	76.00	125.00	-	7.00
8684700	●	-	-	-	7.000	0.27559	77.00	125.00	-	8.00
8686700	●	-	-	-	7.000	0.27559	77.00	125.00	-	7.00
8684710	●	-	-	-	7.100	0.27953	78.00	140.00	-	8.00
522028112	●	9/32	-	-	7.144	0.28125	79.00	140.00	0.313	-
8684720	●	-	-	-	7.200	0.28346	79.00	140.00	-	8.00
8684730	●	-	-	-	7.300	0.28740	80.00	140.00	-	8.00
8684740	●	-	-	-	7.400	0.29134	81.00	140.00	-	8.00
8684750	●	-	-	-	7.500	0.29528	83.00	140.00	-	8.00
522029612	●	19/64	-	-	7.541	0.29688	84.00	140.00	0.313	-
8684760	●	-	-	-	7.600	0.29921	84.00	140.00	-	8.00
8684770	●	-	-	-	7.700	0.30315	85.00	140.00	-	8.00
8684780	●	-	-	-	7.800	0.30709	86.00	140.00	-	8.00
8684790	●	-	-	-	7.900	0.31102	87.00	140.00	-	8.00
522031212	●	5/16	-	-	7.938	0.31250	87.00	140.00	0.313	-
8684800	●	-	-	-	8.000	0.31496	88.00	140.00	-	8.00
8684810	●	-	-	-	8.100	0.31890	89.00	150.00	-	10.00
8686810	●	-	-	-	8.100	0.31890	89.00	150.00	-	9.00
8684820	●	-	-	-	8.200	0.32283	90.00	150.00	-	10.00
8686820	●	-	-	-	8.200	0.32283	90.00	150.00	-	9.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

○ Good ◎ Best

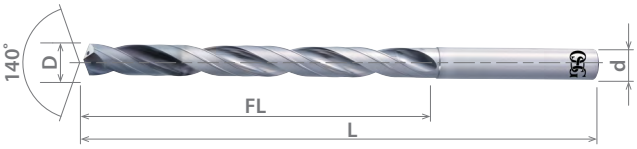
List 5220 (Continued)

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-SUS-8D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011





EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8684830	●	-	-	-	8.300	0.32677	91.00	150.00	-	10.00
8686830	●	-	-	-	8.300	0.32677	91.00	150.00	-	9.00
522032812	●	21/64	-	-	8.334	0.32813	92.00	150.00	0.375	-
8684840	●	-	-	-	8.400	0.33071	92.00	150.00	-	10.00
8686840	●	-	-	-	8.400	0.33071	92.00	150.00	-	9.00
522033112	●	-	-	Q	8.433	0.33200	93.00	150.00	0.344	-
8684850	●	-	-	-	8.500	0.33465	94.00	150.00	-	10.00
8686850	●	-	-	-	8.500	0.33465	94.00	150.00	-	9.00
8684860	●	-	-	-	8.600	0.33858	95.00	150.00	-	10.00
8686860	●	-	-	-	8.600	0.33858	95.00	150.00	-	9.00
8684870	●	-	-	-	8.700	0.34252	96.00	150.00	-	10.00
8686870	●	-	-	-	8.700	0.34252	96.00	150.00	-	9.00
522034312	●	11/32	-	-	8.731	0.34375	96.00	150.00	0.375	-
8684880	●	-	-	-	8.800	0.34646	97.00	150.00	-	10.00
8686880	●	-	-	-	8.800	0.34646	97.00	150.00	-	9.00
8684890	●	-	-	-	8.900	0.35039	98.00	150.00	-	10.00
8686890	●	-	-	-	8.900	0.35039	98.00	150.00	-	9.00
8684900	●	-	-	-	9.000	0.35433	99.00	150.00	-	10.00
8686900	●	-	-	-	9.000	0.35433	99.00	150.00	-	9.00
8684910	●	-	-	-	9.100	0.35827	100.00	160.00	-	10.00
522035912	●	23/64	-	-	9.128	0.35938	101.00	160.00	0.375	-
8684920	●	-	-	-	9.200	0.36220	101.00	160.00	-	10.00
8684930	●	-	-	-	9.300	0.36614	102.00	160.00	-	10.00
8684940	●	-	-	-	9.400	0.37008	103.00	160.00	-	10.00
8684950	●	-	-	-	9.500	0.37402	105.00	160.00	-	10.00
522037512	●	3/8	-	-	9.525	0.37500	105.00	160.00	0.375	-
8684960	●	-	-	-	9.600	0.37795	106.00	160.00	-	10.00
8684970	●	-	-	-	9.700	0.38189	107.00	160.00	-	10.00
8684980	●	-	-	-	9.800	0.38583	108.00	160.00	-	10.00
8684990	●	-	-	-	9.900	0.38976	109.00	160.00	-	10.00
522039012	●	25/64	-	-	9.922	0.39063	110.00	160.00	0.438	-
8685000	●	-	-	-	10.000	0.39370	110.00	160.00	-	10.00
8685010	●	-	-	-	10.100	0.39764	111.00	182.00	-	12.00
8687010	●	-	-	-	10.100	0.39764	111.00	182.00	-	11.00
8685020	●	-	-	-	10.200	0.40157	112.00	182.00	-	12.00
8687020	●	-	-	-	10.200	0.40157	112.00	182.00	-	11.00
8685030	●	-	-	-	10.300	0.40551	113.00	182.00	-	12.00
8687030	●	-	-	-	10.300	0.40551	113.00	182.00	-	11.00
522040612	●	13/32	-	-	10.319	0.40625	113.00	182.00	0.438	-
8685040	●	-	-	-	10.400	0.40945	114.00	182.00	-	12.00
8687040	●	-	-	-	10.400	0.40945	114.00	182.00	-	11.00
8685050	●	-	-	-	10.500	0.41339	116.00	182.00	-	12.00
8687050	●	-	-	-	10.500	0.41339	116.00	182.00	-	11.00
8685060	●	-	-	-	10.600	0.41732	117.00	182.00	-	12.00
8687060	●	-	-	-	10.600	0.41732	117.00	182.00	-	11.00
8685070	●	-	-	-	10.700	0.42126	118.00	182.00	-	12.00
8687070	●	-	-	-	10.700	0.42126	118.00	182.00	-	11.00
522042212	●	27/64	-	-	10.716	0.42188	118.00	182.00	0.438	-
8685080	●	-	-	-	10.800	0.42520	119.00	182.00	-	12.00
8687080	●	-	-	-	10.800	0.42520	119.00	182.00	-	11.00
8685090	●	-	-	-	10.900	0.42913	120.00	182.00	-	12.00
8687090	●	-	-	-	10.900	0.42913	120.00	182.00	-	11.00
8685100	●	-	-	-	11.000	0.43307	121.00	182.00	-	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 5220 (Continued)

A BRAND ADO-SUS-8D

SPEED FEED 312 | CARBIDE | WXL | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8687100	●	-	-	-	11.000	0.43307	121.00	182.00	-	11.00
8685110	●	-	-	-	11.100	0.43701	122.00	194.00	-	12.00
522043712	●	7/16	-	-	11.113	0.43750	122.00	194.00	0.438	-
8685120	●	-	-	-	11.200	0.44094	123.00	194.00	-	12.00
8685130	●	-	-	-	11.300	0.44488	124.00	194.00	-	12.00
8685140	●	-	-	-	11.400	0.44882	125.00	194.00	-	12.00
8685150	●	-	-	-	11.500	0.45276	127.00	194.00	-	12.00
522045312	●	29/64	-	-	11.509	0.45313	127.00	194.00	0.500	-
8685160	●	-	-	-	11.600	0.45669	128.00	194.00	-	12.00
8685170	●	-	-	-	11.700	0.46063	129.00	194.00	-	12.00
8685180	●	-	-	-	11.800	0.46457	130.00	194.00	-	12.00
8685190	●	-	-	-	11.900	0.46850	131.00	194.00	-	12.00
8685200	●	-	-	-	12.000	0.47244	132.00	194.00	-	12.00
522047612	●	-	-	-	12.100	0.47638	133.00	206.00	-	14.00
522048012	●	-	-	-	12.200	0.48031	134.00	206.00	-	14.00
522048412	●	-	-	-	12.300	0.48425	135.00	206.00	-	14.00
522048812	●	-	-	-	12.400	0.48819	136.00	206.00	-	14.00
522049212	●	-	-	-	12.500	0.49213	138.00	206.00	-	13.00
522049312	●	-	-	-	12.500	0.49213	138.00	206.00	-	14.00
522049612	●	-	-	-	12.600	0.49606	139.00	206.00	-	14.00
522050012	●	1/2	-	-	12.700	0.50000	140.00	206.00	0.500	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		◎	◎	◎	◎		○	○	◎	○			

○ Good ◎ Best

List 6600

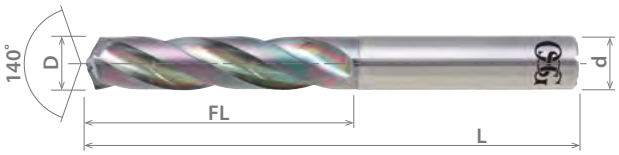
SPEED FEED 313 | CARBIDE | EgiAs | 3 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-TRS-3D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



R Thinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8720300	●	-	-	-	3.000	0.11811	18.00	66.00	-	3.00
660012517	●	1/8	-	-	3.175	0.12500	20.00	74.00	0.125	-
8720330	●	-	-	-	3.300	0.12992	20.00	74.00	-	4.00
660013217	●	-	-	-	3.360	0.13228	21.00	74.00	-	4.00
660013517	●	-	-	-	3.440	0.13543	21.00	74.00	-	4.00
8720350	●	-	-	-	3.500	0.13780	21.00	74.00	-	4.00
660013817	●	-	-	-	3.520	0.13858	22.00	74.00	-	4.00
660014017	●	-	-	-	3.570	0.14055	22.00	74.00	-	4.00
8720366	●	-	-	-	3.660	0.14409	22.00	74.00	-	4.00
660014817	●	-	-	-	3.770	0.14843	23.00	74.00	-	4.00
8720386	●	-	-	-	3.860	0.15197	24.00	74.00	-	4.00
660015617	●	5/32	-	-	3.969	0.15625	24.00	74.00	0.156	-
8720400	●	-	-	-	4.000	0.15748	24.00	74.00	-	4.00
660015917	●	-	-	-	4.050	0.15945	25.00	80.00	-	6.00
660016117	●	-	20	-	4.089	0.16100	25.00	80.00	-	6.00
8720410	●	-	-	-	4.100	0.16142	25.00	80.00	-	6.00
660016317	●	-	-	-	4.160	0.16378	25.00	80.00	-	6.00
8720420	●	-	-	-	4.200	0.16535	26.00	80.00	-	6.00
660016817	●	-	-	-	4.270	0.16811	26.00	80.00	-	6.00
8720430	●	-	-	-	4.300	0.16929	26.00	80.00	-	6.00
660017217	●	11/64	-	-	4.366	0.17188	27.00	80.00	0.188	-
8720440	●	-	-	-	4.400	0.17323	27.00	80.00	-	6.00
660017517	●	-	-	-	4.460	0.17559	27.00	80.00	-	6.00
8720450	●	-	-	-	4.500	0.17717	27.00	80.00	-	6.00
8720460	●	-	-	-	4.600	0.18110	28.00	80.00	-	6.00
660018317	●	-	-	-	4.660	0.18346	28.00	80.00	-	6.00
8720470	●	-	-	-	4.700	0.18504	29.00	80.00	-	6.00
660018717	●	3/16	-	-	4.763	0.18750	29.00	80.00	0.188	-
8720480	●	-	-	-	4.800	0.18898	29.00	80.00	-	6.00
8720490	●	-	-	-	4.900	0.19291	30.00	80.00	-	6.00
8720500	●	-	-	-	5.000	0.19685	25.00	80.00	-	6.00
8720510	●	-	-	-	5.100	0.20079	26.00	82.00	-	6.00
660020317	●	13/64	-	-	5.159	0.20313	26.00	82.00	0.250	-
8720520	●	-	-	-	5.200	0.20472	26.00	82.00	-	6.00
8720530	●	-	-	-	5.300	0.20866	27.00	82.00	-	6.00
8720540	●	-	-	-	5.400	0.21260	27.00	82.00	-	6.00
660021317	●	-	3	-	5.410	0.21300	28.00	82.00	-	6.00
8720550	●	-	-	-	5.500	0.21654	28.00	82.00	-	6.00
660021817	●	7/32	-	-	5.556	0.21875	28.00	82.00	0.250	-
8720560	●	-	-	-	5.600	0.22047	28.00	82.00	-	6.00
8720570	●	-	-	-	5.700	0.22441	29.00	82.00	-	6.00
8720580	●	-	-	-	5.800	0.22835	29.00	82.00	-	6.00
8720590	●	-	-	-	5.900	0.23228	30.00	82.00	-	6.00
660023417	●	15/64	-	-	5.953	0.23438	30.00	82.00	0.250	-
8720600	●	-	-	-	6.000	0.23622	30.00	82.00	-	6.00
8720610	●	-	-	-	6.100	0.24016	31.00	88.00	-	8.00
8720620	●	-	-	-	6.200	0.24409	31.00	88.00	-	8.00
8720630	●	-	-	-	6.300	0.24803	32.00	88.00	-	8.00
660025017	●	1/4	-	E	6.350	0.25000	32.00	88.00	0.250	-
8720640	●	-	-	-	6.400	0.25197	32.00	88.00	-	8.00
8720650	●	-	-	-	6.500	0.25591	33.00	88.00	-	8.00
660025717	●	-	-	F	6.528	0.25700	33.00	88.00	-	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6600 (Continued)

A BRAND ADO-TRS-3D

SPEED FEED 313 | CARBIDE | EgiAs | 3 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8720660	●	-	-	-	6.600	0.25984	33.00	88.00	-	8.00
8720670	●	-	-	-	6.700	0.26378	34.00	88.00	-	8.00
660026517	●	17/64	-	-	6.747	0.26563	34.00	88.00	0.313	-
8720680	●	-	-	-	6.800	0.26772	34.00	88.00	-	8.00
8720690	●	-	-	-	6.900	0.27165	35.00	88.00	-	8.00
8720700	●	-	-	-	7.000	0.27559	35.00	88.00	-	8.00
8720710	●	-	-	-	7.100	0.27953	36.00	94.00	-	8.00
660028117	●	9/32	-	-	7.144	0.28125	36.00	94.00	0.313	-
8720720	●	-	-	-	7.200	0.28346	36.00	94.00	-	8.00
8720730	●	-	-	-	7.300	0.28740	37.00	94.00	-	8.00
8720738	●	-	-	-	7.380	0.29055	37.00	94.00	-	8.00
8720740	●	-	-	-	7.400	0.29134	37.00	94.00	-	8.00
8720750	●	-	-	-	7.500	0.29528	38.00	94.00	-	8.00
660029617	●	19/64	-	-	7.541	0.29688	38.00	94.00	0.313	-
8720760	●	-	-	-	7.600	0.29921	38.00	94.00	-	8.00
8720770	●	-	-	-	7.700	0.30315	39.00	94.00	-	8.00
8720780	●	-	-	-	7.800	0.30709	39.00	94.00	-	8.00
8720790	●	-	-	-	7.900	0.31102	40.00	94.00	-	8.00
660031217	●	5/16	-	-	7.938	0.31250	40.00	94.00	0.313	-
8720800	●	-	-	-	8.000	0.31496	40.00	94.00	-	8.00
8720810	●	-	-	-	8.100	0.31890	41.00	101.00	-	10.00
8720820	●	-	-	-	8.200	0.32283	41.00	101.00	-	10.00
8720830	●	-	-	-	8.300	0.32677	42.00	101.00	-	10.00
660032817	●	21/64	-	-	8.334	0.32813	42.00	101.00	0.375	-
8720840	●	-	-	-	8.400	0.33071	42.00	101.00	-	10.00
660033217	●	-	-	Q	8.433	0.33200	43.00	101.00	-	10.00
8720850	●	-	-	-	8.500	0.33465	43.00	101.00	-	10.00
8720860	●	-	-	-	8.600	0.33858	43.00	101.00	-	10.00
8720870	●	-	-	-	8.700	0.34252	44.00	101.00	-	10.00
660034317	●	11/32	-	-	8.731	0.34375	44.00	101.00	0.375	-
8720880	●	-	-	-	8.800	0.34646	44.00	101.00	-	10.00
8720890	●	-	-	-	8.900	0.35039	45.00	101.00	-	10.00
8720900	●	-	-	-	9.000	0.35433	45.00	101.00	-	10.00
8720910	●	-	-	-	9.100	0.35827	46.00	106.00	-	10.00
660035917	●	23/64	-	-	9.128	0.35938	46.00	106.00	0.375	-
8720920	●	-	-	-	9.200	0.36220	46.00	106.00	-	10.00
8720925	●	-	-	-	9.250	0.36417	47.00	106.00	-	10.00
8720930	●	-	-	-	9.300	0.36614	47.00	106.00	-	10.00
8720938	●	-	-	-	9.380	0.36929	47.00	106.00	-	10.00
8720940	●	-	-	-	9.400	0.37008	47.00	106.00	-	10.00
8720950	●	-	-	-	9.500	0.37402	48.00	106.00	-	10.00
660037517	●	3/8	-	-	9.525	0.37500	48.00	106.00	0.375	-
8720960	●	-	-	-	9.600	0.37795	48.00	106.00	-	10.00
8720970	●	-	-	-	9.700	0.38189	49.00	106.00	-	10.00
8720980	●	-	-	-	9.800	0.38583	49.00	106.00	-	10.00
8720990	●	-	-	-	9.900	0.38976	50.00	106.00	-	10.00
660039017	●	25/64	-	-	9.922	0.39063	50.00	106.00	0.438	-
8721000	●	-	-	-	10.000	0.39370	50.00	106.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎		◎	○	◎		○		○	◎	○	○	

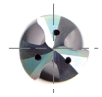
◎ Best ○ Good

List 6600 (Continued)

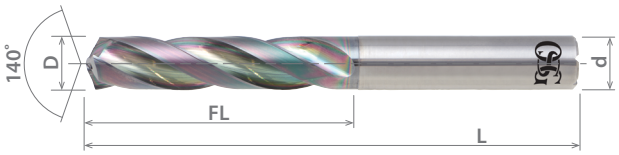
SPEED FEED 313 | CARBIDE | EgiAs | 3 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-TRS-3D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



R Thinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8721010	●	-	-	-	10.100	0.39764	51.00	113.00	-	12.00
8721020	●	-	-	-	10.200	0.40157	51.00	113.00	-	12.00
8721030	●	-	-	-	10.300	0.40551	52.00	113.00	-	12.00
660040617	●	13/32	-	-	10.319	0.40625	52.00	113.00	0.438	-
8721040	●	-	-	-	10.400	0.40945	52.00	113.00	-	12.00
8721050	●	-	-	-	10.500	0.41339	53.00	113.00	-	12.00
8721060	●	-	-	-	10.600	0.41732	53.00	113.00	-	12.00
8721070	●	-	-	-	10.700	0.42126	54.00	113.00	-	12.00
660042217	●	27/64	-	-	10.716	0.42188	54.00	113.00	0.438	-
8721080	●	-	-	-	10.800	0.42520	54.00	113.00	-	12.00
8721090	●	-	-	-	10.900	0.42913	55.00	113.00	-	12.00
8721100	●	-	-	-	11.000	0.43307	55.00	113.00	-	12.00
8721110	●	-	-	-	11.100	0.43701	56.00	120.00	-	12.00
660043717	●	7/16	-	-	11.113	0.43750	56.00	120.00	0.438	-
8721120	●	-	-	-	11.200	0.44094	56.00	120.00	-	12.00
8721125	●	-	-	-	11.250	0.44291	57.00	120.00	-	12.00
8721130	●	-	-	-	11.300	0.44488	57.00	120.00	-	12.00
8721138	●	-	-	-	11.380	0.44803	57.00	120.00	-	12.00
8721140	●	-	-	-	11.400	0.44882	57.00	120.00	-	12.00
8721150	●	-	-	-	11.500	0.45276	58.00	120.00	-	12.00
660045317	●	29/64	-	-	11.509	0.45313	58.00	120.00	0.500	-
8721160	●	-	-	-	11.600	0.45669	58.00	120.00	-	12.00
8721170	●	-	-	-	11.700	0.46063	59.00	120.00	-	12.00
8721180	●	-	-	-	11.800	0.46457	59.00	120.00	-	12.00
8721190	●	-	-	-	11.900	0.46850	60.00	120.00	-	12.00
660046817	●	15/32	-	-	11.906	0.46875	60.00	120.00	0.500	-
8721200	●	-	-	-	12.000	0.47244	60.00	120.00	-	12.00
8721210	●	-	-	-	12.100	0.47638	61.00	128.00	-	14.00
660048417	●	31/64	-	-	12.303	0.48438	62.00	128.00	0.500	-
8721250	●	-	-	-	12.500	0.49213	63.00	128.00	-	14.00
8721260	●	-	-	-	12.600	0.49606	63.00	128.00	-	14.00
660050017	●	1/2	-	-	12.700	0.50000	64.00	128.00	0.500	-
8721280	●	-	-	-	12.800	0.50394	64.00	128.00	-	14.00
8721300	●	-	-	-	13.000	0.51181	65.00	128.00	-	14.00
8721310	●	-	-	-	13.100	0.51575	66.00	134.00	-	14.00
8721325	●	-	-	-	13.250	0.52165	67.00	134.00	-	14.00
8721330	●	-	-	-	13.300	0.52362	67.00	134.00	-	14.00
8721338	●	-	-	-	13.380	0.52677	67.00	134.00	-	14.00
660053117	●	17/32	-	-	13.494	0.53125	68.00	134.00	0.625	-
8721350	●	-	-	-	13.500	0.53150	68.00	134.00	-	14.00
8721360	●	-	-	-	13.600	0.53543	68.00	134.00	-	14.00
8721370	●	-	-	-	13.700	0.53937	69.00	134.00	-	14.00
8721380	●	-	-	-	13.800	0.54331	69.00	134.00	-	14.00
8721390	●	-	-	-	13.900	0.54724	70.00	134.00	-	14.00
8721400	●	-	-	-	14.000	0.55118	70.00	134.00	-	14.00
8721410	●	-	-	-	14.100	0.55512	71.00	140.00	-	16.00
8721420	●	-	-	-	14.200	0.55906	71.00	140.00	-	16.00
660056217	●	9/16	-	-	14.288	0.56250	72.00	140.00	0.625	-
8721430	●	-	-	-	14.300	0.56299	72.00	140.00	-	16.00
8721450	●	-	-	-	14.500	0.57087	73.00	140.00	-	16.00
8721470	●	-	-	-	14.700	0.57874	74.00	140.00	-	16.00
8721500	●	-	-	-	15.000	0.59055	75.00	140.00	-	16.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6600 (Continued)

A BRAND ADO-TRS-3D

SPEED FEED 313 | CARBIDE | EgiAs | 3 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
660059317	●	19/32	-	-	15.081	0.59375	76.00	145.00	0.625	-
8721510	●	-	-	-	15.100	0.59449	76.00	145.00	-	16.00
8721520	●	-	-	-	15.200	0.59843	76.00	145.00	-	16.00
8721530	●	-	-	-	15.300	0.60236	77.00	145.00	-	16.00
8721550	●	-	-	-	15.500	0.61024	78.00	145.00	-	16.00
8721560	●	-	-	-	15.600	0.61417	78.00	145.00	-	16.00
660062517	●	5/8	-	-	15.875	0.62500	80.00	145.00	0.625	-
8721600	●	-	-	-	16.000	0.62992	80.00	145.00	-	16.00
8721650	●	-	-	-	16.500	0.64961	83.00	150.00	-	18.00
660065617	●	21/32	-	-	16.669	0.65625	85.00	150.00	0.750	-
660066317	●	-	-	-	16.840	0.66299	85.00	150.00	-	18.00
8721700	●	-	-	-	17.000	0.66929	85.00	150.00	-	18.00
8721725	●	-	-	-	17.250	0.67913	87.00	155.00	-	18.00
660068717	●	11/16	-	-	17.463	0.68750	88.00	155.00	0.750	-
8721750	●	-	-	-	17.500	0.68898	88.00	155.00	-	18.00
660070317	●	45/64	-	-	17.859	0.70313	90.00	155.00	0.750	-
8721800	●	-	-	-	18.000	0.70866	90.00	155.00	-	18.00
660071817	●	23/32	-	-	18.256	0.71875	92.00	160.00	0.750	-
8721850	●	-	-	-	18.500	0.72835	93.00	160.00	-	20.00
8721900	●	-	-	-	19.000	0.74803	95.00	160.00	-	20.00
660075017	●	3/4	-	-	19.050	0.75000	95.00	160.00	0.750	-
8721925	●	-	-	-	19.250	0.75787	97.00	165.00	-	20.00
8721950	●	-	-	-	19.500	0.76772	98.00	165.00	-	20.00
8722000	●	-	-	-	20.000	0.78740	100.00	165.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎		◎	○	◎		○		○	◎	○	○	

○ Good ◎ Best

A Brand *ADO-TRS*

Advanced Performance High Feed 3-Flute Carbide Drills

List 6610

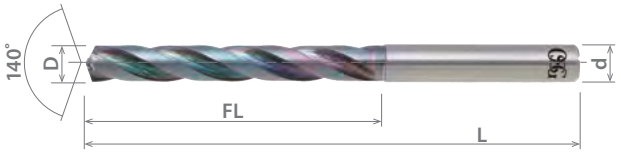
A BRAND ADO-TRS-5D

SPEED FEED 313 | CARBIDE | EgiAs | 3 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



R Thinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8722300	●	-	-	-	3.000	0.11811	27.00	78.00	-	3.00
661012517	●	1/8	-	-	3.175	0.12500	29.00	86.00	0.125	-
8722330	●	-	-	-	3.300	0.12992	30.00	86.00	-	4.00
8722350	●	-	-	-	3.500	0.13780	32.00	86.00	-	4.00
8722366	●	-	-	-	3.660	0.14409	33.00	86.00	-	4.00
661015617	●	5/32	-	-	3.969	0.15625	36.00	86.00	0.156	-
8722400	●	-	-	-	4.000	0.15748	36.00	86.00	-	4.00
661016117	●	-	20	-	4.089	0.16100	37.00	95.00	-	6.00
8722410	●	-	-	-	4.100	0.16142	37.00	95.00	-	6.00
8722420	●	-	-	-	4.200	0.16535	38.00	95.00	-	6.00
8722430	●	-	-	-	4.300	0.16929	39.00	95.00	-	6.00
661017217	●	11/64	-	-	4.366	0.17188	40.00	95.00	0.188	-
8722440	●	-	-	-	4.400	0.17323	40.00	95.00	-	6.00
8722450	●	-	-	-	4.500	0.17717	41.00	95.00	-	6.00
8722460	●	-	-	-	4.600	0.18110	42.00	95.00	-	6.00
8722470	●	-	-	-	4.700	0.18504	43.00	95.00	-	6.00
661018717	●	3/16	-	-	4.763	0.18750	43.00	95.00	0.188	-
8722480	●	-	-	-	4.800	0.18898	44.00	95.00	-	6.00
8722490	●	-	-	-	4.900	0.19291	45.00	95.00	-	6.00
8722500	●	-	-	-	5.000	0.19685	45.00	95.00	-	6.00
8722510	●	-	-	-	5.100	0.20079	41.00	100.00	-	6.00
661020317	●	13/64	-	-	5.159	0.20313	42.00	100.00	0.250	-
8722520	●	-	-	-	5.200	0.20472	42.00	100.00	-	6.00
8722530	●	-	-	-	5.300	0.20866	43.00	100.00	-	6.00
8722540	●	-	-	-	5.400	0.21260	44.00	100.00	-	6.00
661021317	●	-	3	-	5.410	0.21300	44.00	100.00	-	6.00
8722550	●	-	-	-	5.500	0.21654	44.00	100.00	-	6.00
661021817	●	7/32	-	-	5.556	0.21875	45.00	100.00	0.250	-
8722560	●	-	-	-	5.600	0.22047	45.00	100.00	-	6.00
8722570	●	-	-	-	5.700	0.22441	46.00	100.00	-	6.00
8722580	●	-	-	-	5.800	0.22835	47.00	100.00	-	6.00
8722590	●	-	-	-	5.900	0.23228	48.00	100.00	-	6.00
661023417	●	15/64	-	-	5.953	0.23438	48.00	100.00	0.250	-
8722600	●	-	-	-	6.000	0.23622	48.00	100.00	-	6.00
8722610	●	-	-	-	6.100	0.24016	49.00	109.00	-	8.00
8722620	●	-	-	-	6.200	0.24409	50.00	109.00	-	8.00
8722630	●	-	-	-	6.300	0.24803	51.00	109.00	-	8.00
661025017	●	1/4	-	E	6.350	0.25000	52.00	109.00	0.250	-
8722640	●	-	-	-	6.400	0.25197	52.00	109.00	-	8.00
8722650	●	-	-	-	6.500	0.25591	52.00	109.00	-	8.00
661025717	●	-	-	F	6.528	0.25700	53.00	109.00	-	8.00
8722660	●	-	-	-	6.600	0.25984	53.00	109.00	-	8.00
8722670	●	-	-	-	6.700	0.26378	54.00	109.00	-	8.00
661026517	●	17/64	-	-	6.747	0.26563	55.00	109.00	0.313	-
8722680	●	-	-	-	6.800	0.26772	55.00	109.00	-	8.00
8722690	●	-	-	-	6.900	0.27165	56.00	109.00	-	8.00
8722700	●	-	-	-	7.000	0.27559	56.00	109.00	-	8.00
8722710	●	-	-	-	7.100	0.27953	57.00	118.00	-	8.00
661028117	●	9/32	-	-	7.144	0.28125	58.00	118.00	0.313	-
8722720	●	-	-	-	7.200	0.28346	58.00	118.00	-	8.00
8722730	●	-	-	-	7.300	0.28740	59.00	118.00	-	8.00
8722738	●	-	-	-	7.380	0.29055	60.00	118.00	-	8.00
8722740	●	-	-	-	7.400	0.29134	60.00	118.00	-	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6610 (Continued)

A BRAND ADO-TRS-5D

SPEED FEED 313 | CARBIDE | EgiAs | 3 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8722750	●	-	-	-	7.500	0.29528	60.00	118.00	-	8.00
661029617	●	19/64	-	-	7.541	0.29688	60.00	118.00	0.313	-
8722760	●	-	-	-	7.600	0.29921	61.00	118.00	-	8.00
8722770	●	-	-	-	7.700	0.30315	62.00	118.00	-	8.00
8722780	●	-	-	-	7.800	0.30709	63.00	118.00	-	8.00
8722790	●	-	-	-	7.900	0.31102	64.00	118.00	-	8.00
661031217	●	5/16	-	-	7.938	0.31250	64.00	118.00	0.313	-
8722800	●	-	-	-	8.000	0.31496	64.00	118.00	-	8.00
8722810	●	-	-	-	8.100	0.31890	65.00	128.00	-	10.00
8722820	●	-	-	-	8.200	0.32283	66.00	128.00	-	10.00
8722830	●	-	-	-	8.300	0.32677	67.00	128.00	-	10.00
661032817	●	21/64	-	-	8.334	0.32813	67.00	128.00	0.375	-
8722840	●	-	-	-	8.400	0.33071	68.00	128.00	-	10.00
661033217	●	-	-	Q	8.433	0.33200	68.00	128.00	-	10.00
8722850	●	-	-	-	8.500	0.33465	68.00	128.00	-	10.00
8722860	●	-	-	-	8.600	0.33858	69.00	128.00	-	10.00
8722870	●	-	-	-	8.700	0.34252	70.00	128.00	-	10.00
661034317	●	11/32	-	-	8.731	0.34375	70.00	128.00	0.375	-
8722880	●	-	-	-	8.800	0.34646	71.00	128.00	-	10.00
8722890	●	-	-	-	8.900	0.35039	72.00	128.00	-	10.00
8722900	●	-	-	-	9.000	0.35433	72.00	128.00	-	10.00
8722910	●	-	-	-	9.100	0.35827	73.00	136.00	-	10.00
661035917	●	23/64	-	-	9.128	0.35938	73.00	136.00	0.375	-
8722920	●	-	-	-	9.200	0.36220	74.00	136.00	-	10.00
8722925	●	-	-	-	9.250	0.36417	74.00	136.00	-	10.00
8722930	●	-	-	-	9.300	0.36614	75.00	136.00	-	10.00
8722938	●	-	-	-	9.380	0.36929	76.00	136.00	-	10.00
8722940	●	-	-	-	9.400	0.37008	76.00	136.00	-	10.00
8722950	●	-	-	-	9.500	0.37402	76.00	136.00	-	10.00
661037517	●	3/8	-	-	9.525	0.37500	76.00	136.00	0.375	-
8722960	●	-	-	-	9.600	0.37795	77.00	136.00	-	10.00
8722970	●	-	-	-	9.700	0.38189	78.00	136.00	-	10.00
8722980	●	-	-	-	9.800	0.38583	79.00	136.00	-	10.00
8722990	●	-	-	-	9.900	0.38976	80.00	136.00	-	10.00
661039017	●	25/64	-	-	9.922	0.39063	80.00	136.00	0.438	-
8723000	●	-	-	-	10.000	0.39370	80.00	136.00	-	10.00
8723010	●	-	-	-	10.100	0.39764	81.00	146.00	-	12.00
8723020	●	-	-	-	10.200	0.40157	82.00	146.00	-	12.00
8723030	●	-	-	-	10.300	0.40551	83.00	146.00	-	12.00
661040617	●	13/32	-	-	10.319	0.40625	83.00	146.00	0.438	-
8723040	●	-	-	-	10.400	0.40945	84.00	146.00	-	12.00
8723050	●	-	-	-	10.500	0.41339	84.00	146.00	-	12.00
8723060	●	-	-	-	10.600	0.41732	85.00	146.00	-	12.00
8723070	●	-	-	-	10.700	0.42126	86.00	146.00	-	12.00
661042217	●	27/64	-	-	10.716	0.42188	86.00	146.00	0.438	-
8723080	●	-	-	-	10.800	0.42520	87.00	146.00	-	12.00
8723090	●	-	-	-	10.900	0.42913	88.00	146.00	-	12.00
8723100	●	-	-	-	11.000	0.43307	88.00	146.00	-	12.00
8723110	●	-	-	-	11.100	0.43701	89.00	156.00	-	12.00
661043717	●	7/16	-	-	11.113	0.43750	89.00	156.00	0.438	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎		◎	○	◎		○		○	◎	○	○	

○ Good ◎ Best

List 6610 (Continued)

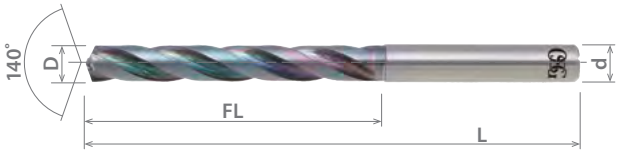
SPEED FEED 313 | CARBIDE | EgiAs | 3 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND ADO-TRS-5D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



R Thinning



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8723120	●	-	-	-	11.200	0.44094	90.00	156.00	-	12.00
8723125	●	-	-	-	11.250	0.44291	90.00	156.00	-	12.00
8723130	●	-	-	-	11.300	0.44488	91.00	156.00	-	12.00
8723138	●	-	-	-	11.380	0.44803	92.00	156.00	-	12.00
8723140	●	-	-	-	11.400	0.44882	92.00	156.00	-	12.00
8723150	●	-	-	-	11.500	0.45276	92.00	156.00	-	12.00
661045317	●	29/64	-	-	11.509	0.45313	92.00	156.00	0.500	-
8723160	●	-	-	-	11.600	0.45669	93.00	156.00	-	12.00
8723170	●	-	-	-	11.700	0.46063	94.00	156.00	-	12.00
8723180	●	-	-	-	11.800	0.46457	95.00	156.00	-	12.00
8723190	●	-	-	-	11.900	0.46850	96.00	156.00	-	12.00
661046817	●	15/32	-	-	11.906	0.46875	96.00	156.00	0.500	-
8723200	●	-	-	-	12.000	0.47244	96.00	156.00	-	12.00
8723220	●	-	-	-	12.200	0.48031	98.00	167.00	-	14.00
661048417	●	31/64	-	-	12.303	0.48438	99.00	167.00	0.500	-
8723250	●	-	-	-	12.500	0.49213	100.00	167.00	-	14.00
8723260	●	-	-	-	12.600	0.49606	101.00	167.00	-	14.00
661050017	●	1/2	-	-	12.700	0.50000	102.00	167.00	0.500	-
8723300	●	-	-	-	13.000	0.51181	104.00	167.00	-	14.00
8723310	●	-	-	-	13.100	0.51575	105.00	176.00	-	14.00
8723325	●	-	-	-	13.250	0.52165	106.00	176.00	-	14.00
8723330	●	-	-	-	13.300	0.52362	107.00	176.00	-	14.00
8723338	●	-	-	-	13.380	0.52677	108.00	176.00	-	14.00
661053117	●	17/32	-	-	13.494	0.53125	108.00	176.00	0.625	-
8723350	●	-	-	-	13.500	0.53150	108.00	176.00	-	14.00
8723360	●	-	-	-	13.600	0.53543	109.00	176.00	-	14.00
8723380	●	-	-	-	13.800	0.54331	111.00	176.00	-	14.00
8723400	●	-	-	-	14.000	0.55118	112.00	176.00	-	14.00
8723410	●	-	-	-	14.100	0.55512	113.00	185.00	-	16.00
8723420	●	-	-	-	14.200	0.55906	114.00	185.00	-	16.00
661056217	●	9/16	-	-	14.288	0.56250	115.00	185.00	0.625	-
8723430	●	-	-	-	14.300	0.56299	115.00	185.00	-	16.00
8723450	●	-	-	-	14.500	0.57087	116.00	185.00	-	16.00
8723470	●	-	-	-	14.700	0.57874	118.00	185.00	-	16.00
8723500	●	-	-	-	15.000	0.59055	120.00	185.00	-	16.00
661059317	●	19/32	-	-	15.081	0.59375	121.00	193.00	0.625	-
8723510	●	-	-	-	15.100	0.59449	121.00	193.00	-	16.00
8723520	●	-	-	-	15.200	0.59843	122.00	193.00	-	16.00
8723530	●	-	-	-	15.300	0.60236	123.00	193.00	-	16.00
8723550	●	-	-	-	15.500	0.61024	124.00	193.00	-	16.00
661062517	●	5/8	-	-	15.875	0.62500	128.00	193.00	0.625	-
8723600	●	-	-	-	16.000	0.62992	128.00	193.00	-	16.00
661063317	●	-	-	-	16.100	0.63386	129.00	201.00	-	18.00
8723650	●	-	-	-	16.500	0.64961	132.00	201.00	-	18.00
661065617	●	21/32	-	-	16.669	0.65625	134.00	201.00	0.750	-
661066317	●	-	-	-	16.840	0.66299	135.00	201.00	-	18.00
8723700	●	-	-	-	17.000	0.66929	136.00	201.00	-	18.00
8723725	●	-	-	-	17.250	0.67913	138.00	209.00	-	18.00
661068717	●	11/16	-	-	17.463	0.68750	140.00	209.00	0.750	-
8723750	●	-	-	-	17.500	0.68898	140.00	209.00	-	18.00
661070317	●	45/64	-	-	17.859	0.70313	143.00	209.00	0.750	-
8723800	●	-	-	-	18.000	0.70866	144.00	209.00	-	18.00
661071817	●	23/32	-	-	18.256	0.71875	147.00	217.00	0.750	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6610 (Continued)

A BRAND ADO-TRS-5D

SPEED FEED 313 | CARBIDE | EgiAs | 3 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	d (mm)
8723850	●	-	-	-	18.500	0.72835	148.00	217.00	-	20.00
8723900	●	-	-	-	19.000	0.74803	152.00	217.00	-	20.00
661075017	●	3/4	-	-	19.050	0.75000	154.00	217.00	0.750	-
8723925	●	-	-	-	19.250	0.75787	154.00	217.00	-	20.00
8723950	●	-	-	-	19.500	0.76772	156.00	225.00	-	20.00
8724000	●	-	-	-	20.000	0.78740	160.00	225.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎		◎	○	◎		○		○	◎	○	○	

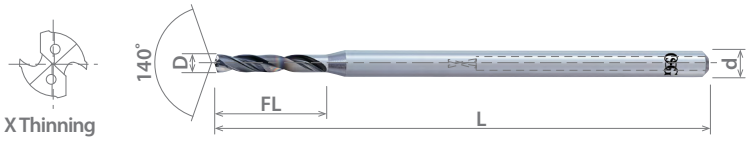
○ Good ◎ Best

List 6501

A BRAND ADO-MICRO-2D

SPEED FEED 314 | CARBIDE | IchAda | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.7 ≤ D ≤ 2	+0.001 / +0.010	+0.00004 / +0.0004



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8732001	●	-	-	-	0.700	0.02756	4.20	47.00	3.00
8732002	●	-	-	-	0.750	0.02953	4.50	47.00	3.00
8732003	●	-	-	-	0.800	0.03150	4.80	50.00	3.00
8732004	●	-	-	-	0.850	0.03346	5.10	50.00	3.00
8732005	●	-	-	-	0.900	0.03543	5.40	50.00	3.00
8732006	●	-	-	-	0.950	0.03740	5.70	50.00	3.00
8732007	●	-	-	-	1.000	0.03937	6.00	53.00	3.00
8732008	●	-	-	-	1.100	0.04331	6.60	53.00	3.00
8732009	●	-	-	-	1.200	0.04724	7.20	53.00	3.00
8732010	●	-	-	-	1.300	0.05118	7.80	53.00	3.00
8732011	●	-	-	-	1.400	0.05512	8.40	53.00	3.00
8732012	●	-	-	-	1.500	0.05906	9.00	53.00	3.00
8732013	●	-	-	-	1.600	0.06299	9.60	53.00	3.00
8732014	●	-	-	-	1.700	0.06693	10.20	53.00	3.00
8732015	●	-	-	-	1.800	0.07087	10.80	53.00	3.00
8732016	●	-	-	-	1.900	0.07480	11.40	53.00	3.00
8732017	●	-	-	-	2.000	0.07874	12.00	58.00	3.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Can be used as Pilot Drill for long type drills (ADO-MICRO 12D, 20D, and 30D).

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

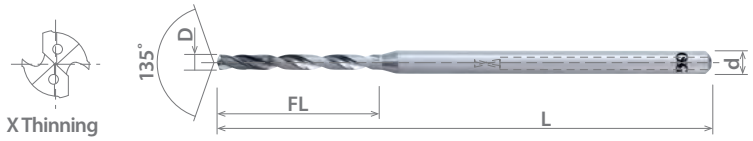
○ Good ◎ Best

List 6502

A BRAND ADO-MICRO-5D

SPEED FEED 314 | CARBIDE | IchAda | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.7 ≤ D ≤ 2	+0 / -0.009	+0 / -0.0004



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8732018	●	-	-	-	0.700	0.02756	7.00	47.00	3.00
8732019	●	-	-	-	0.750	0.02953	7.50	47.00	3.00
8732020	●	-	-	-	0.800	0.03150	8.00	50.00	3.00
8732021	●	-	-	-	0.850	0.03346	8.50	50.00	3.00
8732022	●	-	-	-	0.900	0.03543	9.00	50.00	3.00
8732023	●	-	-	-	0.950	0.03740	9.50	50.00	3.00
8732024	●	-	-	-	1.000	0.03937	10.00	55.00	3.00
8732025	●	-	-	-	1.100	0.04331	11.00	55.00	3.00
8732026	●	-	-	-	1.200	0.04724	12.00	60.00	3.00
8732027	●	-	-	-	1.300	0.05118	13.00	60.00	3.00
8732028	●	-	-	-	1.400	0.05512	14.00	60.00	3.00
8732029	●	-	-	-	1.500	0.05906	15.00	60.00	3.00
8732030	●	-	-	-	1.600	0.06299	16.00	60.00	3.00
8732031	●	-	-	-	1.700	0.06693	17.00	60.00	3.00
8732032	●	-	-	-	1.800	0.07087	18.00	65.00	3.00
8732033	●	-	-	-	1.900	0.07480	19.00	65.00	3.00
8732034	●	-	-	-	2.000	0.07874	20.00	65.00	3.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

○ Good ◎ Best

List 6503

A BRAND ADO-MICRO-12D

SPEED FEED 315 | CARBIDE | IchAda | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1 ≤ D ≤ 2	+0 / -0.009	+0 / -0.0004



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8732035	●	-	-	-	1.000	0.03937	17.00	60.00	3.00
8732036	●	-	-	-	1.100	0.04331	18.70	65.00	3.00
8732037	●	-	-	-	1.200	0.04724	20.40	65.00	3.00
8732038	●	-	-	-	1.300	0.05118	22.10	65.00	3.00
8732039	●	-	-	-	1.400	0.05512	23.80	70.00	3.00
8732040	●	-	-	-	1.500	0.05906	25.50	70.00	3.00
8732041	●	-	-	-	1.600	0.06299	27.20	70.00	3.00
8732042	●	-	-	-	1.700	0.06693	28.90	73.00	3.00
8732043	●	-	-	-	1.800	0.07087	30.60	73.00	3.00
8732044	●	-	-	-	1.900	0.07480	32.30	73.00	3.00
8732045	●	-	-	-	2.000	0.07874	34.00	77.00	3.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: ADO-MICRO 2D is the recommended pilot hole drill.

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

○ Good ◎ Best

List 6504

A BRAND ADO-MICRO-20D

SPEED FEED 315 | CARBIDE | IchAda | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1 ≤ D ≤ 2	+0 / -0.009	+0 / -0.0004



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8732046	●	-	-	-	1.000	0.03937	24.00	68.00	3.00
8732047	●	-	-	-	1.100	0.04331	26.40	75.00	3.00
8732048	●	-	-	-	1.200	0.04724	28.80	75.00	3.00
8732049	●	-	-	-	1.300	0.05118	31.20	75.00	3.00
8732050	●	-	-	-	1.400	0.05512	33.60	81.00	3.00
8732051	●	-	-	-	1.500	0.05906	36.00	81.00	3.00
8732052	●	-	-	-	1.600	0.06299	38.40	81.00	3.00
8732053	●	-	-	-	1.700	0.06693	40.80	88.00	3.00
8732054	●	-	-	-	1.800	0.07087	43.20	88.00	3.00
8732055	●	-	-	-	1.900	0.07480	45.60	88.00	3.00
8732056	●	-	-	-	2.000	0.07874	48.00	95.00	3.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: ADO-MICRO 2D is the recommended pilot hole drill.

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

○ Good ◎ Best

List 6505

A BRAND ADO-MICRO-30D

SPEED FEED 315 | CARBIDE | IchAda | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1 ≤ D ≤ 2	+0 / -0.009	+0 / -0.0004



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8732057	●	-	-	-	1.000	0.03937	34.00	77.00	3.00
8732058	●	-	-	-	1.100	0.04331	37.40	86.00	3.00
8732059	●	-	-	-	1.200	0.04724	40.80	86.00	3.00
8732060	●	-	-	-	1.300	0.05118	44.20	86.00	3.00
8732061	●	-	-	-	1.400	0.05512	47.60	95.00	3.00
8732062	●	-	-	-	1.500	0.05906	51.00	95.00	3.00
8732063	●	-	-	-	1.600	0.06299	54.40	101.00	3.00
8732064	●	-	-	-	1.700	0.06693	57.80	101.00	3.00
8732065	●	-	-	-	1.800	0.07087	61.20	107.00	3.00
8732066	●	-	-	-	1.900	0.07480	64.60	107.00	3.00
8732067	●	-	-	-	2.000	0.07874	68.00	112.00	3.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: ADO-MICRO 2D is the recommended pilot hole drill.

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

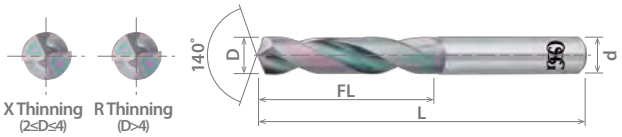
○ Good ◎ Best

List 6300

A BRAND AD-2D

SPEED FEED 316 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8670200	●	-	-	-	2.000	0.07874	14.00	62.00	-	4.00
8670210	●	-	-	-	2.100	0.08268	14.00	62.00	-	4.00
8670220	●	-	-	-	2.200	0.08661	14.00	62.00	-	4.00
8670230	●	-	-	-	2.300	0.09055	14.00	62.00	-	4.00
8670240	●	-	-	-	2.400	0.09449	14.00	62.00	-	4.00
8670250	●	-	-	-	2.500	0.09843	14.00	62.00	-	4.00
8670260	●	-	-	-	2.600	0.10236	14.00	62.00	-	4.00
8670270	●	-	-	-	2.700	0.10630	14.00	62.00	-	4.00
8670280	●	-	-	-	2.800	0.11024	14.00	62.00	-	4.00
8670290	●	-	-	-	2.900	0.11417	14.00	62.00	-	4.00
8670300	●	-	-	-	3.000	0.11811	20.00	66.00	-	4.00
8670310	●	-	-	-	3.100	0.12205	20.00	66.00	-	4.00
630012311	●	1/8	-	-	3.175	0.12500	20.00	66.00	0.125	-
8670320	●	-	-	-	3.200	0.12598	20.00	66.00	-	4.00
8670330	●	-	-	-	3.300	0.12992	20.00	66.00	-	4.00
8670340	●	-	-	-	3.400	0.13386	20.00	66.00	-	4.00
8670350	●	-	-	-	3.500	0.13780	20.00	66.00	-	4.00
8670360	●	-	-	-	3.600	0.14173	20.00	66.00	-	4.00
8670370	●	-	-	-	3.700	0.14567	20.00	66.00	-	4.00
8670380	●	-	-	-	3.800	0.14961	24.00	66.00	-	4.00
8670390	●	-	-	-	3.900	0.15354	24.00	66.00	-	4.00
630015511	●	5/32	-	-	3.969	0.15625	24.00	66.00	0.188	-
8670400	●	-	-	-	4.000	0.15748	24.00	66.00	-	4.00
630016111	●	-	20	-	4.089	0.16100	24.00	66.00	-	6.00
8670410	●	-	-	-	4.100	0.16142	24.00	66.00	-	6.00
8670420	●	-	-	-	4.200	0.16535	24.00	66.00	-	6.00
8670430	●	-	-	-	4.300	0.16929	24.00	66.00	-	6.00
630017111	●	11/64	-	-	4.366	0.17188	24.00	66.00	0.188	-
8670440	●	-	-	-	4.400	0.17323	24.00	66.00	-	6.00
8670450	●	-	-	-	4.500	0.17717	24.00	66.00	-	6.00
8670460	●	-	-	-	4.600	0.18110	24.00	66.00	-	6.00
8670470	●	-	-	-	4.700	0.18504	24.00	66.00	-	6.00
630018611	●	3/16	-	-	4.763	0.18750	28.00	66.00	0.188	-
8670480	●	-	-	-	4.800	0.18898	28.00	66.00	-	6.00
8670490	●	-	-	-	4.900	0.19291	28.00	66.00	-	6.00
8670500	●	-	-	-	5.000	0.19685	28.00	66.00	-	6.00
8670510	●	-	-	-	5.100	0.20079	28.00	66.00	-	6.00
630020211	●	13/64	-	-	5.159	0.20313	28.00	66.00	0.250	-
8670520	●	-	-	-	5.200	0.20472	28.00	66.00	-	6.00
8670530	●	-	-	-	5.300	0.20866	28.00	66.00	-	6.00
8670540	●	-	-	-	5.400	0.21260	28.00	66.00	-	6.00
630021311	●	-	3	-	5.410	0.21300	28.00	66.00	-	6.00
8670550	●	-	-	-	5.500	0.21654	28.00	66.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED

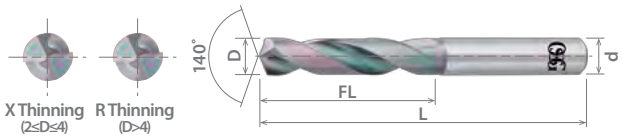
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○				◎					○			

○ Good ◎ Best

List 6300 (Continued)

SPEED FEED 316 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND AD-2D



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
630021711	●	7/32	-	-	5.556	0.21875	28.00	66.00	0.250	-
8670560	●	-	-	-	5.600	0.22047	28.00	66.00	-	6.00
8670570	●	-	-	-	5.700	0.22441	28.00	66.00	-	6.00
8670580	●	-	-	-	5.800	0.22835	28.00	66.00	-	6.00
8670590	●	-	-	-	5.900	0.23228	28.00	66.00	-	6.00
630023311	●	15/64	-	-	5.953	0.23438	28.00	66.00	0.250	-
8670600	●	-	-	-	6.000	0.23622	28.00	66.00	-	6.00
8670610	●	-	-	-	6.100	0.24016	34.00	79.00	-	8.00
8670620	●	-	-	-	6.200	0.24409	34.00	79.00	-	8.00
8670630	●	-	-	-	6.300	0.24803	34.00	79.00	-	8.00
630024911	●	1/4	-	E	6.350	0.25000	34.00	79.00	0.250	-
8670640	●	-	-	-	6.400	0.25197	34.00	79.00	-	8.00
8670650	●	-	-	-	6.500	0.25591	34.00	79.00	-	8.00
630025711	●	-	-	F	6.528	0.25700	34.00	79.00	-	8.00
8670660	●	-	-	-	6.600	0.25984	34.00	79.00	-	8.00
8670670	●	-	-	-	6.700	0.26378	34.00	79.00	-	8.00
630026411	●	17/64	-	-	6.747	0.26563	34.00	79.00	0.313	-
8670680	●	-	-	-	6.800	0.26772	34.00	79.00	-	8.00
8670690	●	-	-	-	6.900	0.27165	34.00	79.00	-	8.00
8670700	●	-	-	-	7.000	0.27559	34.00	79.00	-	8.00
8670710	●	-	-	-	7.100	0.27953	41.00	79.00	-	8.00
630028011	●	9/32	-	-	7.144	0.28125	41.00	79.00	0.313	-
8670720	●	-	-	-	7.200	0.28346	41.00	79.00	-	8.00
8670730	●	-	-	-	7.300	0.28740	41.00	79.00	-	8.00
8670740	●	-	-	-	7.400	0.29134	41.00	79.00	-	8.00
8670750	●	-	-	-	7.500	0.29528	41.00	79.00	-	8.00
630029511	●	19/64	-	-	7.541	0.29688	41.00	79.00	0.313	-
8670760	●	-	-	-	7.600	0.29921	41.00	79.00	-	8.00
8670770	●	-	-	-	7.700	0.30315	41.00	79.00	-	8.00
8670780	●	-	-	-	7.800	0.30709	41.00	79.00	-	8.00
8670790	●	-	-	-	7.900	0.31102	41.00	79.00	-	8.00
630031111	●	5/16	-	-	7.938	0.31250	41.00	79.00	0.313	-
8670800	●	-	-	-	8.000	0.31496	41.00	79.00	-	8.00
8670810	●	-	-	-	8.100	0.31890	47.00	89.00	-	10.00
8670820	●	-	-	-	8.200	0.32283	47.00	89.00	-	10.00
8670830	●	-	-	-	8.300	0.32677	47.00	89.00	-	10.00
630032711	●	21/64	-	-	8.334	0.32813	47.00	89.00	0.375	-
8670840	●	-	-	-	8.400	0.33071	47.00	89.00	-	10.00
630033111	●	-	-	Q	8.433	0.33200	47.00	89.00	-	10.00
8670850	●	-	-	-	8.500	0.33465	47.00	89.00	-	10.00
8670860	●	-	-	-	8.600	0.33858	47.00	89.00	-	10.00
8670870	●	-	-	-	8.700	0.34252	47.00	89.00	-	10.00
630034211	●	11/32	-	-	8.731	0.34375	47.00	89.00	0.375	-
8670880	●	-	-	-	8.800	0.34646	47.00	89.00	-	10.00
8670890	●	-	-	-	8.900	0.35039	47.00	89.00	-	10.00
8670900	●	-	-	-	9.000	0.35433	47.00	89.00	-	10.00
8670910	●	-	-	-	9.100	0.35827	47.00	89.00	-	10.00
630035811	●	23/64	-	-	9.128	0.35938	47.00	89.00	0.375	-
8670920	●	-	-	-	9.200	0.36220	47.00	89.00	-	10.00
8670930	●	-	-	-	9.300	0.36614	47.00	89.00	-	10.00
8670940	●	-	-	-	9.400	0.37008	47.00	89.00	-	10.00
8670950	●	-	-	-	9.500	0.37402	47.00	89.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6300 (Continued)

A BRAND AD-2D

SPEED FEED 316 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
630037411	●	3/8	-	-	9.525	0.37500	47.00	89.00	0.375	-
8670960	●	-	-	-	9.600	0.37795	47.00	89.00	-	10.00
8670970	●	-	-	-	9.700	0.38189	47.00	89.00	-	10.00
8670980	●	-	-	-	9.800	0.38583	47.00	89.00	-	10.00
8670990	●	-	-	-	9.900	0.38976	47.00	89.00	-	10.00
630038911	●	25/64	-	-	9.922	0.39063	47.00	89.00	0.438	-
8671000	●	-	-	-	10.000	0.39370	47.00	89.00	-	10.00
8671010	●	-	-	-	10.100	0.39764	55.00	102.00	-	12.00
8671020	●	-	-	-	10.200	0.40157	55.00	102.00	-	12.00
8671030	●	-	-	-	10.300	0.40551	55.00	102.00	-	12.00
630040511	●	13/32	-	-	10.319	0.40625	55.00	102.00	0.438	-
8671040	●	-	-	-	10.400	0.40945	55.00	102.00	-	12.00
8671050	●	-	-	-	10.500	0.41339	55.00	102.00	-	12.00
8671060	●	-	-	-	10.600	0.41732	55.00	102.00	-	12.00
8671070	●	-	-	-	10.700	0.42126	55.00	102.00	-	12.00
630042111	●	27/64	-	-	10.716	0.42188	55.00	102.00	0.438	-
8671080	●	-	-	-	10.800	0.42520	55.00	102.00	-	12.00
8671090	●	-	-	-	10.900	0.42913	55.00	102.00	-	12.00
8671100	●	-	-	-	11.000	0.43307	55.00	102.00	-	12.00
8671110	●	-	-	-	11.100	0.43701	55.00	102.00	-	12.00
630043711	●	7/16	-	-	11.113	0.43750	55.00	102.00	0.438	-
8671120	●	-	-	-	11.200	0.44094	55.00	102.00	-	12.00
8671130	●	-	-	-	11.300	0.44488	55.00	102.00	-	12.00
8671140	●	-	-	-	11.400	0.44882	55.00	102.00	-	12.00
8671150	●	-	-	-	11.500	0.45276	55.00	102.00	-	12.00
630045211	●	29/64	-	-	11.509	0.45313	55.00	102.00	0.500	-
8671160	●	-	-	-	11.600	0.45669	55.00	102.00	-	12.00
8671170	●	-	-	-	11.700	0.46063	55.00	102.00	-	12.00
8671180	●	-	-	-	11.800	0.46457	55.00	102.00	-	12.00
8671190	●	-	-	-	11.900	0.46850	55.00	102.00	-	12.00
630046811	●	15/32	-	-	11.906	0.46875	55.00	102.00	0.500	-
8671200	●	-	-	-	12.000	0.47244	55.00	102.00	-	12.00
630047611	●	-	-	-	12.100	0.47638	60.00	107.00	-	14.00
630048011	●	-	-	-	12.200	0.48031	60.00	107.00	-	14.00
630048311	●	31/64	-	-	12.303	0.48438	60.00	107.00	0.500	-
630048811	●	-	-	-	12.400	0.48819	60.00	107.00	-	14.00
630049211	●	-	-	-	12.500	0.49213	60.00	107.00	-	14.00
630049611	●	-	-	-	12.600	0.49606	60.00	107.00	-	14.00
630049911	●	1/2	-	-	12.700	0.50000	60.00	107.00	0.500	-
630050311	●	-	-	-	12.800	0.50394	60.00	107.00	-	14.00
630050711	●	-	-	-	12.900	0.50787	60.00	107.00	-	14.00
630051111	●	-	-	-	13.000	0.51181	60.00	107.00	-	14.00
630051411	●	33/64	-	-	13.097	0.51563	60.00	107.00	0.625	-
630051911	●	-	-	-	13.200	0.51969	60.00	107.00	-	14.00
630052311	●	-	-	-	13.300	0.52362	60.00	107.00	-	14.00
630052711	●	-	-	-	13.400	0.52756	60.00	107.00	-	14.00
630053211	●	-	-	-	13.500	0.53150	60.00	107.00	-	14.00
630055111	●	-	-	-	14.000	0.55118	60.00	107.00	-	14.00
630056111	●	9/16	-	-	14.288	0.56250	65.00	115.00	0.625	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

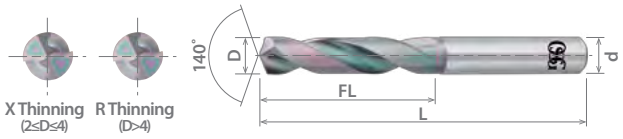
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○				◎					○			

○ Good ◎ Best

List 6300 (Continued)

SPEED FEED 316 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

A BRAND AD-2D



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
630057011	●	-	-	-	14.500	0.57087	65.00	115.00	-	16.00
630059011	●	-	-	-	15.000	0.59055	65.00	115.00	-	16.00
630061011	●	-	-	-	15.500	0.61024	65.00	115.00	-	16.00
630062311	●	5/8	-	-	15.875	0.62500	65.00	115.00	0.625	-
630062911	●	-	-	-	16.000	0.62992	65.00	115.00	-	16.00
630064911	●	-	-	-	16.500	0.64961	73.00	123.00	-	18.00
630066911	●	-	-	-	17.000	0.66929	73.00	123.00	-	18.00
630068911	●	-	-	-	17.500	0.68898	73.00	123.00	-	18.00
630070811	●	-	-	-	18.000	0.70866	73.00	123.00	-	18.00
630072811	●	-	-	-	18.500	0.72835	79.00	131.00	-	20.00
630074811	●	-	-	-	19.000	0.74803	79.00	131.00	-	20.00
630074911	●	3/4	-	-	19.050	0.75000	79.00	131.00	0.750	-
630076711	●	-	-	-	19.500	0.76772	79.00	131.00	-	20.00
630078711	●	-	-	-	20.000	0.78740	79.00	131.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○				◎					○			

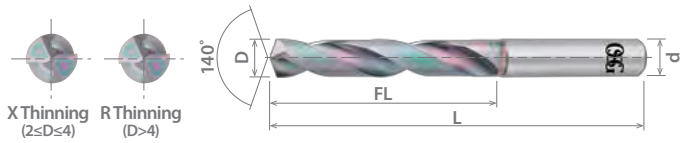
○ Good ◎ Best

List 6310

A BRAND AD-4D

SPEED FEED	CARBIDE		2 FLUTE	JOBBER	30°	SHANK	PACKED
316		EgiAs				h6	1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8672200	●	-	-	-	2.000	0.07874	20.00	66.00	-	4.00
8672210	●	-	-	-	2.100	0.08268	20.00	66.00	-	4.00
8672220	●	-	-	-	2.200	0.08661	20.00	66.00	-	4.00
8672230	●	-	-	-	2.300	0.09055	20.00	66.00	-	4.00
8672240	●	-	-	-	2.400	0.09449	20.00	66.00	-	4.00
8672250	●	-	-	-	2.500	0.09843	20.00	66.00	-	4.00
8672260	●	-	-	-	2.600	0.10236	20.00	66.00	-	4.00
8672270	●	-	-	-	2.700	0.10630	20.00	66.00	-	4.00
8672280	●	-	-	-	2.800	0.11024	20.00	66.00	-	4.00
8672290	●	-	-	-	2.900	0.11417	20.00	66.00	-	4.00
8672300	●	-	-	-	3.000	0.11811	28.00	74.00	-	4.00
8672310	●	-	-	-	3.100	0.12205	28.00	74.00	-	4.00
631012311	●	1/8	-	-	3.175	0.12500	28.00	74.00	0.125	-
8672320	●	-	-	-	3.200	0.12598	28.00	74.00	-	4.00
8672330	●	-	-	-	3.300	0.12992	28.00	74.00	-	4.00
8672340	●	-	-	-	3.400	0.13386	28.00	74.00	-	4.00
8672350	●	-	-	-	3.500	0.13780	28.00	74.00	-	4.00
8672360	●	-	-	-	3.600	0.14173	28.00	74.00	-	4.00
8672370	●	-	-	-	3.700	0.14567	28.00	74.00	-	4.00
8672380	●	-	-	-	3.800	0.14961	36.00	74.00	-	4.00
8672390	●	-	-	-	3.900	0.15354	36.00	74.00	-	4.00
631015511	●	5/32	-	-	3.969	0.15625	36.00	74.00	0.188	-
8672400	●	-	-	-	4.000	0.15748	36.00	74.00	-	4.00
631016111	●	-	20	-	4.089	0.16100	36.00	74.00	-	6.00
8672410	●	-	-	-	4.100	0.16142	36.00	74.00	-	6.00
8672420	●	-	-	-	4.200	0.16535	36.00	74.00	-	6.00
8672430	●	-	-	-	4.300	0.16929	36.00	74.00	-	6.00
631017111	●	11/64	-	-	4.366	0.17188	36.00	74.00	0.188	-
8672440	●	-	-	-	4.400	0.17323	36.00	74.00	-	6.00
8672450	●	-	-	-	4.500	0.17717	36.00	74.00	-	6.00
8672460	●	-	-	-	4.600	0.18110	36.00	74.00	-	6.00
8672470	●	-	-	-	4.700	0.18504	36.00	74.00	-	6.00
631018611	●	3/16	-	-	4.763	0.18750	44.00	82.00	0.188	-
8672480	●	-	-	-	4.800	0.18898	44.00	82.00	-	6.00
8672490	●	-	-	-	4.900	0.19291	44.00	82.00	-	6.00
8672500	●	-	-	-	5.000	0.19685	44.00	82.00	-	6.00
8672510	●	-	-	-	5.100	0.20079	44.00	82.00	-	6.00
631020211	●	13/64	-	-	5.159	0.20313	44.00	82.00	0.250	-
8672520	●	-	-	-	5.200	0.20472	44.00	82.00	-	6.00
8672530	●	-	-	-	5.300	0.20866	44.00	82.00	-	6.00
8672540	●	-	-	-	5.400	0.21260	44.00	82.00	-	6.00
631021311	●	-	3	-	5.410	0.21300	44.00	82.00	-	6.00
8672550	●	-	-	-	5.500	0.21654	44.00	82.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○				◎					○			

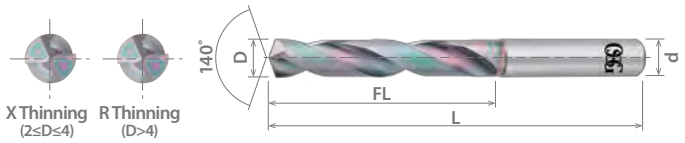
○ Good ◎ Best

List 6310 (Continued)

A BRAND AD-4D

SPEED FEED 316 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
631021711	●	7/32	-	-	5.556	0.21875	44.00	82.00	0.250	-
8672560	●	-	-	-	5.600	0.22047	44.00	82.00	-	6.00
8672570	●	-	-	-	5.700	0.22441	44.00	82.00	-	6.00
8672580	●	-	-	-	5.800	0.22835	44.00	82.00	-	6.00
8672590	●	-	-	-	5.900	0.23228	44.00	82.00	-	6.00
631023311	●	15/64	-	-	5.953	0.23438	44.00	82.00	0.250	-
8672600	●	-	-	-	6.000	0.23622	44.00	82.00	-	6.00
8672610	●	-	-	-	6.100	0.24016	53.00	91.00	-	8.00
8672620	●	-	-	-	6.200	0.24409	53.00	91.00	-	8.00
8672630	●	-	-	-	6.300	0.24803	53.00	91.00	-	8.00
631024911	●	1/4	-	E	6.350	0.25000	53.00	91.00	0.250	-
8672640	●	-	-	-	6.400	0.25197	53.00	91.00	-	8.00
8672650	●	-	-	-	6.500	0.25591	53.00	91.00	-	8.00
631025711	●	-	-	F	6.258	0.25700	53.00	91.00	-	8.00
8672660	●	-	-	-	6.600	0.25984	53.00	91.00	-	8.00
8672670	●	-	-	-	6.700	0.26378	53.00	91.00	-	8.00
631026411	●	17/64	-	-	6.747	0.26563	53.00	91.00	0.313	-
8672680	●	-	-	-	6.800	0.26772	53.00	91.00	-	8.00
8672690	●	-	-	-	6.900	0.27165	53.00	91.00	-	8.00
8672700	●	-	-	-	7.000	0.27559	53.00	91.00	-	8.00
8672710	●	-	-	-	7.100	0.27953	53.00	91.00	-	8.00
631028011	●	9/32	-	-	7.144	0.28125	53.00	91.00	0.313	-
8672720	●	-	-	-	7.200	0.28346	53.00	91.00	-	8.00
8672730	●	-	-	-	7.300	0.28740	53.00	91.00	-	8.00
8672740	●	-	-	-	7.400	0.29134	53.00	91.00	-	8.00
8672750	●	-	-	-	7.500	0.29528	53.00	91.00	-	8.00
631029511	●	19/64	-	-	7.541	0.29688	53.00	91.00	0.313	-
8672760	●	-	-	-	7.600	0.29921	53.00	91.00	-	8.00
8672770	●	-	-	-	7.700	0.30315	53.00	91.00	-	8.00
8672780	●	-	-	-	7.800	0.30709	53.00	91.00	-	8.00
8672790	●	-	-	-	7.900	0.31102	53.00	91.00	-	8.00
631031111	●	5/16	-	-	7.938	0.31250	53.00	91.00	0.313	-
8672800	●	-	-	-	8.000	0.31496	53.00	91.00	-	8.00
8672810	●	-	-	-	8.100	0.31890	61.00	103.00	-	10.00
8672820	●	-	-	-	8.200	0.32283	61.00	103.00	-	10.00
8672830	●	-	-	-	8.300	0.32677	61.00	103.00	-	10.00
631032711	●	21/64	-	-	8.334	0.32813	61.00	103.00	0.375	-
8672840	●	-	-	-	8.400	0.33071	61.00	103.00	-	10.00
631033111	●	-	-	Q	8.433	0.33200	61.00	103.00	-	10.00
8672850	●	-	-	-	8.500	0.33465	61.00	103.00	-	10.00
8672860	●	-	-	-	8.600	0.33858	61.00	103.00	-	10.00
8672870	●	-	-	-	8.700	0.34252	61.00	103.00	-	10.00
631034211	●	11/32	-	-	8.731	0.34375	61.00	103.00	0.375	-
8672880	●	-	-	-	8.800	0.34646	61.00	103.00	-	10.00
8672890	●	-	-	-	8.900	0.35039	61.00	103.00	-	10.00
8672900	●	-	-	-	9.000	0.35433	61.00	103.00	-	10.00
8672910	●	-	-	-	9.100	0.35827	61.00	103.00	-	10.00
631035811	●	23/64	-	-	9.128	0.35938	61.00	103.00	0.375	-
8672920	●	-	-	-	9.200	0.36220	61.00	103.00	-	10.00
8672930	●	-	-	-	9.300	0.36614	61.00	103.00	-	10.00
8672940	●	-	-	-	9.400	0.37008	61.00	103.00	-	10.00
8672950	●	-	-	-	9.500	0.37402	61.00	103.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 6310 (Continued)

A BRAND AD-4D

SPEED FEED 316 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
631037411	●	3/8	-	-	9.525	0.37500	61.00	103.00	0.375	-
8672960	●	-	-	-	9.600	0.37795	61.00	103.00	-	10.00
8672970	●	-	-	-	9.700	0.38189	61.00	103.00	-	10.00
8672980	●	-	-	-	9.800	0.38583	61.00	103.00	-	10.00
8672990	●	-	-	-	9.900	0.38976	61.00	103.00	-	10.00
631038911	●	25/64	-	-	9.922	0.39063	61.00	103.00	0.438	-
8673000	●	-	-	-	10.000	0.39370	61.00	103.00	-	10.00
8673010	●	-	-	-	10.100	0.39764	71.00	118.00	-	12.00
8673020	●	-	-	-	10.200	0.40157	71.00	118.00	-	12.00
8673030	●	-	-	-	10.300	0.40551	71.00	118.00	-	12.00
631040511	●	13/32	-	-	10.319	0.40625	71.00	118.00	0.438	-
8673040	●	-	-	-	10.400	0.40945	71.00	118.00	-	12.00
8673050	●	-	-	-	10.500	0.41339	71.00	118.00	-	12.00
8673060	●	-	-	-	10.600	0.41732	71.00	118.00	-	12.00
8673070	●	-	-	-	10.700	0.42126	71.00	118.00	-	12.00
631042111	●	27/64	-	-	10.716	0.42188	71.00	118.00	0.438	-
8673080	●	-	-	-	10.800	0.42520	71.00	118.00	-	12.00
8673090	●	-	-	-	10.900	0.42913	71.00	118.00	-	12.00
8673100	●	-	-	-	11.000	0.43307	71.00	118.00	-	12.00
8673110	●	-	-	-	11.100	0.43701	71.00	118.00	-	12.00
631043711	●	7/16	-	-	11.113	0.43750	71.00	118.00	0.438	-
8673120	●	-	-	-	11.200	0.44094	71.00	118.00	-	12.00
8673130	●	-	-	-	11.300	0.44488	71.00	118.00	-	12.00
8673140	●	-	-	-	11.400	0.44882	71.00	118.00	-	12.00
8673150	●	-	-	-	11.500	0.45276	71.00	118.00	-	12.00
631045211	●	29/64	-	-	11.509	0.45313	71.00	118.00	0.500	-
8673160	●	-	-	-	11.600	0.45669	71.00	118.00	-	12.00
8673170	●	-	-	-	11.700	0.46063	71.00	118.00	-	12.00
8673180	●	-	-	-	11.800	0.46457	71.00	118.00	-	12.00
8673190	●	-	-	-	11.900	0.46850	71.00	118.00	-	12.00
631046811	●	15/32	-	-	11.906	0.46875	71.00	118.00	0.500	-
8673200	●	-	-	-	12.000	0.47244	71.00	118.00	-	12.00
8673210	●	-	-	-	12.100	0.47638	77.00	124.00	-	14.00
8673220	●	-	-	-	12.200	0.48031	77.00	124.00	-	14.00
8673230	●	-	-	-	12.300	0.48425	77.00	124.00	-	14.00
631048411	●	31/64	-	-	12.303	0.48438	77.00	124.00	0.500	-
8673240	●	-	-	-	12.400	0.48819	77.00	124.00	-	14.00
8673250	●	-	-	-	12.500	0.49213	77.00	124.00	-	14.00
8673260	●	-	-	-	12.600	0.49606	77.00	124.00	-	14.00
8673270	●	1/2	-	-	12.700	0.50000	77.00	124.00	-	14.00
631050011	●	1/2	-	-	12.700	0.50000	77.00	124.00	0.500	-
8673280	●	-	-	-	12.800	0.50394	77.00	124.00	-	14.00
8673290	●	-	-	-	12.900	0.50787	77.00	124.00	-	14.00
8673300	●	-	-	-	13.000	0.51181	77.00	124.00	-	14.00
631051511	●	33/64	-	-	13.097	0.51563	77.00	124.00	0.625	-
8673310	●	-	-	-	13.100	0.51575	77.00	124.00	-	14.00
8673320	●	-	-	-	13.200	0.51969	77.00	124.00	-	14.00
8673330	●	-	-	-	13.300	0.52362	77.00	124.00	-	14.00
8673340	●	-	-	-	13.400	0.52756	77.00	124.00	-	14.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

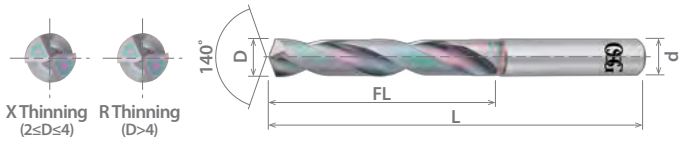
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○				◎					○			

○ Good ◎ Best

List 6310 (Continued)

A BRAND AD-4D

SPEED FEED 316 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8673350	●	-	-	-	13.500	0.53150	77.00	124.00	-	14.00
8673400	●	-	-	-	14.000	0.55118	77.00	124.00	-	14.00
631056111	●	9/16	-	-	14.288	0.56250	83.00	133.00	0.625	-
8673450	●	-	-	-	14.500	0.57087	83.00	133.00	-	16.00
8673500	●	-	-	-	15.000	0.59055	83.00	133.00	-	16.00
8673550	●	-	-	-	15.500	0.61024	83.00	133.00	-	16.00
631062311	●	5/8	-	-	15.875	0.62500	83.00	133.00	0.625	-
8673600	●	-	-	-	16.000	0.62992	83.00	133.00	-	16.00
8673650	●	-	-	-	16.500	0.64961	93.00	143.00	-	18.00
8673700	●	-	-	-	17.000	0.66929	93.00	143.00	-	18.00
8673750	●	-	-	-	17.500	0.68898	93.00	143.00	-	18.00
8673800	●	-	-	-	18.000	0.70866	93.00	143.00	-	18.00
8673850	●	-	-	-	18.500	0.72835	101.00	153.00	-	20.00
8673900	●	-	-	-	19.000	0.74803	101.00	153.00	-	20.00
631074911	●	3/4	-	-	19.050	0.75000	101.00	153.00	0.750	-
8673950	●	-	-	-	19.500	0.76772	101.00	153.00	-	20.00
8674000	●	-	-	-	20.000	0.78740	101.00	153.00	-	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○				◎					○			

○ Good ◎ Best

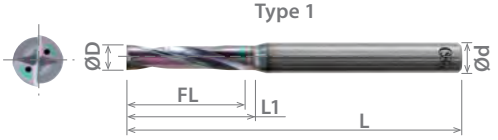
List 5720

A BRAND ADFO-3D, Flat Drill

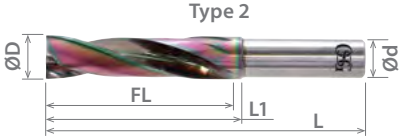
SPEED FEED 317 | CARBIDE | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

Type 1



Type 2



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)	Type
3334300	●	-	-	-	3.000	0.11811	15.00	16.00	55.00	-	4.00	1
3334302	●	-	-	-	3.100	0.12205	15.00	16.00	55.00	-	4.00	1
572012517	●	1/8	-	-	3.175	0.12500	15.00	17.00	55.00	0.125	-	2
3334304	●	-	-	-	3.200	0.12598	15.00	16.00	55.00	-	4.00	1
3334305	●	-	-	-	3.300	0.12992	15.00	16.00	55.00	-	4.00	1
3334306	●	-	-	-	3.400	0.13386	16.00	17.00	55.00	-	4.00	1
3334307	●	-	-	-	3.500	0.13780	16.00	17.00	55.00	-	4.00	1
3334309	●	-	-	-	3.600	0.14173	16.00	17.00	55.00	-	4.00	1
3334312	●	-	-	-	3.700	0.14567	16.00	17.00	55.00	-	4.00	1
3334313	●	-	-	-	3.800	0.14961	19.00	20.00	60.00	-	4.00	1
3334314	●	-	-	-	3.900	0.15354	19.00	20.00	60.00	-	4.00	1
572015617	●	5/32	-	-	3.969	0.15625	19.00	20.00	60.00	0.188	-	1
3334315	●	-	-	-	4.000	0.15748	19.00	20.00	60.00	-	4.00	2
3334317	●	-	-	-	4.100	0.16142	21.00	22.00	60.00	-	6.00	1
3334318	●	-	-	-	4.200	0.16535	21.00	22.00	60.00	-	6.00	1
3334319	●	-	-	-	4.300	0.16929	21.00	22.00	60.00	-	6.00	1
3334320	●	-	-	-	4.400	0.17323	21.00	22.00	60.00	-	6.00	1
3334321	●	-	-	-	4.500	0.17717	21.00	22.00	60.00	-	6.00	1
3334323	●	-	-	-	4.600	0.18110	21.00	22.00	60.00	-	6.00	1
3334326	●	-	-	-	4.700	0.18504	21.00	22.00	60.00	-	6.00	1
572018717	●	3/16	-	-	4.763	0.18750	24.00	27.00	65.00	0.188	-	2
3334327	●	-	-	-	4.800	0.18898	24.00	25.00	65.00	-	6.00	1
3334328	●	-	-	-	4.900	0.19291	24.00	25.00	65.00	-	6.00	1
3334329	●	-	-	-	5.000	0.19685	24.00	25.00	65.00	-	6.00	1
3334331	●	-	-	-	5.100	0.20079	24.00	25.00	65.00	-	6.00	1
3334332	●	-	-	-	5.200	0.20472	24.00	25.00	65.00	-	6.00	1
3334333	●	-	-	-	5.300	0.20866	24.00	25.00	65.00	-	6.00	1
3334334	●	-	-	-	5.400	0.21260	27.00	28.00	65.00	-	6.00	1
3334335	●	-	-	-	5.500	0.21654	27.00	28.00	65.00	-	6.00	1
572021817	●	7/32	-	-	5.556	0.21875	27.00	28.00	65.00	0.250	-	1
3334338	●	-	-	-	5.600	0.22047	27.00	28.00	65.00	-	6.00	1
3334339	●	-	-	-	5.700	0.22441	27.00	28.00	65.00	-	6.00	1
3334340	●	-	-	-	5.800	0.22835	27.00	28.00	65.00	-	6.00	1
3334341	●	-	-	-	5.900	0.23228	27.00	28.00	65.00	-	6.00	1
3334342	●	-	-	-	6.000	0.23622	27.00	28.00	65.00	-	6.00	2
3334344	●	-	-	-	6.100	0.24016	30.00	31.00	70.00	-	8.00	1
3334345	●	-	-	-	6.200	0.24409	30.00	31.00	70.00	-	8.00	1
3334346	●	-	-	-	6.300	0.24803	30.00	31.00	70.00	-	8.00	1
572025017	●	1/4	-	E	6.350	0.25000	30.00	32.00	70.00	0.250	-	2
3334347	●	-	-	-	6.400	0.25197	30.00	31.00	70.00	-	8.00	1
3334348	●	-	-	-	6.500	0.25591	30.00	31.00	70.00	-	8.00	1
3334350	●	-	-	-	6.600	0.25984	30.00	31.00	70.00	-	8.00	1
3334351	●	-	-	-	6.700	0.26378	30.00	31.00	70.00	-	8.00	1

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		

○ Good ◎ Best

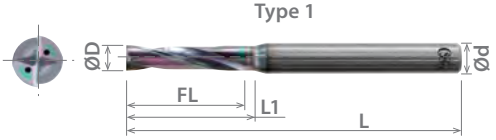
List 5720 (Continued)

SPEED FEED 317 | CARBIDE | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

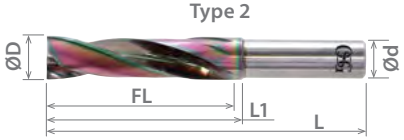
A BRAND ADFO-3D, Flat Drill

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

Type 1



Type 2



EDP Number		Diameter (D)					Flute Length	Neck Length	Overall Length	Shank Diameter		Type
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L1 (mm)	L (mm)	d (in)	d (mm)	
3334352	●	-	-	-	6.800	0.26772	30.00	31.00	70.00	-	8.00	1
3334353	●	-	-	-	6.900	0.27165	30.00	31.00	70.00	-	8.00	1
3334354	●	-	-	-	7.000	0.27559	30.00	31.00	70.00	-	8.00	1
3334356	●	-	-	-	7.100	0.27953	34.00	35.00	75.00	-	8.00	1
572028117	●	9/32	-	-	7.144	0.28125	34.00	34.00	75.00	0.313	-	1
3334357	●	-	-	-	7.200	0.28346	34.00	35.00	75.00	-	8.00	1
3334358	●	-	-	-	7.300	0.28740	34.00	35.00	75.00	-	8.00	1
3334359	●	-	-	-	7.400	0.29134	34.00	35.00	75.00	-	8.00	1
3334360	●	-	-	-	7.500	0.29528	34.00	35.00	75.00	-	8.00	1
3334361	●	-	-	-	7.600	0.29921	34.00	35.00	75.00	-	8.00	1
3334362	●	-	-	-	7.700	0.30315	34.00	35.00	75.00	-	8.00	1
3334363	●	-	-	-	7.800	0.30709	34.00	35.00	75.00	-	8.00	1
3334364	●	-	-	-	7.900	0.31102	34.00	35.00	75.00	-	8.00	1
572031217	●	5/16	-	-	7.938	0.31250	34.00	36.00	75.00	0.313	-	2
3334365	●	-	-	-	8.000	0.31496	34.00	35.00	75.00	-	8.00	2
3334367	●	-	-	-	8.100	0.31890	38.00	39.00	80.00	-	10.00	1
3334368	●	-	-	-	8.200	0.32283	38.00	39.00	80.00	-	10.00	1
3334369	●	-	-	-	8.300	0.32677	38.00	39.00	80.00	-	10.00	1
572032817	●	21/64	-	-	8.334	0.32813	38.00	37.00	80.00	0.375	-	1
3334370	●	-	-	-	8.400	0.33071	38.00	39.00	80.00	-	10.00	1
3334371	●	-	-	-	8.500	0.33465	38.00	39.00	80.00	-	10.00	1
3334373	●	-	-	-	8.600	0.33858	38.00	39.00	80.00	-	10.00	1
3334374	●	-	-	-	8.700	0.34252	38.00	39.00	80.00	-	10.00	1
3334375	●	-	-	-	8.800	0.34646	38.00	39.00	80.00	-	10.00	1
3334376	●	-	-	-	8.900	0.35039	38.00	39.00	80.00	-	10.00	1
3334377	●	-	-	-	9.000	0.35433	38.00	39.00	80.00	-	10.00	1
3334379	●	-	-	-	9.100	0.35827	42.00	43.00	85.00	-	10.00	1
572035917	●	23/64	-	-	9.128	0.35938	42.00	43.00	85.00	0.375	-	1
3334380	●	-	-	-	9.200	0.36220	42.00	43.00	85.00	-	10.00	1
3334381	●	-	-	-	9.300	0.36614	42.00	43.00	85.00	-	10.00	1
3334382	●	-	-	-	9.400	0.37008	42.00	43.00	85.00	-	10.00	1
3334383	●	-	-	-	9.500	0.37402	42.00	43.00	85.00	-	10.00	1
572037517	●	3/8	-	-	9.525	0.37500	42.00	44.00	85.00	0.375	-	2
3334384	●	-	-	-	9.600	0.37795	42.00	43.00	85.00	-	10.00	1
3334385	●	-	-	-	9.700	0.38189	42.00	43.00	85.00	-	10.00	1
3334386	●	-	-	-	9.800	0.38583	42.00	43.00	85.00	-	10.00	1
3334387	●	-	-	-	9.900	0.38976	42.00	43.00	85.00	-	10.00	1
3334388	●	-	-	-	10.000	0.39370	42.00	43.00	85.00	-	10.00	2
3334390	●	-	-	-	10.100	0.39764	46.00	47.00	90.00	-	12.00	1
3334391	●	-	-	-	10.200	0.40157	46.00	47.00	90.00	-	12.00	1
3334392	●	-	-	-	10.300	0.40551	46.00	47.00	90.00	-	12.00	1
572040617	●	13/32	-	-	10.319	0.40625	46.00	48.00	90.00	0.438	-	1
3334393	●	-	-	-	10.400	0.40945	46.00	47.00	90.00	-	12.00	1
3334394	●	-	-	-	10.500	0.41339	46.00	47.00	90.00	-	12.00	1
3334395	●	-	-	-	10.600	0.41732	46.00	47.00	90.00	-	12.00	1
3334396	●	-	-	-	10.700	0.42126	46.00	47.00	90.00	-	12.00	1
3334397	●	-	-	-	10.800	0.42520	46.00	47.00	90.00	-	12.00	1
3334398	●	-	-	-	10.900	0.42913	46.00	47.00	90.00	-	12.00	1
3334399	●	-	-	-	11.000	0.43307	46.00	47.00	90.00	-	12.00	1
3334401	●	-	-	-	11.100	0.43701	50.00	51.00	95.00	-	12.00	1
572043717	●	7/16	-	-	11.113	0.43750	50.00	52.00	95.00	0.438	-	2
3334402	●	-	-	-	11.200	0.44094	50.00	51.00	95.00	-	12.00	1
3334403	●	-	-	-	11.300	0.44488	50.00	51.00	95.00	-	12.00	1

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 5720 (Continued)

A BRAND ADFO-3D, Flat Drill

SPEED FEED 317 | CARBIDE | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Neck Length	Overall Length	Shank Diameter		Type
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L1 (mm)	L (mm)	d (in)	d (mm)	
3334404	●	-	-	-	11.400	0.44882	50.00	51.00	95.00	-	12.00	1
3334405	●	-	-	-	11.500	0.45276	50.00	51.00	95.00	-	12.00	1
572045317	●	29/64	-	-	11.509	0.45313	50.00	52.00	95.00	0.500	-	1
3334406	●	-	-	-	11.600	0.45669	50.00	51.00	95.00	-	12.00	1
3334407	●	-	-	-	11.700	0.46063	50.00	51.00	95.00	-	12.00	1
3334408	●	-	-	-	11.800	0.46457	50.00	51.00	95.00	-	12.00	1
3334409	●	-	-	-	11.900	0.46850	50.00	51.00	95.00	-	12.00	1
572046817	●	15/32	-	-	11.906	0.46875	50.00	52.00	95.00	0.500	-	1
3334410	●	-	-	-	12.000	0.47244	50.00	51.00	95.00	-	12.00	2
3334412	●	-	-	-	12.100	0.47638	56.00	57.00	100.00	-	14.00	1
3334413	●	-	-	-	12.200	0.48031	56.00	57.00	100.00	-	14.00	1
3334414	●	-	-	-	12.300	0.48425	56.00	57.00	100.00	-	14.00	1
3334415	●	-	-	-	12.400	0.48819	56.00	57.00	100.00	-	14.00	1
3334416	●	-	-	-	12.500	0.49213	56.00	57.00	100.00	-	14.00	1
3334417	●	-	-	-	12.600	0.49606	56.00	57.00	100.00	-	14.00	1
3334418	●	1/2	-	-	12.700	0.50000	56.00	57.00	100.00	-	14.00	1
3334419	●	-	-	-	12.800	0.50394	56.00	57.00	100.00	-	14.00	1
3334420	●	-	-	-	12.900	0.50787	56.00	57.00	100.00	-	14.00	1
3334421	●	-	-	-	13.000	0.51181	56.00	57.00	100.00	-	14.00	1
3334422	●	-	-	-	13.100	0.51575	60.00	61.00	105.00	-	14.00	1
3334423	●	-	-	-	13.200	0.51969	60.00	61.00	105.00	-	14.00	1
3334424	●	-	-	-	13.300	0.52362	60.00	61.00	105.00	-	14.00	1
3334425	●	-	-	-	13.400	0.52756	60.00	61.00	105.00	-	14.00	1
3334426	●	-	-	-	13.500	0.53150	60.00	61.00	105.00	-	14.00	1
3334427	●	-	-	-	13.600	0.53543	60.00	61.00	105.00	-	14.00	1
3334428	●	-	-	-	13.700	0.53937	60.00	61.00	105.00	-	14.00	1
3334429	●	-	-	-	13.800	0.54331	60.00	61.00	105.00	-	14.00	1
3334430	●	-	-	-	13.900	0.54724	60.00	61.00	105.00	-	14.00	1
3334431	●	-	-	-	14.000	0.55118	60.00	61.00	105.00	-	14.00	2
3334432	●	-	-	-	14.100	0.55512	64.00	65.00	110.00	-	16.00	1
3334433	●	-	-	-	14.200	0.55906	64.00	65.00	110.00	-	16.00	1
572056217	●	9/16	-	-	14.288	0.56250	64.00	66.00	110.00	0.625	-	1
3334434	●	-	-	-	14.300	0.56299	64.00	65.00	110.00	-	16.00	1
3334435	●	-	-	-	14.400	0.56693	64.00	65.00	110.00	-	16.00	1
3334436	●	-	-	-	14.500	0.57087	64.00	65.00	110.00	-	16.00	1
3334437	●	-	-	-	14.600	0.57480	64.00	65.00	110.00	-	16.00	1
3334438	●	-	-	-	14.700	0.57874	64.00	65.00	110.00	-	16.00	1
3334439	●	-	-	-	14.800	0.58268	64.00	65.00	110.00	-	16.00	1
3334440	●	-	-	-	14.900	0.58661	64.00	65.00	110.00	-	16.00	1
3334441	●	-	-	-	15.000	0.59055	64.00	65.00	110.00	-	16.00	1
3334442	●	-	-	-	15.100	0.59449	68.00	69.00	115.00	-	16.00	1
3334443	●	-	-	-	15.200	0.59843	68.00	69.00	115.00	-	16.00	1
3334444	●	-	-	-	15.300	0.60236	68.00	69.00	115.00	-	16.00	1
3334445	●	-	-	-	15.400	0.60630	68.00	69.00	115.00	-	16.00	1
3334446	●	-	-	-	15.500	0.61024	68.00	69.00	115.00	-	16.00	1
3334447	●	-	-	-	15.600	0.61417	68.00	69.00	115.00	-	16.00	1
3334448	●	-	-	-	15.700	0.61811	68.00	69.00	115.00	-	16.00	1
3334449	●	-	-	-	15.800	0.62205	68.00	69.00	115.00	-	16.00	1
572062517	●	5/8	-	-	15.875	0.62500	68.00	70.00	115.00	0.625	-	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		

○ Good ◎ Best

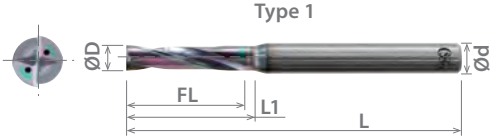
List 5720 (Continued)

SPEED FEED 317 | CARBIDE | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

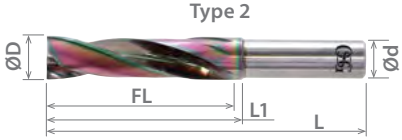
A BRAND ADFO-3D, Flat Drill

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

Type 1



Type 2



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)	Type
3334450	●	-	-	-	15.900	0.62598	68.00	69.00	115.00	-	16.00	1
3334451	●	-	-	-	16.000	0.62992	68.00	69.00	115.00	-	16.00	2
3334452	●	-	-	-	16.500	0.64961	74.00	75.00	125.00	-	18.00	1
3334453	●	-	-	-	17.000	0.66929	74.00	75.00	125.00	-	18.00	1
572068717	●	11/16	-	-	17.463	0.68750	78.00	80.00	130.00	0.750	-	1
3334454	●	-	-	-	17.500	0.68898	78.00	79.00	130.00	-	18.00	1
3334455	●	-	-	-	18.000	0.70866	78.00	79.00	130.00	-	18.00	2
3334456	●	-	-	-	18.500	0.72835	84.00	85.00	135.00	-	20.00	1
3334457	●	-	-	-	19.000	0.74803	84.00	85.00	135.00	-	20.00	1
572075017	●	3/4	-	-	19.050	0.75000	88.00	90.00	140.00	0.750	-	2
3334458	●	-	-	-	19.500	0.76772	88.00	89.00	140.00	-	20.00	1
3334459	●	-	-	-	20.000	0.78740	88.00	89.00	140.00	-	20.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		

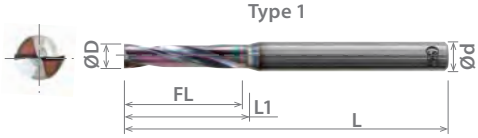
○ Good ◎ Best

List 5700

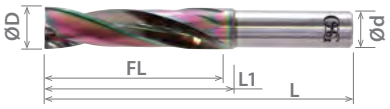
A BRAND ADF-2D, Flat Drill

SPEED FEED 318-319 | CARBIDE | IchAda | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

Type 1



Type 2



Cutting Diameter Tolerance		
Size (mm)	mm	inch
D < 2	+0 / -0.009	+0 / -0.0004
2 < D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Neck Length	Overall Length	Shank Diameter		Type
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L1 (mm)	L (mm)	d (in)	d (mm)	
3330020	●	-	-	-	0.200	0.00787	0.60	0.70	40.00	-	3.00	1
3330025	●	-	-	-	0.250	0.00984	0.80	0.90	40.00	-	3.00	1
3330030	●	-	-	-	0.300	0.01181	0.90	1.00	40.00	-	3.00	1
3330035	●	-	-	-	0.350	0.01378	1.10	1.20	40.00	-	3.00	1
570001511	●	1/64	-	-	0.397	0.01563	1.20	1.30	40.00	-	3.00	1
3330040	●	-	-	-	0.400	0.01575	1.20	1.30	40.00	-	3.00	1
3330045	●	-	-	-	0.450	0.01772	1.40	1.50	40.00	-	3.00	1
3330050	●	-	-	-	0.500	0.01969	1.70	1.90	40.00	-	3.00	1
3330055	●	-	-	-	0.550	0.02165	1.90	2.10	40.00	-	3.00	1
3330060	●	-	-	-	0.600	0.02362	2.00	2.20	40.00	-	3.00	1
3330065	●	-	-	-	0.650	0.02559	2.20	2.40	40.00	-	3.00	1
3330070	●	-	-	-	0.700	0.02756	2.40	2.60	40.00	-	3.00	1
3330071	●	-	-	-	0.710	0.02795	2.40	2.60	40.00	-	3.00	1
3330072	●	-	-	-	0.720	0.02835	2.40	2.60	40.00	-	3.00	1
3330074	●	-	-	-	0.740	0.02913	2.50	2.70	40.00	-	3.00	1
3330075	●	-	-	-	0.750	0.02953	2.60	2.80	40.00	-	3.00	1
570003111	●	1/32	-	-	0.794	0.03125	2.70	2.90	40.00	-	3.00	1
3330080	●	-	-	-	0.800	0.03150	2.70	2.90	40.00	-	3.00	1
3330081	●	-	-	-	0.810	0.03189	2.80	3.00	40.00	-	3.00	1
3330085	●	-	-	-	0.850	0.03346	2.90	3.10	40.00	-	3.00	1
3330089	●	-	-	-	0.890	0.03504	3.00	3.20	40.00	-	3.00	1
3330090	●	-	-	-	0.900	0.03543	3.10	3.30	40.00	-	3.00	1
3330091	●	-	-	-	0.910	0.03583	3.10	3.30	40.00	-	3.00	1
3330092	●	-	-	-	0.920	0.03622	3.10	3.30	40.00	-	3.00	1
3330095	●	-	-	-	0.950	0.03740	3.20	3.40	40.00	-	3.00	1
3330100	●	-	-	-	1.000	0.03937	4.00	4.30	45.00	-	3.00	1
3330109	●	-	-	-	1.090	0.04291	4.40	4.70	45.00	-	3.00	1
3330110	●	-	-	-	1.100	0.04331	4.40	4.70	45.00	-	3.00	1
3330111	●	-	-	-	1.110	0.04370	4.40	4.70	45.00	-	3.00	1
3330112	●	-	-	-	1.120	0.04409	4.50	4.80	45.00	-	3.00	1
570004611	●	3/64	-	-	1.191	0.04688	4.80	5.10	45.00	-	3.00	1
3330120	●	-	-	-	1.200	0.04724	4.80	5.10	45.00	-	3.00	1
3330125	●	-	-	-	1.250	0.04921	5.00	5.30	45.00	-	3.00	1
3330126	●	-	-	-	1.260	0.04961	5.00	5.30	45.00	-	3.00	1
3330127	●	-	-	-	1.270	0.05000	5.10	5.40	45.00	-	3.00	1
3330128	●	-	-	-	1.280	0.05039	5.10	5.40	45.00	-	3.00	1
3330129	●	-	-	-	1.290	0.05079	5.20	5.50	45.00	-	3.00	1
3330130	●	-	-	-	1.300	0.05118	5.20	5.50	45.00	-	3.00	1
3330135	●	-	-	-	1.350	0.05315	5.40	5.70	45.00	-	3.00	1
3330140	●	-	-	-	1.400	0.05512	5.60	5.90	45.00	-	3.00	1
3330144	●	-	-	-	1.440	0.05669	5.80	6.10	45.00	-	3.00	1
3330145	●	-	-	-	1.450	0.05709	5.80	6.10	45.00	-	3.00	1
3330146	●	-	-	-	1.460	0.05748	5.80	6.10	45.00	-	3.00	1

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Sizes smaller than 2mm available with IchAda coating. Sizes 2mm and larger available with EgiAs coating.

ADR

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		

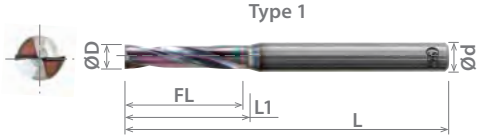
○ Good ◎ Best

List 5700

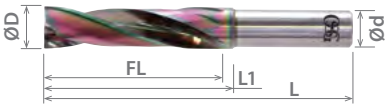
SPEED FEED 318-319 | CARBIDE | IchAda | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

A BRAND ADF-2D, Flat Drill

Type 1



Type 2



Cutting Diameter Tolerance		
Size (mm)	mm	inch
D < 2	+0 / -0.009	+0 / -0.0004
2 < D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Neck Length	Overall Length	Shank Diameter		Type
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L1 (mm)	L (mm)	d (in)	d (mm)	
3330147	●	-	-	-	1.470	0.05787	5.90	6.20	45.00	-	3.00	1
3330148	●	-	-	-	1.480	0.05827	5.90	6.20	45.00	-	3.00	1
3330150	●	-	-	-	1.500	0.05906	6.00	6.30	45.00	-	3.00	1
3330153	●	-	-	-	1.530	0.06024	6.10	6.40	45.00	-	3.00	1
3330154	●	-	-	-	1.540	0.06063	6.20	6.50	45.00	-	3.00	1
3330155	●	-	-	-	1.550	0.06102	6.20	6.50	45.00	-	3.00	1
3330156	●	-	-	-	1.560	0.06142	6.20	6.50	45.00	-	3.00	1
3330157	●	-	-	-	1.570	0.06181	6.30	6.60	45.00	-	3.00	1
3330158	●	-	-	-	1.580	0.06220	6.30	6.60	45.00	-	3.00	1
570006211	●	1/16	-	-	1.588	0.06250	6.40	6.70	45.00	-	3.00	1
3330160	●	-	-	-	1.600	0.06299	6.40	6.70	45.00	-	3.00	1
3330170	●	-	-	-	1.700	0.06693	6.80	7.10	45.00	-	3.00	1
3330175	●	-	-	-	1.750	0.06890	7.00	7.30	45.00	-	3.00	1
3330180	●	-	-	-	1.800	0.07087	7.20	7.50	45.00	-	3.00	1
3330182	●	-	-	-	1.820	0.07165	7.30	7.60	45.00	-	3.00	1
3330183	●	-	-	-	1.830	0.07205	7.30	7.60	45.00	-	3.00	1
3330184	●	-	-	-	1.840	0.07244	7.40	7.70	45.00	-	3.00	1
3330185	●	-	-	-	1.850	0.07283	7.40	7.70	45.00	-	3.00	1
3330186	●	-	-	-	1.860	0.07323	7.40	7.70	45.00	-	3.00	1
3330190	●	-	-	-	1.900	0.07480	7.60	7.90	45.00	-	3.00	1
3330195	●	-	-	-	1.950	0.07677	7.80	8.10	45.00	-	3.00	1
570007811	●	5/64	-	-	1.984	0.07813	7.90	8.20	45.00	-	3.00	1
3330200	●	-	-	-	2.000	0.07874	10.00	10.30	50.00	-	4.00	1
3330210	●	-	-	-	2.100	0.08268	10.00	10.50	50.00	-	4.00	1
3330220	●	-	-	-	2.200	0.08661	11.00	10.60	50.00	-	4.00	1
3330230	●	-	-	-	2.300	0.09055	11.00	10.80	50.00	-	4.00	1
570009311	●	3/32	-	-	2.381	0.09375	11.00	11.00	50.00	-	4.00	1
3330240	●	-	-	-	2.400	0.09449	12.00	11.00	50.00	-	4.00	1
3330250	●	-	-	-	2.500	0.09843	12.00	11.20	50.00	-	4.00	1
3330260	●	-	-	-	2.600	0.10236	13.00	11.40	50.00	-	4.00	1
3330270	●	-	-	-	2.700	0.10630	13.00	11.60	50.00	-	4.00	1
3330280	●	-	-	-	2.800	0.11024	14.00	11.80	50.00	-	4.00	1
3330290	●	-	-	-	2.900	0.11417	14.00	11.90	50.00	-	4.00	1
3330300	●	-	-	-	3.000	0.11811	15.00	11.40	55.00	-	6.00	1
3330310	●	-	-	-	3.100	0.12205	15.00	11.60	55.00	-	6.00	1
570012511	●	1/8	-	-	3.175	0.12500	15.00	17.00	55.00	0.125	-	2
3330320	●	-	-	-	3.200	0.12598	15.00	11.80	55.00	-	6.00	1
3330330	●	-	-	-	3.300	0.12992	15.00	12.00	55.00	-	6.00	1
3330340	●	-	-	-	3.400	0.13386	16.00	12.10	55.00	-	6.00	1
3330350	●	-	-	-	3.500	0.13780	16.00	12.30	55.00	-	6.00	1
3330360	●	-	-	-	3.600	0.14173	16.00	12.50	55.00	-	6.00	1
3330370	●	-	-	-	3.700	0.14567	16.00	12.70	55.00	-	6.00	1
3330380	●	-	-	-	3.800	0.14961	19.00	17.90	60.00	-	6.00	1
3330390	●	-	-	-	3.900	0.15354	19.00	18.10	60.00	-	6.00	1
570015611	●	5/32	-	-	3.969	0.15625	19.00	20.50	60.00	0.188	-	1
3330400	●	-	-	-	4.000	0.15748	19.00	18.30	60.00	-	6.00	1
3330410	●	-	-	-	4.100	0.16142	19.00	18.50	60.00	-	6.00	1
3330420	●	-	-	-	4.200	0.16535	21.00	18.60	60.00	-	6.00	1
3330430	●	-	-	-	4.300	0.16929	21.00	18.80	60.00	-	6.00	1
3330440	●	-	-	-	4.400	0.17323	21.00	19.00	60.00	-	6.00	1
3330450	●	-	-	-	4.500	0.17717	21.00	19.20	60.00	-	6.00	1
3330460	●	-	-	-	4.600	0.18110	21.00	19.40	60.00	-	6.00	1

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Sizes smaller than 2mm available with IchAda coating. Sizes 2mm and larger available with EgiAs coating.

ADR

List 5700 (Continued)

A BRAND ADF-2D, Flat Drill

SPEED FEED 318-319 | CARBIDE | IchAda | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Neck Length	Overall Length	Shank Diameter		Type
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L1 (mm)	L (mm)	d (in)	d (mm)	
3330470	●	-	-	-	4.700	0.18504	21.00	19.60	60.00	-	6.00	1
570018711	●	3/16	-	-	4.763	0.18750	24.00	27.00	65.00	0.188	-	2
3330480	●	-	-	-	4.800	0.18898	24.00	24.80	65.00	-	6.00	1
3330490	●	-	-	-	4.900	0.19291	24.00	24.90	65.00	-	6.00	1
3330500	●	-	-	-	5.000	0.19685	24.00	25.10	65.00	-	6.00	1
3330510	●	-	-	-	5.100	0.20079	24.00	25.30	65.00	-	6.00	1
3330520	●	-	-	-	5.200	0.20472	24.00	25.50	65.00	-	6.00	1
3330530	●	-	-	-	5.300	0.20866	24.00	25.70	65.00	-	6.00	1
3330540	●	-	-	-	5.400	0.21260	27.00	25.90	65.00	-	6.00	1
3330550	●	-	-	-	5.500	0.21654	27.00	26.10	65.00	-	6.00	1
570021811	●	7/32	-	-	5.556	0.21875	27.00	25.50	65.00	0.250	-	1
3330560	●	-	-	-	5.600	0.22047	27.00	26.30	65.00	-	6.00	1
3330570	●	-	-	-	5.700	0.22441	27.00	26.40	65.00	-	6.00	1
3330580	●	-	-	-	5.800	0.22835	27.00	26.60	65.00	-	6.00	1
3330590	●	-	-	-	5.900	0.23228	27.00	26.80	65.00	-	6.00	1
3330600	●	-	-	-	6.000	0.23622	27.00	27.00	65.00	-	6.00	2
3330610	●	-	-	-	6.100	0.24016	30.00	32.00	70.00	-	6.00	2
3330620	●	-	-	-	6.200	0.24409	30.00	32.00	70.00	-	6.00	2
3330630	●	-	-	-	6.300	0.24803	30.00	32.00	70.00	-	6.00	2
570025011	●	1/4	-	E	6.350	0.25000	30.00	32.00	70.00	0.250	-	2
3330640	●	-	-	-	6.400	0.25197	30.00	32.00	70.00	-	6.00	2
3330650	●	-	-	-	6.500	0.25591	30.00	32.00	70.00	-	6.00	2
3330660	●	-	-	-	6.600	0.25984	30.00	32.00	70.00	-	6.00	2
3330670	●	-	-	-	6.700	0.26378	30.00	32.00	70.00	-	6.00	2
3330680	●	-	-	-	6.800	0.26772	30.00	32.00	70.00	-	6.00	2
3330690	●	-	-	-	6.900	0.27165	30.00	32.00	70.00	-	6.00	2
3330700	●	-	-	-	7.000	0.27559	30.00	32.00	70.00	-	6.00	2
3330710	●	-	-	-	7.100	0.27953	34.00	36.00	75.00	-	6.00	2
570028111	●	9/32	-	-	7.144	0.28125	34.00	34.50	75.00	0.313	-	1
3330720	●	-	-	-	7.200	0.28346	34.00	36.00	75.00	-	6.00	2
3330730	●	-	-	-	7.300	0.28740	34.00	36.00	75.00	-	6.00	2
3330740	●	-	-	-	7.400	0.29134	34.00	36.00	75.00	-	6.00	2
3330750	●	-	-	-	7.500	0.29528	34.00	36.00	75.00	-	6.00	2
3330760	●	-	-	-	7.600	0.29921	34.00	36.00	75.00	-	6.00	2
3330770	●	-	-	-	7.700	0.30315	34.00	36.00	75.00	-	6.00	2
3330780	●	-	-	-	7.800	0.30709	34.00	36.00	75.00	-	6.00	2
3330790	●	-	-	-	7.900	0.31102	34.00	36.00	75.00	-	6.00	2
570031211	●	5/16	-	-	7.938	0.31250	34.00	36.00	75.00	0.313	-	2
3330800	●	-	-	-	8.000	0.31496	34.00	36.00	75.00	-	8.00	2
3330810	●	-	-	-	8.100	0.31890	38.00	40.00	80.00	-	8.00	2
3330820	●	-	-	-	8.200	0.32283	38.00	40.00	80.00	-	8.00	2
3330830	●	-	-	-	8.300	0.32677	38.00	40.00	80.00	-	8.00	2
570032811	●	21/64	-	-	8.334	0.32813	38.00	37.80	80.00	0.375	-	1
3330840	●	-	-	-	8.400	0.33071	38.00	40.00	80.00	-	8.00	2
3330850	●	-	-	-	8.500	0.33465	38.00	40.00	80.00	-	8.00	2
3330860	●	-	-	-	8.600	0.33858	38.00	40.00	80.00	-	8.00	2
3330870	●	-	-	-	8.700	0.34252	38.00	40.00	80.00	-	8.00	2
3330880	●	-	-	-	8.800	0.34646	38.00	40.00	80.00	-	8.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Sizes smaller than 2mm available with IchAda coating. Sizes 2mm and larger available with EgiAs coating.

ADR

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		

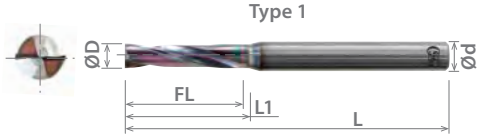
○ Good ◎ Best

List 5700 (Continued)

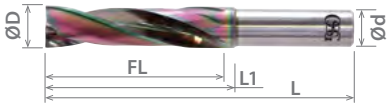
SPEED FEED 318-319 | CARBIDE | IchAda | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

A BRAND ADF-2D, Flat Drill

Type 1



Type 2



Cutting Diameter Tolerance		
Size (mm)	mm	inch
D < 2	+0 / -0.009	+0 / -0.0004
2 < D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number		Diameter (D)					Flute Length	Neck Length	Overall Length	Shank Diameter		Type
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L1 (mm)	L (mm)	d (in)	d (mm)	
3330890	●	-	-	-	8.900	0.35039	38.00	40.00	80.00	-	8.00	2
3330900	●	-	-	-	9.000	0.35433	38.00	40.00	80.00	-	8.00	2
3330910	●	-	-	-	9.100	0.35827	42.00	44.00	85.00	-	8.00	2
570035911	●	23/64	-	-	9.128	0.35938	42.00	43.30	85.00	0.375	-	1
3330920	●	-	-	-	9.200	0.36220	42.00	44.00	85.00	-	8.00	2
3330930	●	-	-	-	9.300	0.36614	42.00	44.00	85.00	-	8.00	2
3330940	●	-	-	-	9.400	0.37008	42.00	44.00	85.00	-	8.00	2
3330950	●	-	-	-	9.500	0.37402	42.00	44.00	85.00	-	8.00	2
570037511	●	3/8	-	-	9.525	0.37500	42.00	44.00	85.00	0.375	-	2
3330960	●	-	-	-	9.600	0.37795	42.00	44.00	85.00	-	8.00	2
3330970	●	-	-	-	9.700	0.38189	42.00	44.00	85.00	-	8.00	2
3330980	●	-	-	-	9.800	0.38583	42.00	44.00	85.00	-	8.00	2
3330990	●	-	-	-	9.900	0.38976	42.00	44.00	85.00	-	8.00	2
3331000	●	-	-	-	10.000	0.39370	42.00	44.00	85.00	-	10.00	2
3331010	●	-	-	-	10.100	0.39764	46.00	48.00	90.00	-	10.00	2
3331020	●	-	-	-	10.200	0.40157	46.00	48.00	90.00	-	10.00	2
3331030	●	-	-	-	10.300	0.40551	46.00	48.00	90.00	-	10.00	2
570040611	●	13/32	-	-	10.319	0.40625	46.00	46.50	90.00	0.438	-	1
3331040	●	-	-	-	10.400	0.40945	46.00	48.00	90.00	-	10.00	2
3331050	●	-	-	-	10.500	0.41339	46.00	48.00	90.00	-	10.00	2
3331060	●	-	-	-	10.600	0.41732	46.00	48.00	90.00	-	10.00	2
3331070	●	-	-	-	10.700	0.42126	46.00	48.00	90.00	-	10.00	2
3331080	●	-	-	-	10.800	0.42520	46.00	48.00	90.00	-	10.00	2
3331090	●	-	-	-	10.900	0.42913	46.00	48.00	90.00	-	10.00	2
3331100	●	-	-	-	11.000	0.43307	46.00	48.00	90.00	-	10.00	2
3331110	●	-	-	-	11.100	0.43701	50.00	52.00	95.00	-	10.00	2
570043711	●	7/16	-	-	11.113	0.43750	50.00	52.00	95.00	0.438	-	2
3331120	●	-	-	-	11.200	0.44094	50.00	52.00	95.00	-	10.00	2
3331130	●	-	-	-	11.300	0.44488	50.00	52.00	95.00	-	10.00	2
3331140	●	-	-	-	11.400	0.44882	50.00	52.00	95.00	-	10.00	2
3331150	●	-	-	-	11.500	0.45276	50.00	52.00	95.00	-	10.00	2
570045311	●	29/64	-	-	11.509	0.45313	50.00	49.80	95.00	0.500	-	1
3331160	●	-	-	-	11.600	0.45669	50.00	52.00	95.00	-	10.00	2
3331170	●	-	-	-	11.700	0.46063	50.00	52.00	95.00	-	10.00	2
3331180	●	-	-	-	11.800	0.46457	50.00	52.00	95.00	-	10.00	2
3331190	●	-	-	-	11.900	0.46850	50.00	52.00	95.00	-	10.00	2
570046811	●	15/32	-	-	11.906	0.46875	50.00	50.50	95.00	0.500	-	1
3331200	●	-	-	-	12.000	0.47244	50.00	52.00	95.00	-	12.00	2
3331210	●	-	-	-	12.100	0.47638	56.00	58.00	100.00	-	12.00	2
3331220	●	-	-	-	12.200	0.48031	56.00	58.00	100.00	-	12.00	2
3331230	●	-	-	-	12.300	0.48425	56.00	58.00	100.00	-	12.00	2
3331240	●	-	-	-	12.400	0.48819	56.00	58.00	100.00	-	12.00	2
3331250	●	-	-	-	12.500	0.49213	56.00	58.00	100.00	-	12.00	2
3331260	●	-	-	-	12.600	0.49606	56.00	58.00	100.00	-	12.00	2
3331270	●	1/2	-	-	12.700	0.50000	56.00	58.00	100.00	-	12.00	2
3331280	●	-	-	-	12.800	0.50394	56.00	58.00	100.00	-	12.00	2
3331290	●	-	-	-	12.900	0.50787	56.00	58.00	100.00	-	12.00	2
3331300	●	-	-	-	13.000	0.51181	56.00	58.00	100.00	-	12.00	2
3331310	●	-	-	-	13.100	0.51575	60.00	62.00	105.00	-	12.00	2
3331320	●	-	-	-	13.200	0.51969	60.00	62.00	105.00	-	12.00	2
3331330	●	-	-	-	13.300	0.52362	60.00	62.00	105.00	-	12.00	2
3331340	●	-	-	-	13.400	0.52756	60.00	62.00	105.00	-	12.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Sizes smaller than 2mm available with IchAda coating. Sizes 2mm and larger available with EgiAs coating.

ADR

List 5700 (Continued)

A BRAND ADF-2D, Flat Drill

SPEED FEED 318-319 | CARBIDE | IchAda | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)	Type
3331350	●	-	-	-	13.500	0.53150	60.00	62.00	105.00	-	12.00	2
3331360	●	-	-	-	13.600	0.53543	60.00	62.00	105.00	-	12.00	2
3331370	●	-	-	-	13.700	0.53937	60.00	62.00	105.00	-	12.00	2
3331380	●	-	-	-	13.800	0.54331	60.00	62.00	105.00	-	12.00	2
3331390	●	-	-	-	13.900	0.54724	60.00	62.00	105.00	-	12.00	2
3331400	●	-	-	-	14.000	0.55118	60.00	62.00	105.00	-	12.00	2
3331410	●	-	-	-	14.100	0.55512	64.00	66.00	110.00	-	12.00	2
3331420	●	-	-	-	14.200	0.55906	64.00	66.00	110.00	-	12.00	2
570056211	●	9/16	-	-	14.288	0.56250	64.00	63.00	110.00	0.625	-	1
3331430	●	-	-	-	14.300	0.56299	64.00	66.00	110.00	-	12.00	2
3331440	●	-	-	-	14.400	0.56693	64.00	66.00	110.00	-	12.00	2
3331450	●	-	-	-	14.500	0.57087	64.00	66.00	110.00	-	12.00	2
3331460	●	-	-	-	14.600	0.57480	64.00	66.00	110.00	-	12.00	2
3331470	●	-	-	-	14.700	0.57874	64.00	66.00	110.00	-	12.00	2
3331480	●	-	-	-	14.800	0.58268	64.00	66.00	110.00	-	12.00	2
3331490	●	-	-	-	14.900	0.58661	64.00	66.00	110.00	-	12.00	2
3331500	●	-	-	-	15.000	0.59055	64.00	66.00	110.00	-	12.00	2
3331510	●	-	-	-	15.100	0.59449	68.00	70.00	115.00	-	12.00	2
3331520	●	-	-	-	15.200	0.59843	68.00	70.00	115.00	-	12.00	2
3331530	●	-	-	-	15.300	0.60236	68.00	70.00	115.00	-	12.00	2
3331540	●	-	-	-	15.400	0.60630	68.00	70.00	115.00	-	12.00	2
3331550	●	-	-	-	15.500	0.61024	68.00	70.00	115.00	-	12.00	2
3331560	●	-	-	-	15.600	0.61417	68.00	70.00	115.00	-	12.00	2
3331570	●	-	-	-	15.700	0.61811	68.00	70.00	115.00	-	12.00	2
3331580	●	-	-	-	15.800	0.62205	68.00	70.00	115.00	-	12.00	2
570062511	●	5/8	-	-	15.875	0.62500	68.00	70.00	115.00	0.625	-	2
3331590	●	-	-	-	15.900	0.62598	68.00	70.00	115.00	-	12.00	2
3331600	●	-	-	-	16.000	0.62992	68.00	70.00	115.00	-	16.00	2
3331650	●	-	-	-	16.500	0.64961	74.00	76.00	125.00	-	16.00	2
3331700	●	-	-	-	17.000	0.66929	74.00	76.00	125.00	-	16.00	2
570068711	●	11/16	-	-	17.463	0.68750	78.00	77.10	130.00	0.750	-	1
3331750	●	-	-	-	17.500	0.68898	78.00	80.00	130.00	-	16.00	2
3331800	●	-	-	-	18.000	0.70866	78.00	80.00	130.00	-	16.00	2
3331850	●	-	-	-	18.500	0.72835	84.00	86.00	135.00	-	16.00	2
3331900	●	-	-	-	19.000	0.74803	84.00	86.00	135.00	-	16.00	2
570075011	●	3/4	-	-	19.050	0.75000	88.00	90.00	140.00	0.750	-	2
3331950	●	-	-	-	19.500	0.76772	88.00	90.00	140.00	-	16.00	2
3332000	●	-	-	-	20.000	0.78740	88.00	90.00	140.00	-	20.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Sizes smaller than 2mm available with IchAda coating. Sizes 2mm and larger available with EgiAs coating.

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		

○ Good ◎ Best

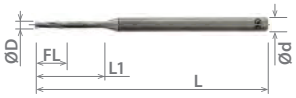
List 5705

A BRAND ADFLS-2D, Long Shank, Flat Drill

SPEED FEED 320 | CARBIDE | EgiAs | 2 FLUTE | STUB | 20° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

Type 1



Type 2



Type 3



EDP Number		Diameter (D)					Flute Length	Neck Length	Overall Length	Shank Diameter		Type
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L1 (mm)	L (mm)	d (in)	d (mm)	
3332300	●	-	-	-	3.000	0.11811	15.00	30.00	100.00	-	6.00	1
3332310	●	-	-	-	3.100	0.12205	15.00	31.00	100.00	-	6.00	1
570512517	●	1/8	-	-	3.175	0.12500	15.00	32.00	100.00	0.125	-	2
3332320	●	-	-	-	3.200	0.12598	15.00	32.00	100.00	-	6.00	1
3332330	●	-	-	-	3.300	0.12992	15.00	33.00	100.00	-	6.00	1
3332340	●	-	-	-	3.400	0.13386	16.00	34.00	100.00	-	6.00	1
3332350	●	-	-	-	3.500	0.13780	16.00	35.00	100.00	-	6.00	1
3332360	●	-	-	-	3.600	0.14173	16.00	36.00	100.00	-	6.00	1
3332370	●	-	-	-	3.700	0.14567	16.00	37.00	100.00	-	6.00	1
3332380	●	-	-	-	3.800	0.14961	19.00	38.00	100.00	-	6.00	1
3332390	●	-	-	-	3.900	0.15354	19.00	39.00	100.00	-	6.00	1
570515617	●	5/32	-	-	3.969	0.15625	19.00	40.00	100.00	0.188	-	1
3332400	●	-	-	-	4.000	0.15748	19.00	40.00	100.00	-	6.00	1
3332410	●	-	-	-	4.100	0.16142	19.00	41.00	100.00	-	6.00	1
3332420	●	-	-	-	4.200	0.16535	21.00	42.00	100.00	-	6.00	1
3332430	●	-	-	-	4.300	0.16929	21.00	43.00	100.00	-	6.00	1
3332440	●	-	-	-	4.400	0.17323	21.00	44.00	100.00	-	6.00	1
3332450	●	-	-	-	4.500	0.17717	21.00	45.00	100.00	-	6.00	1
3332460	●	-	-	-	4.600	0.18110	21.00	46.00	100.00	-	6.00	1
3332470	●	-	-	-	4.700	0.18504	21.00	47.00	100.00	-	6.00	1
570518717	●	3/16	-	-	4.763	0.18750	24.00	48.00	100.00	0.188	-	2
3332480	●	-	-	-	4.800	0.18898	24.00	48.00	100.00	-	6.00	1
3332490	●	-	-	-	4.900	0.19291	24.00	49.00	100.00	-	6.00	1
3332500	●	-	-	-	5.000	0.19685	24.00	50.00	110.00	-	6.00	1
3332510	●	-	-	-	5.100	0.20079	24.00	51.00	110.00	-	6.00	1
3332520	●	-	-	-	5.200	0.20472	24.00	52.00	110.00	-	6.00	1
3332530	●	-	-	-	5.300	0.20866	24.00	53.00	110.00	-	6.00	1
3332540	●	-	-	-	5.400	0.21260	27.00	54.00	110.00	-	6.00	1
3332550	●	-	-	-	5.500	0.21654	27.00	55.00	110.00	-	6.00	1
570521817	●	7/32	-	-	5.556	0.21875	27.00	56.00	110.00	0.250	-	1
3332560	●	-	-	-	5.600	0.22047	27.00	56.00	110.00	-	6.00	1
3332570	●	-	-	-	5.700	0.22441	27.00	57.00	110.00	-	6.00	1
3332580	●	-	-	-	5.800	0.22835	27.00	58.00	110.00	-	6.00	1
3332590	●	-	-	-	5.900	0.23228	27.00	59.00	110.00	-	6.00	1
3332600	●	-	-	-	6.000	0.23622	27.00	29.00	110.00	-	6.00	2
3334060	●	-	-	-	6.000	0.23622	27.00	60.00	110.00	-	6.00	3
570525017	●	1/4	-	E	6.350	0.25000	30.00	64.00	120.00	0.250	-	2
3332650	●	-	-	-	6.500	0.25591	30.00	32.00	120.00	-	6.00	2
3332680	●	-	-	-	6.800	0.26772	30.00	32.00	120.00	-	6.00	2
3332700	●	-	-	-	7.000	0.27559	30.00	32.00	120.00	-	6.00	2
570528117	●	9/32	-	-	7.144	0.28125	34.00	72.00	130.00	0.313	-	1
3332750	●	-	-	-	7.500	0.29528	34.00	36.00	130.00	-	6.00	2
3332780	●	-	-	-	7.800	0.30709	34.00	36.00	130.00	-	6.00	2
570531217	●	5/16	-	-	7.938	0.31250	34.00	79.00	130.00	0.313	-	2
3332800	●	-	-	-	8.000	0.31496	34.00	36.00	130.00	-	8.00	2
3334080	●	-	-	-	8.000	0.31496	34.00	80.00	130.00	-	8.00	3
570532817	●	21/64	-	-	8.334	0.32813	38.00	83.00	140.00	0.375	-	1
3332850	●	-	-	-	8.500	0.33465	38.00	40.00	140.00	-	8.00	2
3332880	●	-	-	-	8.800	0.34646	38.00	40.00	140.00	-	8.00	2
3332900	●	-	-	-	9.000	0.35433	38.00	40.00	140.00	-	8.00	2
570535917	●	23/64	-	-	9.128	0.35938	42.00	91.00	150.00	0.375	-	1
3332950	●	-	-	-	9.500	0.37402	42.00	44.00	150.00	-	8.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

List 5705 (Continued)

A BRAND ADFLS-2D, Long Shank, Flat Drill



EDP Number		Diameter (D)					Flute Length	Neck Length	Overall Length	Shank Diameter		Type
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L1 (mm)	L (mm)	d (in)	d (mm)	
570537517	●	3/8	-	-	9.525	0.37500	42.00	95.00	150.00	0.375	-	2
3332980	●	-	-	-	9.800	0.38583	42.00	44.00	150.00	-	8.00	2
3333000	●	-	-	-	10.000	0.39370	42.00	44.00	150.00	-	10.00	2
3334100	●	-	-	-	10.000	0.39370	42.00	100.00	150.00	-	10.00	3
570540617	●	13/32	-	-	10.319	0.40625	46.00	103.00	160.00	0.438	-	1
3333050	●	-	-	-	10.500	0.41339	46.00	48.00	160.00	-	10.00	2
3333080	●	-	-	-	10.800	0.42520	46.00	48.00	160.00	-	10.00	2
3333100	●	-	-	-	11.000	0.43307	46.00	48.00	160.00	-	10.00	2
570543717	●	7/16	-	-	11.113	0.43750	50.00	111.00	170.00	0.438	-	2
570545317	●	29/64	-	-	11.509	0.45313	50.00	115.00	170.00	0.500	-	1
3333180	●	-	-	-	11.800	0.46457	50.00	52.00	170.00	-	10.00	2
570546817	●	15/32	-	-	11.906	0.46875	50.00	119.00	170.00	0.500	-	1
3333200	●	-	-	-	12.000	0.47244	50.00	52.00	170.00	-	12.00	2
3334120	●	-	-	-	12.000	0.47244	50.00	120.00	170.00	-	12.00	3
3333250	●	-	-	-	12.500	0.49213	56.00	58.00	180.00	-	12.00	2
570550017	●	1/2	-	-	12.700	0.50000	56.00	127.00	180.00	0.500	-	2
3333300	●	-	-	-	13.000	0.51181	56.00	58.00	180.00	-	12.00	2
3333350	●	-	-	-	13.500	0.53150	60.00	62.00	190.00	-	12.00	2
3333400	●	-	-	-	14.000	0.55118	60.00	62.00	190.00	-	12.00	2
570556217	●	9/16	-	-	14.288	0.56250	64.00	143.00	200.00	0.625	-	1
3333500	●	-	-	-	15.000	0.59055	64.00	66.00	200.00	-	12.00	2
570562517	●	5/8	-	-	15.875	0.62500	68.00	159.00	210.00	0.625	-	2
3333600	●	-	-	-	16.000	0.62992	68.00	70.00	210.00	-	16.00	2
3334160	●	-	-	-	16.000	0.62992	68.00	160.00	210.00	-	16.00	3
3333700	●	-	-	-	17.000	0.66929	74.00	76.00	220.00	-	16.00	2
570568717	●	11/16	-	-	17.463	0.68750	78.00	175.00	230.00	0.750	-	1
3333750	●	-	-	-	17.500	0.68898	78.00	80.00	230.00	-	16.00	2
3333800	●	-	-	-	18.000	0.70866	78.00	80.00	230.00	-	16.00	2
570575017	●	3/4	-	-	19.050	0.75000	88.00	191.00	250.00	0.750	-	2
3334000	●	-	-	-	20.000	0.78740	88.00	90.00	250.00	-	20.00	2
3334200	●	-	-	-	20.000	0.78740	88.00	200.00	250.00	-	20.00	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

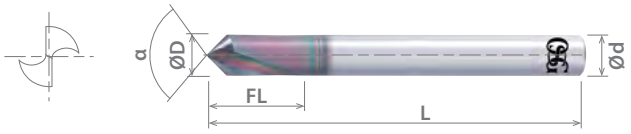
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○			○	○		

○ Good ◎ Best

List 5190

A BRAND AD-LDS

SPEED FEED 321 | CARBIDE | EgiAs | 2 FLUTE | SHANK h7 | PACKED 1 PIECE



EDP Number		Diameter (D)					Min. Drill Hole Size	Flute Length	Overall Length	Shank Diameter		Point Angle	Helix
		Fractional Size	Wire Gage	Letter Size	mm	Inch	mm	FL (mm)	L (mm)	d (in)	d (mm)	α	
8688933	●	-	-	-	3.000	0.11811	1.20	9.00	48.00	-	3.00	90	12
8688957	●	-	-	-	3.000	0.11811	1.20	9.00	48.00	-	3.00	120	25
8688966	●	-	-	-	3.000	0.11811	1.20	9.00	48.00	-	3.00	140	25
8688934	●	-	-	-	4.000	0.15748	1.50	12.00	54.00	-	4.00	90	12
8688958	●	-	-	-	4.000	0.15748	1.50	12.00	54.00	-	4.00	120	25
8688967	●	-	-	-	4.000	0.15748	1.50	12.00	54.00	-	4.00	140	25
519012017	●	-	-	-	5.000	0.19685	1.70	14.00	70.00	-	5.00	90	12
519022017	●	-	-	-	5.000	0.19685	1.70	14.00	70.00	-	5.00	120	25
519032017	●	-	-	-	5.000	0.19685	1.70	14.00	70.00	-	5.00	140	25
8688935	●	-	-	-	6.000	0.23622	1.90	15.00	72.00	-	6.00	90	12
8688959	●	-	-	-	6.000	0.23622	1.90	15.00	72.00	-	6.00	120	25
8688968	●	-	-	-	6.000	0.23622	1.90	15.00	72.00	-	6.00	140	25
519012517	●	1/4	-	E	6.350	0.25000	1.90	17.00	75.00	0.250	-	90	12
519022517	●	1/4	-	E	6.350	0.25000	1.90	17.00	75.00	0.250	-	120	25
519032517	●	1/4	-	E	6.350	0.25000	1.90	17.00	75.00	0.250	-	140	25
8688936	●	-	-	-	8.000	0.31496	2.10	20.00	81.00	-	8.00	90	12
8688960	●	-	-	-	8.000	0.31496	2.10	20.00	81.00	-	8.00	120	25
8688969	●	-	-	-	8.000	0.31496	2.10	20.00	81.00	-	8.00	140	25
519013817	●	3/8	-	-	9.525	0.37500	2.30	24.00	93.00	0.375	-	90	12
519023817	●	3/8	-	-	9.525	0.37500	2.30	24.00	93.00	0.375	-	120	25
519033817	●	3/8	-	-	9.525	0.37500	2.30	24.00	93.00	0.375	-	140	25
8688937	●	-	-	-	10.000	0.39370	2.50	24.00	93.00	-	10.00	90	12
8688961	●	-	-	-	10.000	0.39370	2.50	24.00	93.00	-	10.00	120	25
8688970	●	-	-	-	10.000	0.39370	2.50	24.00	93.00	-	10.00	140	25
8688938	●	-	-	-	12.000	0.47244	2.50	28.00	108.00	-	12.00	90	12
8688962	●	-	-	-	12.000	0.47244	2.50	28.00	108.00	-	12.00	120	25
8688971	●	-	-	-	12.000	0.47244	2.50	28.00	108.00	-	12.00	140	25
519015017	●	1/2	-	-	12.700	0.50000	3.00	36.00	111.00	0.500	-	90	12
519025017	●	1/2	-	-	12.700	0.50000	3.00	36.00	111.00	0.500	-	120	25
519035017	●	1/2	-	-	12.700	0.50000	3.00	36.00	111.00	0.500	-	140	25
519016217	●	5/8	-	-	15.875	0.62500	5.00	41.00	118.00	0.625	-	90	12
519026217	●	5/8	-	-	15.875	0.62500	5.00	41.00	118.00	0.625	-	120	25
519036217	●	5/8	-	-	15.875	0.62500	5.00	41.00	118.00	0.625	-	140	25
519016317	●	-	-	-	16.000	0.62992	5.00	41.00	118.00	-	16.00	90	12
519026317	●	-	-	-	16.000	0.62992	5.00	41.00	118.00	-	16.00	120	25
519036317	●	-	-	-	16.000	0.62992	5.00	41.00	118.00	-	16.00	140	25
519017517	●	3/4	-	-	19.050	0.75000	5.00	46.00	132.00	0.750	-	90	12
519027517	●	3/4	-	-	19.050	0.75000	5.00	46.00	132.00	0.750	-	120	25
519037517	●	3/4	-	-	19.050	0.75000	5.00	46.00	132.00	0.750	-	140	25
519017917	●	-	-	-	20.000	0.78740	5.00	46.00	132.00	-	20.00	90	12
519027917	●	-	-	-	20.000	0.78740	5.00	46.00	132.00	-	20.00	120	25
519037917	●	-	-	-	20.000	0.78740	5.00	46.00	132.00	-	20.00	140	25
519019817	●	-	-	-	25.000	0.98425	5.00	53.00	151.00	-	25.00	90	12
519029817	●	-	-	-	25.000	0.98425	5.00	53.00	151.00	-	25.00	120	25
519039817	●	-	-	-	25.000	0.98425	5.00	53.00	151.00	-	25.00	140	25

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ADR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎				◎		○	○	○	◎	◎	◎	

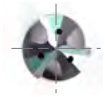
○ Good ◎ Best

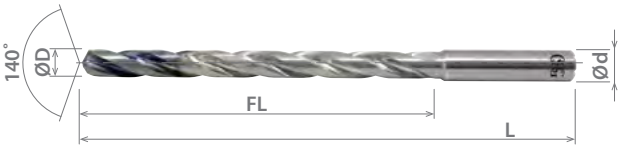
List 5630

EXOPRO TRS-HO-10D, 3 Flute

SPEED FEED 322 | CARBIDE | EgiAs | 3 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
5 ≤ D ≤ 6	-0.020 / -0.038	-0.0007 / -0.0014
6 < D ≤ 10	-0.025 / -0.047	-0.0009 / -0.0018
10 < D ≤ 15.875	-0.032 / -0.059	-0.0012 / -0.0023





EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
48159050	●	-	-	-	5.000	0.19685	65.00	115.00	-	6.00
563020011	●	-	-	-	5.100	0.20079	70.00	128.00	-	6.00
563020311	●	13/64	-	-	5.159	0.20313	70.00	128.00	-	6.00
563020411	●	-	-	-	5.200	0.20472	70.00	128.00	-	6.00
563020811	●	-	-	-	5.300	0.20866	70.00	128.00	-	6.00
563021211	●	-	-	-	5.400	0.21260	78.00	128.00	-	6.00
563021311	●	-	3	-	5.410	0.21299	78.00	128.00	-	6.00
8664055	●	-	-	-	5.500	0.21654	78.00	128.00	-	6.00
563021811	●	7/32	-	-	5.558	0.21875	78.00	128.00	-	6.00
563022011	●	-	-	-	5.600	0.22047	78.00	128.00	-	6.00
563022411	●	-	-	-	5.700	0.22441	78.00	128.00	-	6.00
563022811	●	-	-	-	5.800	0.22835	78.00	128.00	-	6.00
563023211	●	-	-	-	5.900	0.23228	78.00	128.00	-	6.00
563023411	●	15/64	-	-	5.953	0.23438	78.00	128.00	-	6.00
8664060	●	-	-	-	6.000	0.23622	78.00	128.00	-	6.00
563024011	●	-	-	-	6.100	0.24016	87.00	140.00	-	8.00
563024411	●	-	-	-	6.200	0.24409	87.00	140.00	-	8.00
563024811	●	-	-	-	6.300	0.24803	87.00	140.00	-	8.00
563025011	●	1/4	-	E	6.350	0.25000	87.00	140.00	0.250	-
563025211	●	-	-	-	6.400	0.25197	87.00	140.00	-	8.00
48159065	●	-	-	-	6.500	0.25591	87.00	140.00	-	8.00
563025711	●	-	-	-	6.530	0.25709	87.00	140.00	-	8.00
563025911	●	-	-	-	6.600	0.25984	87.00	140.00	-	8.00
563026311	●	-	-	-	6.700	0.26378	87.00	140.00	-	8.00
563026511	●	17/64	-	-	6.747	0.26563	90.00	140.00	0.313	-
563026711	●	-	-	-	6.800	0.26772	90.00	140.00	-	8.00
563027111	●	-	-	-	6.900	0.27165	90.00	140.00	-	8.00
48159070	●	-	-	-	7.000	0.27559	90.00	140.00	-	8.00
563027911	●	-	-	-	7.100	0.27953	100.00	155.00	-	8.00
563028111	●	9/32	-	-	7.144	0.28125	100.00	155.00	0.313	-
563028311	●	-	-	-	7.200	0.28346	100.00	155.00	-	8.00
563028711	●	-	-	-	7.300	0.28740	100.00	155.00	-	8.00
563029111	●	-	-	-	7.400	0.29134	100.00	155.00	-	8.00
8664075	●	-	-	-	7.500	0.29528	100.00	155.00	-	8.00
563029611	●	19/64	-	-	7.541	0.29688	105.00	155.00	0.313	-
563029911	●	-	-	-	7.600	0.29921	105.00	155.00	-	8.00
563030311	●	-	-	-	7.700	0.30315	105.00	155.00	-	8.00
563030711	●	-	-	-	7.800	0.30709	105.00	155.00	-	8.00
563031111	●	-	-	-	7.900	0.31102	105.00	155.00	-	8.00
563031211	●	5/16	-	-	7.938	0.31250	105.00	155.00	0.313	-
8664080	●	-	-	-	8.000	0.31496	105.00	155.00	-	8.00
563031811	●	-	-	-	8.100	0.31890	110.00	165.00	-	10.00
563032211	●	-	-	-	8.200	0.32283	110.00	165.00	-	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎				◎		○			○			

○ Good ◎ Best

List 5630 (Continued)

SPEED FEED 322 | CARBIDE | EgiAs | 3 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EXOPRO TRS-HO-10D, 3 Flute



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
5 ≤ D ≤ 6	-0.020 / -0.038	-0.0007 / -0.0014
6 < D ≤ 10	-0.025 / -0.047	-0.0009 / -0.0018
10 < D ≤ 15.875	-0.032 / -0.059	-0.0012 / -0.0023

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
563032611	●	-	-	-	8.300	0.32677	110.00	165.00	-	10.00
563032811	●	21/64	-	-	8.334	0.32813	110.00	165.00	0.375	-
563033011	●	-	-	-	8.400	0.33071	110.00	165.00	-	10.00
563033111	●	-	-	Q	8.433	0.33200	110.00	165.00	-	10.00
48159085	●	-	-	-	8.500	0.33465	110.00	165.00	-	10.00
563033811	●	-	-	-	8.600	0.33858	115.00	165.00	-	10.00
563034211	●	-	-	-	8.700	0.34252	115.00	165.00	-	10.00
563034311	●	11/32	-	-	8.733	0.34375	115.00	165.00	0.375	-
563034611	●	-	-	-	8.800	0.34646	115.00	165.00	-	10.00
563035011	●	-	-	-	8.900	0.35039	115.00	165.00	-	10.00
48159090	●	-	-	-	9.000	0.35433	115.00	165.00	-	10.00
563035811	●	-	-	-	9.100	0.35827	125.00	190.00	-	10.00
563035911	●	23/64	-	-	9.128	0.35938	125.00	190.00	0.375	-
563036211	●	-	-	-	9.200	0.36220	125.00	190.00	-	10.00
563036611	●	-	-	-	9.300	0.36614	125.00	190.00	-	10.00
563037011	●	-	-	-	9.400	0.37008	125.00	190.00	-	10.00
8664095	●	-	-	-	9.500	0.37402	125.00	190.00	-	10.00
563037511	●	3/8	-	-	9.525	0.37500	130.00	190.00	0.375	-
563037811	●	-	-	-	9.600	0.37795	130.00	190.00	-	10.00
563038111	●	-	-	-	9.700	0.38189	130.00	190.00	-	10.00
563038511	●	-	-	-	9.800	0.38583	130.00	190.00	-	10.00
563038911	●	-	-	-	9.900	0.38976	130.00	190.00	-	10.00
563039011	●	25/64	-	-	9.922	0.39063	130.00	190.00	0.438	-
8664100	●	-	-	-	10.000	0.39370	130.00	190.00	-	10.00
563039711	●	-	-	-	10.100	0.39764	140.00	205.00	-	12.00
563040111	●	-	-	-	10.200	0.40157	140.00	205.00	-	12.00
563040511	●	-	-	-	10.300	0.40551	140.00	205.00	-	12.00
563040611	●	13/32	-	-	10.319	0.40625	140.00	205.00	0.438	-
563040911	●	-	-	-	10.400	0.40945	140.00	205.00	-	12.00
563041311	●	-	-	-	10.500	0.41339	140.00	205.00	-	12.00
563041711	●	-	-	-	10.600	0.41732	140.00	205.00	-	12.00
563041211	●	-	-	-	10.700	0.42126	140.00	205.00	-	12.00
563042211	●	27/64	-	-	10.716	0.42188	145.00	205.00	0.438	-
563042511	●	-	-	-	10.800	0.42520	145.00	205.00	-	12.00
563042911	●	-	-	-	10.900	0.42913	145.00	205.00	-	12.00
563043311	●	-	-	-	11.000	0.43307	145.00	205.00	-	12.00
563043711	●	-	-	-	11.100	0.43701	155.00	215.00	-	12.00
563043811	●	7/16	-	-	11.113	0.43750	155.00	215.00	0.438	-
563044011	●	-	-	-	11.200	0.44094	155.00	215.00	-	12.00
563044411	●	-	-	-	11.300	0.44488	155.00	215.00	-	12.00
563044811	●	-	-	-	11.400	0.44882	155.00	215.00	-	12.00
8664115	●	-	-	-	11.500	0.45276	155.00	215.00	-	12.00
563045311	●	29/64	-	-	11.509	0.45313	155.00	215.00	0.500	-
563045611	●	-	-	-	11.600	0.45669	155.00	215.00	-	12.00
563046011	●	-	-	-	11.700	0.46063	155.00	215.00	-	12.00
563046411	●	-	-	-	11.800	0.46457	155.00	215.00	-	12.00
563056811	●	-	-	-	11.900	0.46850	155.00	215.00	-	12.00
8664120	●	-	-	-	12.000	0.47244	155.00	215.00	-	12.00
563047611	●	-	-	-	12.100	0.47638	155.00	215.00	-	14.00
563048011	●	-	-	-	12.200	0.48031	155.00	215.00	-	14.00
563048411	●	-	-	-	12.300	0.48425	155.00	215.00	0.500	-
563048811	●	-	-	-	12.400	0.48819	155.00	215.00	-	14.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

List 5630 (Continued)

EXOPRO TRS-HO-10D, 3 Flute

SPEED FEED 322 | CARBIDE | EgiAs | 3 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
563049211	●	-	-	-	12.500	0.49213	155.00	215.00	-	14.00
563049611	●	-	-	-	12.600	0.49606	155.00	215.00	-	14.00
563050011	●	1/2	-	-	12.700	0.50000	155.00	215.00	0.500	-
563053111	●	17/32	-	-	13.494	0.53125	175.00	225.00	0.625	-
563053211	●	-	-	-	13.500	0.53150	175.00	225.00	-	14.00
563055111	●	-	-	-	14.000	0.55118	180.00	230.00	-	14.00
563056211	●	9/16	-	-	14.288	0.56250	180.00	230.00	0.625	-
563057011	●	-	-	-	14.500	0.57087	190.00	240.00	-	16.00
563062511	●	5/8	-	-	15.875	0.62500	210.00	260.00	0.625	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎				◎		○			○			

○ Good ◎ Best

List 5950Ni

SPEED FEED 323 | CARBIDE | DURO REY | 2 FLUTE | STUB | 12-20° | SHANK h6 | PACKED 1 PIECE

EXOPRO WHO-NI-3D

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
D = 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
595011811	●	-	-	-	3.000	0.11811	20.00	62.00	6.00
595012511	●	1/8	-	-	3.175	0.12500	20.00	62.00	6.00
595013011	●	-	-	-	3.300	0.12992	21.00	62.00	6.00
595013411	●	-	-	-	3.400	0.13386	21.00	62.00	6.00
595013711	●	-	-	-	3.490	0.13740	21.00	62.00	6.00
595013811	●	-	-	-	3.500	0.13780	21.00	62.00	6.00
595013911	●	-	-	-	3.510	0.13819	23.00	62.00	6.00
595014211	●	-	-	-	3.600	0.14173	23.00	62.00	6.00
595014611	●	-	-	-	3.700	0.14567	23.00	62.00	6.00
595015011	●	-	-	-	3.800	0.14961	24.00	62.00	6.00
595015411	●	-	-	-	3.900	0.15354	24.00	62.00	6.00
595015611	●	5/32	-	-	3.969	0.15625	24.00	62.00	6.00
595015711	●	-	-	-	4.000	0.15748	24.00	62.00	6.00
595016111	●	-	-	-	4.100	0.16142	26.00	68.00	6.00
595016311	●	-	-	-	4.150	0.16339	26.00	68.00	6.00
595016511	●	-	-	-	4.200	0.16535	26.00	68.00	6.00
595016911	●	-	-	-	4.300	0.16929	27.00	68.00	6.00
595017111	●	11/64	-	-	4.366	0.17188	27.00	68.00	6.00
595017311	●	-	-	-	4.400	0.17323	27.00	68.00	6.00
595017711	●	-	-	-	4.500	0.17717	27.00	68.00	6.00
595018111	●	-	-	-	4.600	0.18110	29.00	68.00	6.00
595018511	●	-	-	-	4.700	0.18504	29.00	68.00	6.00
595018711	●	3/16	-	-	4.763	0.18750	29.00	68.00	6.00
595018911	●	-	-	-	4.800	0.18898	30.00	68.00	6.00
595019311	●	-	-	-	4.900	0.19291	30.00	68.00	6.00
595019711	●	-	-	-	5.000	0.19685	30.00	68.00	6.00
595020111	●	-	-	-	5.100	0.20079	26.00	74.00	6.00
595020311	●	13/64	-	-	5.159	0.20313	26.00	74.00	6.00
595020511	●	-	-	-	5.200	0.20472	26.00	74.00	6.00
595020611	●	-	-	-	5.220	0.20550	28.00	74.00	6.00
595020911	●	-	-	-	5.300	0.20866	28.00	74.00	6.00
595021311	●	-	-	-	5.400	0.21260	28.00	74.00	6.00
595021711	●	-	-	-	5.500	0.21654	28.00	74.00	6.00
595021611	●	-	-	-	5.530	0.21772	29.00	74.00	6.00
595021811	●	7/32	-	-	5.556	0.21875	29.00	74.00	6.00
595021911	●	-	-	-	5.560	0.21890	29.00	74.00	6.00
595022011	●	-	-	-	5.600	0.22047	29.00	74.00	6.00
595022411	●	-	-	-	5.700	0.22441	29.00	74.00	6.00
595022811	●	-	-	-	5.800	0.22835	30.00	74.00	6.00
595023211	●	-	-	-	5.900	0.23228	30.00	74.00	6.00
595023411	●	15/64	-	-	5.953	0.23438	30.00	74.00	6.00
595023611	●	-	-	-	6.000	0.23622	30.00	74.00	6.00
595025011	●	1/4	-	-	6.350	0.25000	33.00	83.00	8.00
595025611	●	-	-	-	6.500	0.25591	33.00	83.00	8.00
595026211	●	-	-	-	6.650	0.26181	34.00	83.00	8.00
595026511	●	17/64	-	-	6.747	0.26563	35.00	83.00	8.00
595026811	●	-	-	-	6.800	0.26772	35.00	83.00	8.00
595027411	●	-	-	-	6.960	0.27402	35.00	83.00	8.00
595027611	●	-	-	-	7.000	0.27559	35.00	83.00	8.00
595028111	●	9/32	-	-	7.144	0.28125	36.00	94.00	8.00
595029511	●	-	-	-	7.500	0.29528	38.00	94.00	8.00
595029611	●	19/64	-	-	7.541	0.29688	39.00	94.00	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

List 5950Ni (Continued)

EXOPRO WHO-NI-3D

SPEED FEED 323 | CARBIDE | DUROREY | 2 FLUTE | STUB | 12-20° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
595030711	●	-	-	-	7.800	0.30709	40.00	94.00	8.00
595031211	●	5/16	-	-	7.938	0.31250	40.00	94.00	8.00
595031511	●	-	-	-	8.000	0.31496	40.00	94.00	8.00
595031711	●	-	-	-	8.040	0.31654	41.00	101.00	10.00
595032811	●	21/64	-	-	8.334	0.32813	43.00	101.00	10.00
595033411	●	-	-	-	8.500	0.33465	43.00	101.00	10.00
595033511	●	-	-	-	8.520	0.33543	44.00	101.00	10.00
595033811	●	-	-	-	8.580	0.33780	44.00	101.00	10.00
595034211	●	-	-	-	8.700	0.34252	44.00	101.00	10.00
595034311	●	11/32	-	-	8.731	0.34375	45.00	101.00	10.00
595034611	●	-	-	-	8.800	0.34646	45.00	101.00	10.00
595035411	●	-	-	-	9.000	0.35433	45.00	101.00	10.00
595035911	●	23/64	-	-	9.128	0.35938	46.00	106.00	10.00
595037011	●	-	-	-	9.390	0.36969	48.00	106.00	10.00
595037411	●	-	-	-	9.500	0.37402	48.00	106.00	10.00
595037511	●	3/8	-	-	9.525	0.37500	49.00	106.00	10.00
595038611	●	-	-	-	9.800	0.38583	50.00	106.00	10.00
595038911	●	-	-	-	9.900	0.38976	50.00	106.00	10.00
595039011	●	25/64	-	-	9.922	0.39063	50.00	106.00	10.00
595039311	●	-	-	-	9.970	0.39252	50.00	106.00	10.00
595039411	●	-	-	-	10.000	0.39370	50.00	106.00	10.00
595040511	●	-	-	-	10.300	0.40551	53.00	113.00	12.00
595040611	●	13/32	-	-	10.319	0.40625	53.00	113.00	12.00
595041311	●	-	-	-	10.500	0.41339	53.00	113.00	12.00
595042211	●	27/64	-	-	10.716	0.42188	55.00	113.00	12.00
595042511	●	-	-	-	10.800	0.42520	55.00	113.00	12.00
595042611	●	-	-	-	10.830	0.42638	55.00	113.00	12.00
595043311	●	-	-	-	11.000	0.43307	55.00	113.00	12.00
595043711	●	7/16	-	-	11.113	0.43750	56.00	120.00	12.00
595045211	●	-	-	-	11.470	0.45157	58.00	120.00	12.00
595045411	●	-	-	-	11.500	0.45276	58.00	120.00	12.00
595045311	●	29/64	-	-	11.509	0.45313	59.00	120.00	12.00
595045511	●	-	-	-	11.560	0.45512	59.00	120.00	12.00
595046511	●	-	-	-	11.800	0.46457	60.00	120.00	12.00
595046811	●	15/32	-	-	11.906	0.46875	60.00	120.00	12.00
595047211	●	-	-	-	12.000	0.47244	60.00	120.00	12.00
595048411	●	31/64	-	-	12.303	0.48438	63.00	128.00	14.00
595050011	●	1/2	-	-	12.700	0.50000	65.00	128.00	14.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	◎	○				○			◎		○	○	◎	○

○ Good ◎ Best

List 5955Ni

EXOPRO WHO-NI-5D

SPEED FEED 323 | CARBIDE | DUROREY | 2 FLUTE | JOBBER | 12-20° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
D = 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
595511811	●	-	-	-	3.000	0.11811	29.00	78.00	6.00
595512511	●	1/8	-	-	3.175	0.12500	29.00	78.00	6.00
3316330	●	-	-	-	3.300	0.12992	32.00	78.00	6.00
3316340	●	-	-	-	3.400	0.13386	32.00	78.00	6.00
3316349	●	-	-	-	3.490	0.13740	32.00	78.00	6.00
3316350	●	-	-	-	3.500	0.13780	32.00	78.00	6.00
595513911	●	-	-	-	3.510	0.13819	34.00	78.00	6.00
3316360	●	-	-	-	3.600	0.14173	34.00	78.00	6.00
3316370	●	-	-	-	3.700	0.14567	34.00	78.00	6.00
3316380	●	-	-	-	3.800	0.14961	36.00	78.00	6.00
3316390	●	-	-	-	3.900	0.15354	36.00	78.00	6.00
595515611	●	5/32	-	-	3.969	0.15625	36.00	78.00	6.00
3316400	●	-	-	-	4.000	0.15748	36.00	78.00	6.00
3316410	●	-	-	-	4.100	0.16142	38.00	88.00	6.00
3316415	●	-	-	-	4.150	0.16339	38.00	88.00	6.00
3316420	●	-	-	-	4.200	0.16535	38.00	88.00	6.00
3316430	●	-	-	-	4.300	0.16929	41.00	88.00	6.00
595517111	●	11/64	-	-	4.366	0.17188	41.00	88.00	6.00
3316440	●	-	-	-	4.400	0.17323	41.00	88.00	6.00
3316450	●	-	-	-	4.500	0.17717	41.00	88.00	6.00
3316460	●	-	-	-	4.600	0.18110	43.00	88.00	6.00
3316470	●	-	-	-	4.700	0.18504	43.00	88.00	6.00
595518711	●	3/16	-	-	4.763	0.18750	45.00	88.00	6.00
3316480	●	-	-	-	4.800	0.18898	45.00	88.00	6.00
3316490	●	-	-	-	4.900	0.19291	45.00	88.00	6.00
3316500	●	-	-	-	5.000	0.19685	45.00	88.00	6.00
3316510	●	-	-	-	5.100	0.20079	42.00	92.00	6.00
595520311	●	13/64	-	-	5.159	0.20313	42.00	92.00	6.00
3316520	●	-	-	-	5.200	0.20472	42.00	92.00	6.00
595520611	●	-	-	-	5.220	0.20550	44.00	92.00	6.00
3316530	●	-	-	-	5.300	0.20866	44.00	92.00	6.00
3316540	●	-	-	-	5.400	0.21260	44.00	92.00	6.00
3316550	●	-	-	-	5.500	0.21654	44.00	92.00	6.00
595521611	●	-	-	-	5.530	0.21772	46.00	92.00	6.00
595521811	●	7/32	-	-	5.556	0.21875	46.00	92.00	6.00
3316556	●	-	-	-	5.560	0.21890	46.00	92.00	6.00
3316560	●	-	-	-	5.600	0.22047	46.00	92.00	6.00
3316570	●	-	-	-	5.700	0.22441	46.00	92.00	6.00
3316580	●	-	-	-	5.800	0.22835	48.00	92.00	6.00
3316590	●	-	-	-	5.900	0.23228	48.00	92.00	6.00
595523411	●	15/64	-	-	5.953	0.23438	48.00	92.00	6.00
3316600	●	-	-	-	6.000	0.23622	48.00	92.00	6.00
595525011	●	1/4	-	-	6.350	0.25000	52.00	102.00	8.00
3316650	●	-	-	-	6.500	0.25591	52.00	102.00	8.00
595526211	●	-	-	-	6.650	0.26181	54.00	102.00	8.00
595526511	●	17/64	-	-	6.747	0.26563	55.00	102.00	8.00
3316680	●	-	-	-	6.800	0.26772	56.00	102.00	8.00
595527411	●	-	-	-	6.960	0.27402	56.00	102.00	8.00
3316700	●	-	-	-	7.000	0.27559	56.00	102.00	8.00
595528111	●	9/32	-	-	7.144	0.28125	58.00	118.00	8.00
3316750	●	-	-	-	7.500	0.29528	60.00	118.00	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

List 5955Ni (Continued)

EXOPRO WHO-NI-5D

SPEED FEED 323 | CARBIDE | DURO/REY | 2 FLUTE | JOBBER | 12-20° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
595529611	●	19/64	-	-	7.541	0.29688	62.00	118.00	8.00
3316780	●	-	-	-	7.800	0.30709	64.00	118.00	8.00
595531211	●	5/16	-	-	7.938	0.31250	64.00	118.00	8.00
3316800	●	-	-	-	8.000	0.31496	64.00	118.00	8.00
595531711	●	-	-	-	8.040	0.31654	66.00	128.00	10.00
595532811	●	21/64	-	-	8.334	0.32813	68.00	128.00	10.00
3316850	●	-	-	-	8.500	0.33465	68.00	128.00	10.00
595533511	●	-	-	-	8.520	0.33543	70.00	128.00	10.00
3316858	●	-	-	-	8.580	0.33780	70.00	128.00	10.00
3316870	●	-	-	-	8.700	0.34252	70.00	128.00	10.00
595534311	●	11/32	-	-	8.731	0.34375	70.00	128.00	10.00
3316880	●	-	-	-	8.800	0.34646	72.00	128.00	10.00
3316900	●	-	-	-	9.000	0.35433	72.00	128.00	10.00
595535911	●	23/64	-	-	9.128	0.35938	74.00	136.00	10.00
595537011	●	-	-	-	9.390	0.36969	76.00	136.00	10.00
3316950	●	-	-	-	9.500	0.37402	76.00	136.00	10.00
595537511	●	3/8	-	-	9.525	0.37500	78.00	136.00	10.00
3316980	●	-	-	-	9.800	0.38583	80.00	136.00	10.00
595538911	●	-	-	-	9.900	0.38976	80.00	136.00	10.00
595539011	●	25/64	-	-	9.922	0.39063	80.00	136.00	10.00
3316997	●	-	-	-	9.970	0.39252	80.00	136.00	10.00
3317000	●	-	-	-	10.000	0.39370	80.00	136.00	10.00
3317030	●	-	-	-	10.300	0.40551	84.00	146.00	12.00
595540611	●	13/32	-	-	10.319	0.40625	84.00	146.00	12.00
3317050	●	-	-	-	10.500	0.41339	84.00	146.00	12.00
595542211	●	27/64	-	-	10.716	0.42188	88.00	146.00	12.00
3317080	●	-	-	-	10.800	0.42520	88.00	146.00	12.00
595542611	●	-	-	-	10.830	0.42638	88.00	146.00	12.00
3317100	●	-	-	-	11.000	0.43307	88.00	146.00	12.00
595543711	●	7/16	-	-	11.113	0.43750	90.00	156.00	12.00
595545211	●	-	-	-	11.470	0.45157	92.00	156.00	12.00
3317150	●	-	-	-	11.500	0.45276	92.00	156.00	12.00
595545311	●	29/64	-	-	11.509	0.45313	94.00	156.00	12.00
3317156	●	-	-	-	11.560	0.45512	94.00	156.00	12.00
3317180	●	-	-	-	11.800	0.46457	96.00	156.00	12.00
595546811	●	15/32	-	-	11.906	0.46875	96.00	156.00	12.00
3317200	●	-	-	-	12.000	0.47244	96.00	156.00	12.00
595548411	●	31/64	-	-	12.303	0.48438	100.00	167.00	14.00
595550011	●	1/2	-	-	12.700	0.50000	104.00	167.00	14.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	◎	○				○			◎		○	○	◎	○

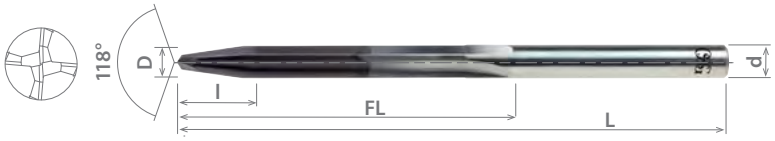
○ Good ◎ Best

List 7500

EXOPRO AERO-D-REAM, Tapered Drill/Reamer

SPEED FEED	CARBIDE	DIA	4 FLUTE	0°	SHANK	PACKED
324					h6	1 PIECE

Cutting Diameter Tolerance
inch
+0/-0.001



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Taper Length l (mm)	Overall Length L (mm)	Shank Diameter d (mm)
750009816	●	-	40	-	2.502	0.09850	14.50	5.00	76.20	2.50
750012816	●	-	30	-	3.264	0.12850	18.90	6.50	76.20	3.26
750012916	●	-	30	-	3.264	0.12850	31.90	6.50	152.40	3.26
750016116	●	-	20	-	4.102	0.16150	23.80	8.10	76.20	4.10
750016216	●	-	20	-	4.102	0.16150	40.10	8.10	152.40	4.10
750018716	●	3/16	-	-	4.763	0.18750	46.70	9.40	152.40	4.76
750019016	●	-	11	-	4.826	0.19000	47.30	9.50	101.60	4.82
750019116	●	-	11	-	4.826	0.19000	47.30	9.50	152.40	4.82
750019216	●	-	11	-	4.851	0.19100	47.30	9.60	101.60	4.85
750019316	●	-	11	-	4.851	0.19100	47.30	9.60	152.40	4.85
750019416	●	-	11	-	4.864	0.19200	28.30	9.60	76.20	4.87
750019516	●	-	11	-	4.864	0.19200	47.70	9.60	101.60	4.87
750019716	●	-	11	-	4.864	0.19200	47.70	9.60	152.40	4.87
750021816	●	7/32	-	-	5.537	0.21875	54.30	10.90	152.40	5.53
750022116	●	-	2	-	5.626	0.22150	55.20	11.10	101.60	5.62
750025316	●	1/4	-	-	6.375	0.25000	37.10	12.50	76.20	6.37
750025016	●	1/4	-	-	6.350	0.25000	62.30	12.50	101.60	6.35
750025116	●	1/4	-	-	6.350	0.25000	62.30	12.50	152.40	6.35
750025416	●	1/4	-	-	6.375	0.25000	62.60	12.50	101.60	6.37
750025516	●	1/4	-	-	6.375	0.25000	62.60	12.50	152.40	6.37
750031216	●	5/16	-	-	7.938	0.31250	46.20	15.50	101.60	7.93
750031416	●	5/16	-	-	7.963	0.31250	46.30	15.60	101.60	7.96
750031316	●	5/16	-	-	7.938	0.31250	62.00	15.50	152.40	7.93
750031516	●	5/16	-	-	7.963	0.31250	62.20	15.60	152.40	7.96
750037516	●	3/8	-	-	9.525	0.37500	55.40	18.60	101.60	9.52
750037716	●	3/8	-	-	9.550	0.37500	55.50	18.70	101.60	9.55
750037616	●	3/8	-	-	9.525	0.37500	74.40	18.60	152.40	9.52
750037816	●	3/8	-	-	9.550	0.37500	74.60	18.70	152.40	9.55
750043816	●	7/16	-	-	11.138	0.43750	64.80	21.70	101.60	11.13
750050116	●	1/2	-	-	12.725	0.50000	99.50	24.80	152.40	12.72

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Drills are oversize over nominal. Tri-Flat Shank available upon request.

EP

Tri-Flat Shank



Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	○		◎	◎		◎		◎			

○ Good ◎ Best

List 7501

EXOPRO AERO-STAD, Triple Angle

SPEED FEED	CARBIDE	DIA	2 FLUTE	0°	SHANK	PACKED
324					h6	1 PIECE

Cutting Diameter Tolerance
inch
+0 / -0.001



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Taper Length l (mm)	Overall Length L (mm)	Shank Diameter d (mm)
750109816	●	-	40	-	2.502	0.09850	15.20	3.80	50.80	2.50
750112916	●	-	30	-	3.277	0.12900	20.30	4.80	50.80	3.27
750116116	●	-	20	-	4.102	0.16150	25.40	5.90	76.20	4.10
750119116	●	-	11	-	4.864	0.19150	27.90	7.00	76.20	4.86
750119216	●	-	11	-	4.864	0.19150	48.20	7.00	101.60	4.86
750122116	●	-	2	-	5.626	0.22150	33.00	8.00	88.90	5.62
750125116	●	1/4	-	-	6.375	0.25000	38.10	9.00	88.90	6.37
750125216	●	1/4	-	-	6.375	0.25000	63.50	9.00	139.70	6.37
750131316	●	5/16	-	-	7.963	0.31250	48.20	11.20	101.60	7.96
750137616	●	3/8	-	-	9.550	0.37500	58.40	13.40	101.60	9.55
750137716	●	3/8	-	-	9.550	0.37500	96.50	13.40	152.40	9.55
750143816	●	7/16	-	-	11.138	0.43750	66.00	15.50	101.60	11.13
750150116	●	1/2	-	-	12.725	0.50000	76.20	17.70	127.00	12.72

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Drills are oversize over nominal. Tri-Flat Shank available upon request.

EP

Tri-Flat Shank



Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	○		◎	◎		◎	○	◎	○		

○ Good ◎ Best

List 7520

EXOPRO AERO-LHX, Low Helix

SPEED FEED 324 | CARBIDE | DIA | 4 FLUTE | 5° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance
inch
+0 / -0.001



EDP Number		Diameter (D)					Flute Length	Taper Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	l (mm)	L (mm)	d (mm)
752009816	●	-	40	-	2.502	0.09850	15.20	7.00	50.80	2.50
752012916	●	-	30	-	3.277	0.12900	20.30	9.00	50.80	3.27
752016116	●	-	20	-	4.102	0.16150	25.40	11.20	76.20	4.10
752019216	●	-	11	-	4.864	0.19150	27.90	13.20	76.20	4.86
752022116	●	-	2	-	5.626	0.22150	33.00	15.20	88.90	5.62
752025116	●	1/4	-	-	6.375	0.25000	38.10	17.20	88.90	6.37
752031316	●	5/16	-	-	7.963	0.31250	48.20	21.40	101.60	7.96
752037616	●	3/8	-	-	9.550	0.37500	58.40	25.60	101.60	9.55
752043816	●	7/16	-	-	11.138	0.43750	66.00	29.80	101.60	11.13
752050116	●	1/2	-	-	12.725	0.50000	76.20	34.00	127.00	12.72

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Drills are oversize over nominal.

EP

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	○		◎	◎		◎		◎			

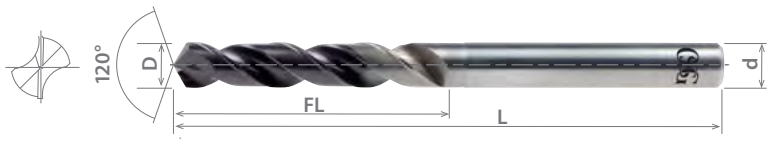
○ Good ◎ Best

List 7530

EXOPRO AERO-S, High Helix

SPEED FEED 325 | CARBIDE | DIA | 2 FLUTE | JOBBER | 40° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance
inch
+0 / -0.001



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
753009816	●	-	40	-	2.502	0.09850	15.20	50.80	2.50
753012916	●	-	30	-	3.277	0.12900	20.30	76.20	3.27
753016116	●	-	20	-	4.102	0.16150	25.40	101.60	4.10
753019116	●	-	11	-	4.864	0.19150	27.90	101.60	4.86
753022116	●	-	2	-	5.626	0.22150	33.00	101.60	5.62
753025116	●	1/4	-	-	6.375	0.25000	38.10	101.60	6.37
753031316	●	5/16	-	-	7.963	0.31250	48.20	101.60	7.96
753037616	●	3/8	-	-	9.550	0.37500	58.40	152.40	9.55
753043816	●	7/16	-	-	11.138	0.43750	66.00	152.40	11.13
753050116	●	1/2	-	-	12.725	0.50000	76.20	152.40	12.72

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Drills are oversize over nominal.

EP

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb CFRP/ Nomex	Honeycomb GFRP/ Nomex	Honeycomb AFRP	Honeycomb CFRP/Al	Honeycomb Al/Al	Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
◎	◎		○	○		◎	◎		◎		

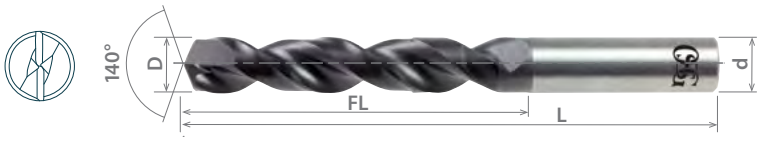
○ Good ◎ Best

List 7532

EXOPRO AERO-H, Stack Drill

SPEED FEED	CARBIDE	DIA	2 FLUTE	JOBBER	40°	SHANK	PACKED
326						h6	1 PIECE

Cutting Diameter Tolerance
inch
+0 / -0.001



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
753209816	●	-	40	-	2.502	0.09850	15.20	50.80	2.50
753212916	●	-	30	-	3.277	0.12900	20.30	76.20	3.27
753216116	●	-	20	-	4.102	0.16150	25.40	101.60	4.10
753219116	●	-	11	-	4.864	0.19150	27.90	101.60	4.86
753222116	●	-	2	-	5.626	0.22150	33.00	101.60	5.62
753225116	●	1/4	-	-	6.375	0.25000	38.10	101.60	6.37
753231316	●	5/16	-	-	7.963	0.31250	48.20	101.60	7.96
753237616	●	3/8	-	-	9.550	0.37500	58.40	152.40	9.55
753243816	●	7/16	-	-	11.138	0.43750	66.00	152.40	11.13
753250116	●	1/2	-	-	12.725	0.50000	76.20	152.40	12.72

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Drills are oversize over nominal.

EP

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb CFRP/ Nomex	Honeycomb GFRP/ Nomex	Honeycomb AFRP	Honeycomb CFRP/Al	Honeycomb Al/Al	Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
◎									○	◎	◎

○ Good ◎ Best

List 5732

EXOCARB AERO-H, Stack Drill

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	JOBBER	40°	SHANK	PACKED
326						h6	1 PIECE

Cutting Diameter Tolerance
inch
+0 / -0.0011



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
573219111	●	-	11	-	4.864	0.19150	50.80	101.60	4.86
573225111	●	1/4	-	-	6.375	0.25000	50.80	101.60	6.37
573237611	●	3/8	-	-	9.550	0.37600	50.80	101.60	9.55
573250111	●	1/2	-	-	12.725	0.50100	101.60	152.40	12.72

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Drills are oversize over nominal.

HTE

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb CFRP/ Nomex	Honeycomb GFRP/ Nomex	Honeycomb AFRP	Honeycomb CFRP/Al	Honeycomb Al/Al	Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
◎									○	◎	◎

○ Good ◎ Best

HY-PRO® CARB NEPTUNE®

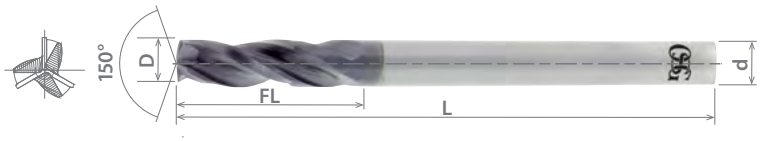
Three Flute Drill for Hand Drilling Tough Materials

List HP700

HY-PRO CARB NEPTUNE

SPEED FEED	CARBIDE	TiAlN	3 FLUTE	JOBBER	30°	SHANK	PACKED
327						h6	1 PIECE

Cutting Diameter Tolerance
inch
+0 / -0.001



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Pilot Diameter Da (mm)	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
HP700-0980	●	-	40	-	2.490	0.09800	-	12.70	38.10	2.48
HP700-1285	●	-	30	-	3.260	0.12850	-	12.70	38.10	3.26
HP700-1610	●	-	20	-	4.090	0.16100	-	12.70	38.10	4.08
HP700-1910	●	-	11	-	4.850	0.19100	-	12.70	38.10	4.85
HP700-2500	●	1/4	-	-	6.350	0.25000	-	12.70	38.10	6.35
HP700-2512	●	1/4	-	-	6.350	0.25000	4.090	15.80	38.10	6.35

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Tri-Flat shank available upon request.

HPC

Tri-Flat Shank



Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎									◎	◎	◎

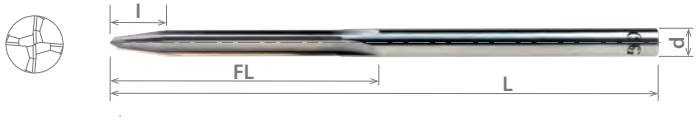
○ Good ◎ Best

List 257

OSG CARBIDE AERO-D-REAM, Tapered Drill/Reamer

SPEED FEED	CARBIDE	BR	4 FLUTE	0°	SHANK	PACKED
324					h6	1 PIECE

Cutting Diameter Tolerance
inch
+0.0005 / -0



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Taper Length l (mm)	Overall Length L (mm)	Shank Diameter d (mm)
257-0980	●	-	40	-	2.489	0.09800	14.40	5.10	76.20	2.48
257-1094	●	7/64	-	-	2.779	0.10938	16.10	5.60	76.20	2.77
257-1250	●	1/8	-	-	3.175	0.12500	18.40	6.40	76.20	3.17
257-1280	●	-	-	-	3.251	0.12800	31.90	6.50	152.40	3.25
257-1285	●	-	30	-	3.264	0.12850	18.90	6.60	76.20	3.26
257-1286	●	-	-	-	3.264	0.12850	32.00	6.60	152.40	3.26
257-1299	●	-	-	-	3.299	0.12990	19.20	6.60	76.20	3.29
257-1406	●	9/64	-	-	3.571	0.14063	20.70	7.20	76.20	3.57
257-1440	●	-	27	-	3.658	0.14400	21.20	7.30	76.20	3.65
257-1562	●	5/32	-	-	3.970	0.15625	23.00	7.90	76.20	3.96
257-1570	●	-	22	-	3.988	0.15700	23.20	8.00	76.20	3.98
257-1610	●	-	20	-	4.089	0.16100	23.70	8.20	76.20	4.08
257-1616	●	-	20	-	4.089	0.16100	40.10	8.20	152.40	4.08
257-1630	●	-	-	-	4.140	0.16300	24.10	8.30	76.20	4.14
257-1719	●	11/64	-	-	4.366	0.17188	25.40	8.70	76.20	4.36
257-1870	●	-	-	-	4.750	0.18700	27.60	9.40	76.20	4.74
257-1875	●	3/16	-	-	4.763	0.18750	27.70	9.50	76.20	4.76
257-1900	●	-	-	-	4.826	0.19000	47.30	9.60	101.60	4.82
257-1906	●	-	-	-	4.826	0.19000	47.30	9.60	152.40	4.82
257-1910	●	-	11	-	4.851	0.19100	47.60	9.60	76.20	4.85
257-1916	●	-	11	-	4.851	0.19100	47.60	9.60	101.60	4.85
257-1920	●	-	-	-	4.877	0.19200	47.80	9.70	101.60	4.87
257-1930	●	-	-	-	4.902	0.19300	48.10	9.70	101.60	4.90
257-1935	●	-	10	-	4.915	0.19350	48.20	9.80	101.60	4.91
257-1940	●	-	-	-	4.928	0.19400	48.30	9.80	101.60	4.92
257-2010	●	-	7	-	5.105	0.20100	50.10	10.10	101.60	5.10
257-2031	●	13/64	-	-	5.159	0.20313	50.60	10.20	101.60	5.15
257-2040	●	-	6	-	5.182	0.20400	50.80	10.30	101.60	5.18
257-2055	●	-	5	-	5.220	0.20550	51.20	10.40	101.60	5.21
257-2180	●	-	-	-	5.537	0.21800	54.30	11.00	101.60	5.53
257-2186	●	7/32	-	-	5.558	0.21875	54.30	11.00	152.40	5.55
257-2188	●	7/32	-	-	5.558	0.21875	54.50	11.00	101.60	5.55
257-2210	●	-	2	-	5.613	0.22100	55.10	11.10	101.60	5.61
257-2280	●	-	1	-	5.791	0.22800	56.80	11.50	101.60	5.79
257-2344	●	15/64	-	-	5.954	0.23438	58.40	11.80	101.60	5.95

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Brazed shanks available on request: Threaded, Quick Change and Tri-Flat.

HYE

Threaded Shank



Quick Change Shank



Tri-Flat Shank



CONTINUED ›

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb CFRP/ Nomex	Honeycomb GFRP/ Nomex	Honeycomb AFRP	Honeycomb CFRP/Al	Honeycomb Al/Al	Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
◎	○		◎	◎		◎	◎	◎			

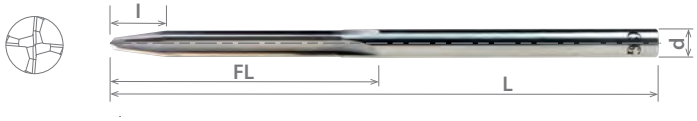
○ Good ◎ Best

List 257 (Continued)

OSG CARBIDE AERO-D-REAM, Tapered Drill/Reamer

SPEED FEED	CARBIDE	BR	4 FLUTE	0°	SHANK h6	PACKED
324						1 PIECE

Cutting Diameter Tolerance
inch
+0.0005 / -0



EDP Number		Diameter (D)					Flute Length	Taper Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	l (mm)	L (mm)	d (mm)
257-2500	●	1/4	-	-	6.350	0.25000	54.30	12.50	101.60	6.35
257-2506	●	1/4	-	-	6.350	0.25000	62.30	12.60	152.40	6.35
257-2510	●	-	-	-	6.375	0.25100	62.60	12.60	101.60	6.37
257-2516	●	-	-	-	6.375	0.25100	62.60	12.60	152.40	6.37
257-2520	●	-	-	-	6.401	0.25200	62.80	12.60	101.60	6.40
257-2530	●	-	-	-	6.426	0.25300	63.00	12.70	101.60	6.42
257-2656	●	17/64	-	-	6.746	0.26563	66.20	13.30	101.60	6.74
257-2812	●	9/32	-	-	7.145	0.28125	70.10	14.10	101.60	7.14
257-2969	●	19/64	-	-	7.541	0.29688	74.00	14.90	101.60	7.54
257-3120	●	-	-	-	7.925	0.31200	46.10	15.60	101.60	7.92
257-3125	●	5/16	-	-	7.938	0.31250	46.20	15.60	101.60	7.93
257-3135	●	-	-	-	7.963	0.31350	46.30	15.70	101.60	7.96
257-3280	●	21/64	-	-	8.334	0.32813	48.40	16.40	101.60	8.33
257-3438	●	11/32	-	-	8.733	0.34375	50.80	17.20	101.60	8.73
257-3500	●	-	-	-	8.890	0.35000	51.70	17.50	101.60	8.89
257-3594	●	23/64	-	-	9.129	0.35938	53.10	17.90	101.60	9.12
257-3750	●	3/8	-	-	9.525	0.37500	55.40	18.70	101.60	9.52
257-3756	●	3/8	-	-	9.525	0.37500	74.40	18.70	152.40	9.52
257-3906	●	25/64	-	-	9.921	0.39063	77.40	19.40	152.40	9.90
257-4066	●	13/32	-	-	10.320	0.40625	80.60	20.20	152.40	10.31
257-4376	●	7/16	-	-	11.113	0.43750	86.80	21.80	152.40	11.11
257-5006	●	1/2	-	-	12.700	0.50000	99.30	24.90	152.40	12.70

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Brazed shanks available on request: Threaded, Quick Change and Tri-Flat.

HYE







Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	○		◎	◎		◎	◎	◎			

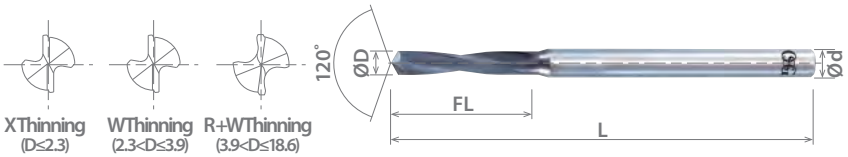
○ Good ◎ Best

List 5171

EXOCARB® WH70-DRL, 55-70 HRC

SPEED FEED	CARBIDE			JOBBER		SHANK	PACKED
328		WXS	2 FLUTE		12°	h6	1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 18.6	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
3318200	●	-	-	-	2.000	0.07874	12.00	42.00	3.00
3318210	●	-	-	-	2.100	0.08268	12.00	42.00	3.00
3318220	●	-	-	-	2.200	0.08661	13.00	43.00	3.00
3318230	●	-	-	-	2.300	0.09055	13.00	43.00	3.00
3318240	●	-	-	-	2.400	0.09449	14.00	44.00	3.00
3318250	●	-	-	-	2.500	0.09843	14.00	44.00	3.00
3318260	●	-	-	-	2.600	0.10236	14.00	44.00	3.00
3318270	●	-	-	-	2.700	0.10630	16.00	46.00	3.00
3318280	●	-	-	-	2.800	0.11024	16.00	46.00	3.00
3318290	●	-	-	-	2.900	0.11417	16.00	46.00	3.00
3318300	●	-	-	-	3.000	0.11811	16.00	46.00	3.00
3318310	●	-	-	-	3.100	0.12205	18.00	48.00	4.00
3318320	●	-	-	-	3.200	0.12598	18.00	48.00	4.00
3318330	●	-	-	-	3.300	0.12992	18.00	48.00	4.00
3318340	●	-	-	-	3.400	0.13386	20.00	50.00	4.00
3318350	●	-	-	-	3.500	0.13780	20.00	50.00	4.00
3318360	●	-	-	-	3.600	0.14173	20.00	50.00	4.00
3318370	●	-	-	-	3.700	0.14567	20.00	50.00	4.00
3318380	●	-	-	-	3.800	0.14961	22.00	52.00	4.00
3318390	●	-	-	-	3.900	0.15354	22.00	52.00	4.00
3318400	●	-	-	-	4.000	0.15748	22.00	52.00	4.00
3318410	●	-	-	-	4.100	0.16142	25.00	68.00	5.00
3318420	●	-	-	-	4.200	0.16535	25.00	68.00	5.00
3318430	●	-	-	-	4.300	0.16929	28.00	68.00	5.00
3318440	●	-	-	-	4.400	0.17323	28.00	68.00	5.00
3318450	●	-	-	-	4.500	0.17717	28.00	68.00	5.00
3318460	●	-	-	-	4.600	0.18110	28.00	68.00	5.00
3318470	●	-	-	-	4.700	0.18504	28.00	68.00	5.00
3318480	●	-	-	-	4.800	0.18898	32.00	68.00	5.00
3318490	●	-	-	-	4.900	0.19291	32.00	68.00	5.00
3318500	●	-	-	-	5.000	0.19685	32.00	68.00	5.00
3318510	●	-	-	-	5.100	0.20079	32.00	74.00	6.00
3318520	●	-	-	-	5.200	0.20472	32.00	74.00	6.00
3318530	●	-	-	-	5.300	0.20866	32.00	74.00	6.00
3318540	●	-	-	-	5.400	0.21260	35.00	74.00	6.00
3318550	●	-	-	-	5.500	0.21654	35.00	74.00	6.00
3318560	●	-	-	-	5.600	0.22047	35.00	74.00	6.00
3318570	●	-	-	-	5.700	0.22441	35.00	74.00	6.00
3318580	●	-	-	-	5.800	0.22835	35.00	74.00	6.00
3318590	●	-	-	-	5.900	0.23228	35.00	74.00	6.00
3318600	●	-	-	-	6.000	0.23622	35.00	74.00	6.00
3318610	●	-	-	-	6.100	0.24016	40.00	83.00	7.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: EXOCARB VX taps recommended.

HTE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													◎

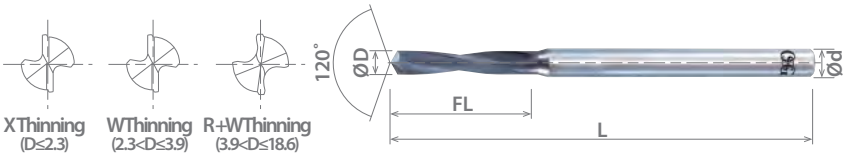
○ Good ◎ Best

List 5171 (Continued)

EXOCARB® WH70-DRL, 55-70 HRC

SPEED FEED	CARBIDE		2 FLUTE	JOBBER		SHANK	PACKED
328		WXS			12°	h6	1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 18.6	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
3318620	●	-	-	-	6.200	0.24409	40.00	83.00	7.00
3318630	●	-	-	-	6.300	0.24803	40.00	83.00	7.00
3318640	●	-	-	-	6.400	0.25197	40.00	83.00	7.00
3318650	●	-	-	-	6.500	0.25591	40.00	83.00	7.00
3318660	●	-	-	-	6.600	0.25984	40.00	83.00	7.00
3318670	●	-	-	-	6.700	0.26378	40.00	83.00	7.00
3318680	●	-	-	-	6.800	0.26772	45.00	83.00	7.00
3318690	●	-	-	-	6.900	0.27217	45.00	83.00	7.00
3318700	●	-	-	-	7.000	0.27559	45.00	83.00	7.00
3318710	●	-	-	-	7.100	0.27953	45.00	94.00	8.00
3318720	●	-	-	-	7.200	0.28346	45.00	94.00	8.00
3318730	●	-	-	-	7.300	0.28740	45.00	94.00	8.00
3318740	●	-	-	-	7.400	0.29134	45.00	94.00	8.00
3318750	●	-	-	-	7.500	0.29528	45.00	94.00	8.00
3318760	●	-	-	-	7.600	0.29921	50.00	94.00	8.00
3318770	●	-	-	-	7.700	0.30315	50.00	94.00	8.00
3318780	●	-	-	-	7.800	0.30709	50.00	94.00	8.00
3318790	●	-	-	-	7.900	0.31102	50.00	94.00	8.00
3318800	●	-	-	-	8.000	0.31496	50.00	94.00	8.00
3318810	●	-	-	-	8.100	0.31890	50.00	101.00	9.00
3318820	●	-	-	-	8.200	0.32283	50.00	101.00	9.00
3318830	●	-	-	-	8.300	0.32677	50.00	101.00	9.00
3318840	●	-	-	-	8.400	0.33071	50.00	101.00	9.00
3318850	●	-	-	-	8.500	0.33465	50.00	101.00	9.00
3318860	●	-	-	-	8.600	0.33858	57.00	101.00	9.00
3318870	●	-	-	-	8.700	0.34252	57.00	101.00	9.00
3318880	●	-	-	-	8.800	0.34646	57.00	101.00	9.00
3318890	●	-	-	-	8.900	0.35039	57.00	101.00	9.00
3318900	●	-	-	-	9.000	0.35433	57.00	101.00	9.00
3318910	●	-	-	-	9.100	0.35827	57.00	106.00	10.00
3318920	●	-	-	-	9.200	0.36220	57.00	106.00	10.00
3318930	●	-	-	-	9.300	0.36614	57.00	106.00	10.00
3318940	●	-	-	-	9.400	0.37008	57.00	106.00	10.00
3318950	●	-	-	-	9.500	0.37402	57.00	106.00	10.00
3318960	●	-	-	-	9.600	0.37795	63.00	106.00	10.00
3318970	●	-	-	-	9.700	0.38189	63.00	106.00	10.00
3318980	●	-	-	-	9.800	0.38583	63.00	106.00	10.00
3318990	●	-	-	-	9.900	0.38976	63.00	106.00	10.00
3319000	●	-	-	-	10.000	0.39370	63.00	106.00	10.00
3319010	●	-	-	-	10.100	0.39764	63.00	113.00	11.00
3319020	●	-	-	-	10.200	0.40157	63.00	113.00	11.00
3319030	●	-	-	-	10.300	0.40551	63.00	113.00	11.00
3319040	●	-	-	-	10.400	0.40945	63.00	113.00	11.00
3319050	●	-	-	-	10.500	0.41339	63.00	113.00	11.00
3319060	●	-	-	-	10.600	0.41732	63.00	113.00	11.00
3319070	●	-	-	-	10.700	0.42126	71.00	113.00	11.00
3319080	●	-	-	-	10.800	0.42520	71.00	113.00	11.00
3319090	●	-	-	-	10.900	0.42913	71.00	113.00	11.00
3319100	●	-	-	-	11.000	0.43307	71.00	113.00	11.00
3319110	●	-	-	-	11.100	0.43701	71.00	120.00	12.00
3319120	●	-	-	-	11.200	0.44094	71.00	120.00	12.00
3319130	●	-	-	-	11.300	0.44488	71.00	120.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: EXOCARB VX taps recommended.

HTE

List 5171 (Continued)

EXOCARB® WH70-DRL, 55-70 HRC

SPEED FEED	CARBIDE	WXS	2 FLUTE	JOBBER	12°	SHANK	PACKED
328						h6	1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
3319140	●	-	-	-	11.400	0.44882	71.00	120.00	12.00
3319150	●	-	-	-	11.500	0.45276	71.00	120.00	12.00
3319160	●	-	-	-	11.600	0.45669	71.00	120.00	12.00
3319170	●	-	-	-	11.700	0.46063	71.00	120.00	12.00
3319180	●	-	-	-	11.800	0.46457	71.00	120.00	12.00
3319190	●	-	-	-	11.900	0.46850	76.00	120.00	12.00
3319200	●	-	-	-	12.000	0.47244	76.00	120.00	12.00
517112113	●	-	-	-	12.100	0.47638	76.00	136.00	16.00
517112613	●	-	-	-	12.600	0.49606	79.00	139.00	16.00
517114113	●	-	-	-	14.100	0.55512	90.00	150.00	16.00
517114613	●	-	-	-	14.600	0.57480	90.00	150.00	16.00
517115613	●	-	-	-	15.600	0.61417	96.00	156.00	16.00
517116113	●	-	-	-	16.100	0.63386	102.00	162.00	20.00
517116613	●	-	-	-	16.600	0.65354	102.00	162.00	20.00
517117613	●	-	-	-	17.600	0.69291	108.00	168.00	20.00
517118613	●	-	-	-	18.600	0.73228	114.00	174.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: EXOCARB VX taps recommended.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													◎

○ Good ◎ Best

List 5172

SPEED FEED 328 | CARBIDE | BR | SHANK h7 | PACKED 1 PIECE

EXOCARB® EX-H-DRL, Tap Extractor

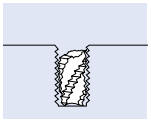


EDP Number		Diameter	Flute Length	Overall Length	Shank Diameter	Tap Types					
						Straight Fluted		Spiral Pointed		Spiral Fluted	
		D (mm)	FL (mm)	L (mm)	d (mm)	Metric	ANSI	Metric	ANSI	Metric	ANSI
87700	●	2-6 Set	-	-	-	-	-	-	-	-	-
87702	●	2.000	10.00	30.00	2.00	M3	#4, #5, #6	M3	#4, #5	M3	#4, #5, #6
87703	●	3.000	15.00	40.00	3.00	M4, M5	#8, #10	M4	#8, #10	M4, M5	#8, #10
87704	●	4.000	20.00	45.00	4.00	M6	1/4, 5/16	M5, M6	1/4	M6	1/4, 5/16
87705	●	5.000	25.00	50.00	5.00	M8, M10	3/8	-	5/16	M8, M10	5/8
87706	●	6.000	30.00	60.00	6.00	M12	7/16, 1/2	M8	3/8	M12	7/16, 1/2
87707	●	7.000	35.00	80.00	7.00	M14	9/16	M10	7/16	M14	9/16
87708	●	8.000	40.00	80.00	8.00	M16	5/8	M12	1/2	M16	5/8
87709	●	9.000	45.00	100.00	9.00	M18	3/4	M14	9/16	M18	3/4
87781	●	11.000	55.00	110.00	11.00	M22	7/8	M18	-	M22	7/8
87782	●	12.000	60.00	110.00	12.00	M24	1	M20	3/4	M24	1
87710	●	10.000	50.00	100.00	10.00	M20	-	M16	5/8	M20	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

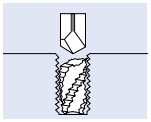
Note: For drill diameter selection, use the method outlined below. Straight Fluted & Spiral Fluted Taps: 0.46 (TapØ) < (DrillØ) < 0.75 (TapØ). Spiral Pointed Taps: 0.6 (TapØ) < (DrillØ) < 0.75 (TapØ).

HTE



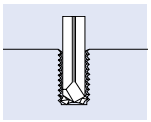
1. Broken Tap

Check how tap is broken. If any portion of the tap is protruding, grind the damaged surface of the tap flush with the workpiece. This will allow the damaged tap to be drilled easier.



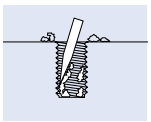
2. Centering of Drill

Position the drill over the center of the tap. Please make sure both the workpiece and drill are properly secured. Make an initial light drill approach, and then quickly retract the drill. For this step, do not use lubrication.



3. Hole Processing

Drill the hole at a fixed feed and speed, stopping the operation occasionally to remove broken chips. In addition, use plenty of high quality cutting oil.



4. Chip Removal

Once the tap has been broken up, the remaining portions of the tap can be removed. For best results, use a scriber. Once the hole is cleaned, tapping can be resumed.

Cutting Conditions and Procedures to Note

1. Use a drilling speed of 65-80SFM.
2. Hand feed of 0.0005~0.001 in/rev is normal.
3. Use a rigid holder.
4. Select a high quality cutting oil and apply in sufficient amounts.
5. This tool should not be used to drill soft steels, aluminum alloys or other soft materials.
6. Resharpening should be done periodically.
7. For through hole processing of heat treated steels, use a spare piece of material underneath the material being drilled as this will prevent breakage caused by sudden torque.
8. **Cannot be used to remove forming taps.**

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													◎

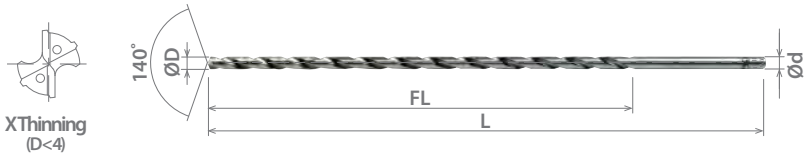
○ Good ◎ Best

List 5275

EXOCARB® CAO-GDXL, 15D-30D

SPEED FEED	CARBIDE	BR		2 FLUTE	TAPER	30°	SHANK h6	PACKED
329								1 PIECE

Cutting Diameter Tolerance (h8)		
Size	mm	inch
D=3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009



EDP Number		Diameter (D)					Drilling L/D Ratio	Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch		FL (mm)	L (mm)	d (mm)
8567130	●	-	-	-	3.000	0.11811	16	55.00	105.00	3.00
8567140	●	-	-	-	4.000	0.15748	17	75.00	125.00	4.00
8567340	●	-	-	-	4.000	0.15748	21	90.00	140.00	4.00
8567345	●	-	-	-	4.500	0.17717	22	110.00	165.00	5.00
8567150	●	-	-	-	5.000	0.19685	16	90.00	140.00	5.00
8567350	●	-	-	-	5.000	0.19685	21	115.00	165.00	5.00
8567450	●	-	-	-	5.000	0.19685	31	165.00	215.00	5.00
8567355	●	-	-	-	5.500	0.21654	23	140.00	190.00	6.00
8567455	●	-	-	-	5.500	0.21654	34	200.00	250.00	6.00
8567160	●	-	-	-	6.000	0.23622	16	110.00	160.00	6.00
8567360	●	-	-	-	6.000	0.23622	21	140.00	190.00	6.00
8567460	●	-	-	-	6.000	0.23622	31	200.00	250.00	6.00
8567165	●	-	-	-	6.500	0.25591	16	120.00	175.00	7.00
8567170	●	-	-	-	7.000	0.27559	16	125.00	175.00	7.00
8567370	●	-	-	-	7.000	0.27559	21	160.00	210.00	7.00
8567470	●	-	-	-	7.000	0.27559	31	230.00	280.00	7.00
8567180	●	-	-	-	8.000	0.31496	16	145.00	195.00	8.00
8567380	●	-	-	-	8.000	0.31496	21	180.00	230.00	8.00
8567480	●	-	-	-	8.000	0.31496	31	265.00	315.00	8.00
8567190	●	-	-	-	9.000	0.35433	16	160.00	210.00	9.00
8567390	●	-	-	-	9.000	0.35433	21	210.00	260.00	9.00
8567200	●	-	-	-	10.000	0.39370	16	180.00	240.00	10.00
8567400	●	-	-	-	10.000	0.39370	21	230.00	290.00	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

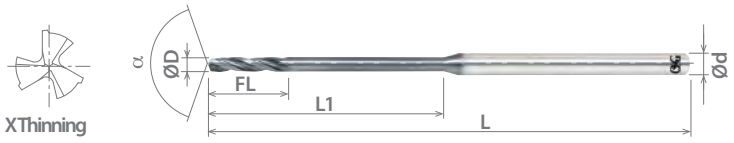
○ Good ◎ Best

List 5310

SPEED FEED 330 | CARBIDE | EXO® | 3 FLUTE | TAPER | 25° | SHANK h6 | PACKED 1 PIECE

EXOCARB® MAX-MINI FHL-GDTS, Miniature, Up to 20D, 40-65 HRC

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Point Angle α
8569010	●	-	-	-	1.000	0.03937	5.00	20.00	57.00	3.00	140
8569011	●	-	-	-	1.100	0.04331	5.50	20.00	57.00	3.00	140
8569012	●	-	-	-	1.200	0.04724	6.50	20.00	57.00	3.00	140
8569013	●	-	-	-	1.300	0.05118	6.50	20.00	57.00	3.00	140
8569014	●	-	-	-	1.400	0.05512	7.50	20.00	57.00	3.00	140
8569015	●	-	-	-	1.500	0.05906	7.50	20.00	57.00	3.00	140
8569016	●	-	-	-	1.600	0.06299	8.50	20.00	57.00	3.00	140
8569017	●	-	-	-	1.700	0.06693	8.50	20.00	57.00	3.00	140
8569018	●	-	-	-	1.800	0.07087	9.50	20.00	57.00	3.00	140
8569019	●	-	-	-	1.900	0.07480	9.50	20.00	57.00	3.00	140
8569020	●	-	-	-	2.000	0.07874	10.50	30.00	65.00	3.00	140
8569025	●	-	-	-	2.500	0.09843	13.00	30.00	65.00	3.00	120
8569030	●	-	-	-	3.000	0.11811	15.00	30.00	65.00	3.00	120

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Shrink fit holders recommended. Must utilize recommended peck cycle for optimum tool life.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340										○	○	◎	◎

○ Good ◎ Best

List 5315

EXOCARB® MAX-MINI UVM-LDS, Miniature, Pilot

SPEED FEED	CARBIDE	SS	2 FLUTE	30°	SHANK h3	PACKED
331						1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.05	+0 / -0.003	+0 / -0.0001



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8589205	●	-	-	-	0.050	0.00197	0.08	38.00	-	3.00
8589255	●	-	-	-	0.050	0.00197	0.08	38.00	0.125	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					◎	◎	◎		○	○	◎	○	○	○	◎	

○ Good ◎ Best

List 5320

EXOCARB® MAX-MINI UVM-DRL-5D, Miniature

SPEED FEED	CARBIDE	SS	2 FLUTE	JOBBER	30°	SHANK h3	PACKED 1 PIECE
331							

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.02 ≤ D ≤ 0.08	+0 / -0.003	+0 / -0.0001



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8589002	●	-	-	-	0.020	0.00079	0.12	38.00	-	3.00
8589052	●	-	-	-	0.020	0.00079	0.12	38.00	0.125	-
8589003	●	-	-	-	0.030	0.00118	0.18	38.00	-	3.00
8589053	●	-	-	-	0.030	0.00118	0.18	38.00	0.125	-
8589004	●	-	-	-	0.040	0.00157	0.24	38.00	-	3.00
8589054	●	-	-	-	0.040	0.00157	0.24	38.00	0.125	-
8589005	●	-	-	-	0.050	0.00197	0.30	38.00	-	3.00
8589055	●	-	-	-	0.050	0.00197	0.30	38.00	0.125	-
8589008	●	-	-	-	0.080	0.00315	0.48	38.00	-	3.00
8589058	●	-	-	-	0.080	0.00315	0.48	38.00	0.125	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					◎	◎	◎		○	○	◎	○	○	○	◎	

○ Good ◎ Best

List 5325

EXOCARB® MAX-MINI UVM-DRL-10D, Miniature

SPEED FEED	CARBIDE	SS	2 FLUTE	TAPER	30°	SHANK	PACKED
331						h3	1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.02 ≤ D ≤ 0.08	+0 / -0.003	+0 / -0.0001



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8589102	●	-	-	-	0.020	0.00079	0.22	38.00	-	3.00
8589152	●	-	-	-	0.020	0.00079	0.22	38.00	0.125	-
8589103	●	-	-	-	0.030	0.00118	0.33	38.00	-	3.00
8589153	●	-	-	-	0.030	0.00118	0.33	38.00	0.125	-
8589104	●	-	-	-	0.040	0.00157	0.44	38.00	-	3.00
8589154	●	-	-	-	0.040	0.00157	0.44	38.00	0.125	-
8589105	●	-	-	-	0.050	0.00197	0.55	38.00	-	3.00
8589155	●	-	-	-	0.050	0.00197	0.55	38.00	0.125	-
8589108	●	-	-	-	0.080	0.00315	0.88	38.00	-	3.00
8589158	●	-	-	-	0.080	0.00315	0.88	38.00	0.125	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					◎	◎	◎		○	○	◎	○	○	○	◎	

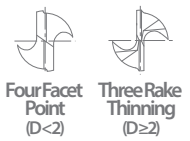
○ Good ◎ Best

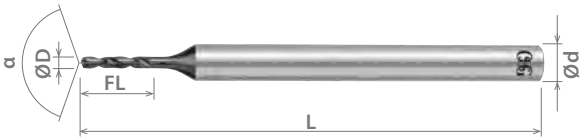
List 5330

EXOCARB® WX-MS-GDS, Precision Drill

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	JOBBER	30°	SHANK	PACKED
332						h6	1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.2 ≤ D ≤ 5	+0 / -0.010	+0 / -0.0004





EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
3300020	●	-	-	-	0.200	0.00787	1.50	38.00	3.00	140
3300021	●	-	-	-	0.210	0.00827	1.50	38.00	3.00	140
3300022	●	-	-	-	0.220	0.00866	1.50	38.00	3.00	140
3300023	●	-	-	-	0.230	0.00906	1.50	38.00	3.00	140
3300024	●	-	-	-	0.240	0.00945	1.50	38.00	3.00	140
3300025	●	-	-	-	0.250	0.00984	1.50	38.00	3.00	140
3300026	●	-	-	-	0.260	0.01024	1.50	38.00	3.00	140
3300027	●	-	-	-	0.270	0.01063	1.50	38.00	3.00	140
3300028	●	-	-	-	0.280	0.01102	1.50	38.00	3.00	140
3300029	●	-	-	-	0.290	0.01142	1.50	38.00	3.00	140
3300030	●	-	-	-	0.300	0.01181	1.50	38.00	3.00	140
3300031	●	-	-	-	0.310	0.01220	2.00	38.00	3.00	140
3300032	●	-	-	-	0.320	0.01260	2.00	38.00	3.00	140
3300033	●	-	-	-	0.330	0.01299	2.00	38.00	3.00	140
3300034	●	-	-	-	0.340	0.01339	2.00	38.00	3.00	140
3300035	●	-	-	-	0.350	0.01378	2.00	38.00	3.00	140
3300036	●	-	-	-	0.360	0.01417	2.00	38.00	3.00	140
3300037	●	-	-	-	0.370	0.01457	2.00	38.00	3.00	140
3300038	●	-	-	-	0.380	0.01496	2.00	38.00	3.00	140
3300039	●	-	-	-	0.390	0.01535	2.50	38.00	3.00	140
3300040	●	-	-	-	0.400	0.01575	2.50	38.00	3.00	140
3300041	●	-	-	-	0.410	0.01614	2.50	38.00	3.00	140
3300042	●	-	-	-	0.420	0.01654	2.50	38.00	3.00	140
3300043	●	-	-	-	0.430	0.01693	2.50	38.00	3.00	140
3300044	●	-	-	-	0.440	0.01732	2.50	38.00	3.00	140
3300045	●	-	-	-	0.450	0.01772	2.50	38.00	3.00	140
3300046	●	-	-	-	0.460	0.01811	2.50	38.00	3.00	140
3300047	●	-	-	-	0.470	0.01850	2.50	38.00	3.00	140
3300048	●	-	-	-	0.480	0.01890	2.50	38.00	3.00	140
3300049	●	-	-	-	0.490	0.01929	3.00	38.00	3.00	140
3300050	●	-	-	-	0.500	0.01969	3.00	38.00	3.00	140
3300051	●	-	-	-	0.510	0.02008	3.00	38.00	3.00	140
3300052	●	-	-	-	0.520	0.02047	3.00	38.00	3.00	140
3300053	●	-	-	-	0.530	0.02087	3.00	38.00	3.00	140
3300054	●	-	-	-	0.540	0.02126	3.50	38.00	3.00	140
3300055	●	-	-	-	0.550	0.02165	3.50	38.00	3.00	140
3300056	●	-	-	-	0.560	0.02205	3.50	38.00	3.00	140
3300057	●	-	-	-	0.570	0.02244	3.50	38.00	3.00	140
3300058	●	-	-	-	0.580	0.02283	3.50	38.00	3.00	140
3300059	●	-	-	-	0.590	0.02323	3.50	38.00	3.00	140
3300060	●	-	-	-	0.600	0.02362	3.50	38.00	3.00	140
3300061	●	-	-	-	0.610	0.02402	4.00	38.00	3.00	140
3300062	●	-	-	-	0.620	0.02441	4.00	38.00	3.00	140
3300063	●	-	-	-	0.630	0.02480	4.00	38.00	3.00	140
3300064	●	-	-	-	0.640	0.02520	4.00	38.00	3.00	140
3300065	●	-	-	-	0.650	0.02559	4.00	38.00	3.00	140
3300066	●	-	-	-	0.660	0.02598	4.00	38.00	3.00	140
3300067	●	-	-	-	0.670	0.02638	4.00	38.00	3.00	140
3300068	●	-	-	-	0.680	0.02677	4.50	38.00	3.00	140
3300069	●	-	-	-	0.690	0.02717	4.50	38.00	3.00	140
3300070	●	-	-	-	0.700	0.02756	4.50	38.00	3.00	140
3300071	●	-	-	-	0.710	0.02795	4.50	38.00	3.00	140
3300072	●	-	-	-	0.720	0.02835	4.50	38.00	3.00	140

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

List 5330 (Continued)

EXOCARB® WX-MS-GDS, Precision Drill

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	JOBBER	30°	SHANK	PACKED
332						h6	1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
3300073	●	-	-	-	0.730	0.02874	4.50	38.00	3.00	140
3300074	●	-	-	-	0.740	0.02913	4.50	38.00	3.00	140
3300075	●	-	-	-	0.750	0.02953	4.50	38.00	3.00	140
3300076	●	-	-	-	0.760	0.02992	5.00	38.00	3.00	140
3300077	●	-	-	-	0.770	0.03031	5.00	38.00	3.00	140
3300078	●	-	-	-	0.780	0.03071	5.00	38.00	3.00	140
3300079	●	-	-	-	0.790	0.03110	5.00	38.00	3.00	140
3300080	●	-	-	-	0.800	0.03150	5.00	38.00	3.00	140
3300081	●	-	-	-	0.810	0.03189	5.00	38.00	3.00	140
3300082	●	-	-	-	0.820	0.03228	5.00	38.00	3.00	140
3300083	●	-	-	-	0.830	0.03268	5.00	38.00	3.00	140
3300084	●	-	-	-	0.840	0.03307	5.00	38.00	3.00	140
3300085	●	-	-	-	0.850	0.03346	5.00	38.00	3.00	140
3300086	●	-	-	-	0.860	0.03386	5.50	38.00	3.00	140
3300087	●	-	-	-	0.870	0.03425	5.50	38.00	3.00	140
3300088	●	-	-	-	0.880	0.03465	5.50	38.00	3.00	140
3300089	●	-	-	-	0.890	0.03504	5.50	38.00	3.00	140
3300090	●	-	-	-	0.900	0.03543	5.50	38.00	3.00	140
3300091	●	-	-	-	0.910	0.03583	5.50	38.00	3.00	140
3300092	●	-	-	-	0.920	0.03622	5.50	38.00	3.00	140
3300093	●	-	-	-	0.930	0.03661	5.50	38.00	3.00	140
3300094	●	-	-	-	0.940	0.03701	5.50	38.00	3.00	140
3300095	●	-	-	-	0.950	0.03740	5.50	38.00	3.00	140
3300096	●	-	-	-	0.960	0.03780	6.00	38.00	3.00	140
3300097	●	-	-	-	0.970	0.03819	6.00	38.00	3.00	140
3300098	●	-	-	-	0.980	0.03858	6.00	38.00	3.00	140
3300099	●	-	-	-	0.990	0.03898	6.00	38.00	3.00	140
3300100	●	-	-	-	1.000	0.03937	6.00	38.00	3.00	140
3300101	●	-	-	-	1.010	0.03976	6.00	38.00	3.00	140
3300102	●	-	-	-	1.020	0.04016	6.00	38.00	3.00	140
3300103	●	-	-	-	1.030	0.04055	6.00	38.00	3.00	140
3300104	●	-	-	-	1.040	0.04094	6.00	38.00	3.00	140
3300105	●	-	-	-	1.050	0.04134	6.00	38.00	3.00	140
3300106	●	-	-	-	1.060	0.04173	6.00	38.00	3.00	140
3300107	●	-	-	-	1.070	0.04213	7.00	42.00	3.00	140
3300108	●	-	-	-	1.080	0.04252	7.00	42.00	3.00	140
3300109	●	-	-	-	1.090	0.04291	7.00	42.00	3.00	140
3300110	●	-	-	-	1.100	0.04331	7.00	42.00	3.00	140
3300111	●	-	-	-	1.110	0.04370	7.00	42.00	3.00	140
3300112	●	-	-	-	1.120	0.04409	7.00	42.00	3.00	140
3300113	●	-	-	-	1.130	0.04449	7.00	42.00	3.00	140
3300114	●	-	-	-	1.140	0.04488	7.00	42.00	3.00	140
3300115	●	-	-	-	1.150	0.04528	7.00	42.00	3.00	140
3300116	●	-	-	-	1.160	0.04567	7.00	42.00	3.00	140
3300117	●	-	-	-	1.170	0.04606	7.00	42.00	3.00	140
3300118	●	-	-	-	1.180	0.04646	7.00	42.00	3.00	140
3300119	●	-	-	-	1.190	0.04685	8.00	42.00	3.00	140
3300120	●	-	-	-	1.200	0.04724	8.00	42.00	3.00	140
3300121	●	-	-	-	1.210	0.04764	8.00	42.00	3.00	140

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○	○	◎	◎		○				

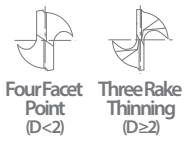
○ Good ◎ Best

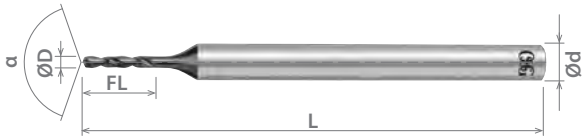
List 5330 (Continued)

EXOCARB® WX-MS-GDS, Precision Drill

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	JOBBER	30°	SHANK	PACKED
332						h6	1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.2 ≤ D ≤ 5	+0 / -0.010	+0 / -0.0004





EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
3300122	●	-	-	-	1.220	0.04803	8.00	42.00	3.00	140
3300123	●	-	-	-	1.230	0.04843	8.00	42.00	3.00	140
3300124	●	-	-	-	1.240	0.04882	8.00	42.00	3.00	140
3300125	●	-	-	-	1.250	0.04921	8.00	42.00	3.00	140
3300126	●	-	-	-	1.260	0.04961	8.00	42.00	3.00	140
3300127	●	-	-	-	1.270	0.05000	8.00	42.00	3.00	140
3300128	●	-	-	-	1.280	0.05039	8.00	42.00	3.00	140
3300129	●	-	-	-	1.290	0.05079	8.00	42.00	3.00	140
3300130	●	-	-	-	1.300	0.05118	8.00	42.00	3.00	140
3300131	●	-	-	-	1.310	0.05157	8.00	42.00	3.00	140
3300132	●	-	-	-	1.320	0.05197	8.00	42.00	3.00	140
3300133	●	-	-	-	1.330	0.05236	9.00	42.00	3.00	140
3300134	●	-	-	-	1.340	0.05276	9.00	42.00	3.00	140
3300135	●	-	-	-	1.350	0.05315	9.00	42.00	3.00	140
3300136	●	-	-	-	1.360	0.05354	9.00	42.00	3.00	140
3300137	●	-	-	-	1.370	0.05394	9.00	42.00	3.00	140
3300138	●	-	-	-	1.380	0.05433	9.00	42.00	3.00	140
3300139	●	-	-	-	1.390	0.05472	9.00	42.00	3.00	140
3300140	●	-	-	-	1.400	0.05512	9.00	42.00	3.00	140
3300141	●	-	-	-	1.410	0.05551	9.00	42.00	3.00	140
3300142	●	-	-	-	1.420	0.05591	9.00	42.00	3.00	140
3300143	●	-	-	-	1.430	0.05630	9.00	42.00	3.00	140
3300144	●	-	-	-	1.440	0.05669	9.00	42.00	3.00	140
3300145	●	-	-	-	1.450	0.05709	9.00	42.00	3.00	140
3300146	●	-	-	-	1.460	0.05748	9.00	42.00	3.00	140
3300147	●	-	-	-	1.470	0.05787	9.00	42.00	3.00	140
3300148	●	-	-	-	1.480	0.05827	9.00	42.00	3.00	140
3300149	●	-	-	-	1.490	0.05866	9.00	42.00	3.00	140
3300150	●	-	-	-	1.500	0.05906	9.00	42.00	3.00	140
3300151	●	-	-	-	1.510	0.05945	10.00	42.00	3.00	140
3300152	●	-	-	-	1.520	0.05984	10.00	42.00	3.00	140
3300153	●	-	-	-	1.530	0.06024	10.00	42.00	3.00	140
3300154	●	-	-	-	1.540	0.06063	10.00	42.00	3.00	140
3300155	●	-	-	-	1.550	0.06102	10.00	42.00	3.00	140
3300156	●	-	-	-	1.560	0.06142	10.00	42.00	3.00	140
3300157	●	-	-	-	1.570	0.06181	10.00	42.00	3.00	140
3300158	●	-	-	-	1.580	0.06220	10.00	42.00	3.00	140
3300159	●	-	-	-	1.590	0.06260	10.00	42.00	3.00	140
3300160	●	-	-	-	1.600	0.06299	10.00	42.00	3.00	140
3300161	●	-	-	-	1.610	0.06339	10.00	42.00	3.00	140
3300162	●	-	-	-	1.620	0.06378	10.00	42.00	3.00	140
3300163	●	-	-	-	1.630	0.06417	10.00	42.00	3.00	140
3300164	●	-	-	-	1.640	0.06457	10.00	42.00	3.00	140
3300165	●	-	-	-	1.650	0.06496	10.00	42.00	3.00	140
3300166	●	-	-	-	1.660	0.06535	10.00	42.00	3.00	140
3300167	●	-	-	-	1.670	0.06575	10.00	42.00	3.00	140
3300168	●	-	-	-	1.680	0.06614	10.00	42.00	3.00	140
3300169	●	-	-	-	1.690	0.06654	10.00	42.00	3.00	140
3300170	●	-	-	-	1.700	0.06693	10.00	42.00	3.00	140
3300171	●	-	-	-	1.710	0.06732	11.00	42.00	3.00	140
3300172	●	-	-	-	1.720	0.06772	11.00	42.00	3.00	140
3300173	●	-	-	-	1.730	0.06811	11.00	42.00	3.00	140
3300174	●	-	-	-	1.740	0.06850	11.00	42.00	3.00	140

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

List 5330 (Continued)

EXOCARB® WX-MS-GDS, Precision Drill

SPEED FEED	CARBIDE			JOBBER		SHANK	PACKED
332		TiAlN	2 FLUTE		30°	h6	1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
3300175	●	-	-	-	1.750	0.06890	11.00	42.00	3.00	140
3300176	●	-	-	-	1.760	0.06929	11.00	42.00	3.00	140
3300177	●	-	-	-	1.770	0.06969	11.00	42.00	3.00	140
3300178	●	-	-	-	1.780	0.07008	11.00	42.00	3.00	140
3300179	●	-	-	-	1.790	0.07047	11.00	42.00	3.00	140
3300180	●	-	-	-	1.800	0.07087	11.00	42.00	3.00	140
3300181	●	-	-	-	1.810	0.07126	11.00	42.00	3.00	140
3300182	●	-	-	-	1.820	0.07165	11.00	42.00	3.00	140
3300183	●	-	-	-	1.830	0.07205	11.00	42.00	3.00	140
3300184	●	-	-	-	1.840	0.07244	11.00	42.00	3.00	140
3300185	●	-	-	-	1.850	0.07283	11.00	42.00	3.00	140
3300186	●	-	-	-	1.860	0.07323	11.00	42.00	3.00	140
3300187	●	-	-	-	1.870	0.07362	11.00	42.00	3.00	140
3300188	●	-	-	-	1.880	0.07402	11.00	42.00	3.00	140
3300189	●	-	-	-	1.890	0.07441	11.00	42.00	3.00	140
3300190	●	-	-	-	1.900	0.07480	11.00	42.00	3.00	140
3300191	●	-	-	-	1.910	0.07520	12.00	50.00	3.00	140
3300192	●	-	-	-	1.920	0.07559	12.00	50.00	3.00	140
3300193	●	-	-	-	1.930	0.07598	12.00	50.00	3.00	140
3300194	●	-	-	-	1.940	0.07638	12.00	50.00	3.00	140
3300195	●	-	-	-	1.950	0.07677	12.00	50.00	3.00	140
3300196	●	-	-	-	1.960	0.07717	12.00	50.00	3.00	140
3300197	●	-	-	-	1.970	0.07756	12.00	50.00	3.00	140
3300198	●	-	-	-	1.980	0.07795	12.00	50.00	3.00	140
3300199	●	-	-	-	1.990	0.07835	12.00	50.00	3.00	140
3300200	●	-	-	-	2.000	0.07874	12.00	50.00	3.00	140
48172201	●	-	-	-	2.010	0.07913	12.00	50.00	3.00	140
48172202	●	-	-	-	2.020	0.07953	12.00	50.00	3.00	140
48172203	●	-	-	-	2.030	0.07992	12.00	50.00	3.00	140
48172204	●	-	-	-	2.040	0.08031	12.00	50.00	3.00	140
3300205	●	-	-	-	2.050	0.08071	12.00	50.00	3.00	140
48172206	●	-	-	-	2.060	0.08110	12.00	50.00	3.00	140
48172207	●	-	-	-	2.070	0.08150	12.00	50.00	3.00	140
48172208	●	-	-	-	2.080	0.08189	12.00	50.00	3.00	140
48172209	●	-	-	-	2.090	0.08228	12.00	50.00	3.00	140
3300210	●	-	-	-	2.100	0.08268	12.00	50.00	3.00	140
48172211	●	-	-	-	2.110	0.08307	12.00	50.00	3.00	140
48172212	●	-	-	-	2.120	0.08346	12.00	50.00	3.00	140
48172213	●	-	-	-	2.130	0.08386	13.00	50.00	3.00	140
48172214	●	-	-	-	2.140	0.08425	13.00	50.00	3.00	140
3300215	●	-	-	-	2.150	0.08465	13.00	50.00	3.00	140
48172216	●	-	-	-	2.160	0.08504	13.00	50.00	3.00	140
48172217	●	-	-	-	2.170	0.08543	13.00	50.00	3.00	140
48172218	●	-	-	-	2.180	0.08583	13.00	50.00	3.00	140
48172219	●	-	-	-	2.190	0.08622	13.00	50.00	3.00	140
3300220	●	-	-	-	2.200	0.08661	13.00	50.00	3.00	140
48172221	●	-	-	-	2.210	0.08701	13.00	50.00	3.00	140
48172222	●	-	-	-	2.220	0.08740	13.00	50.00	3.00	140
48172223	●	-	-	-	2.230	0.08780	13.00	50.00	3.00	140

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○	○	○	○	○	◎	◎		○				

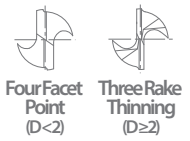
○ Good ◎ Best

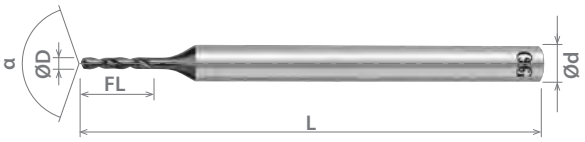
List 5330 (Continued)

EXOCARB® WX-MS-GDS, Precision Drill

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	JOBBER	30°	SHANK h6	PACKED
332							1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.2 ≤ D ≤ 5	+0 / -0.010	+0 / -0.0004





EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
48172224	●	-	-	-	2.240	0.08819	13.00	50.00	3.00	140
3300225	●	-	-	-	2.250	0.08858	13.00	50.00	3.00	140
48172226	●	-	-	-	2.260	0.08898	13.00	50.00	3.00	140
48172227	●	-	-	-	2.270	0.08937	13.00	50.00	3.00	140
48172228	●	-	-	-	2.280	0.08976	13.00	50.00	3.00	140
48172229	●	-	-	-	2.290	0.09016	13.00	50.00	3.00	140
3300230	●	-	-	-	2.300	0.09055	13.00	50.00	3.00	140
48172231	●	-	-	-	2.310	0.09094	13.00	50.00	3.00	140
48172232	●	-	-	-	2.320	0.09134	13.00	50.00	3.00	140
48172233	●	-	-	-	2.330	0.09173	13.00	50.00	3.00	140
48172234	●	-	-	-	2.340	0.09213	13.00	50.00	3.00	140
3300235	●	-	-	-	2.350	0.09252	13.00	50.00	3.00	140
48172236	●	-	-	-	2.360	0.09291	13.00	50.00	3.00	140
48172237	●	-	-	-	2.370	0.09331	14.00	50.00	3.00	140
48172238	●	-	-	-	2.380	0.09370	14.00	50.00	3.00	140
48172239	●	-	-	-	2.390	0.09409	14.00	50.00	3.00	140
3300240	●	-	-	-	2.400	0.09449	14.00	50.00	3.00	130
48172241	●	-	-	-	2.410	0.09488	14.00	50.00	3.00	130
48172242	●	-	-	-	2.420	0.09528	14.00	50.00	3.00	130
48172243	●	-	-	-	2.430	0.09567	14.00	50.00	3.00	130
48172244	●	-	-	-	2.440	0.09606	14.00	50.00	3.00	130
3300245	●	-	-	-	2.450	0.09646	14.00	50.00	3.00	130
48172246	●	-	-	-	2.460	0.09685	14.00	50.00	3.00	130
48172247	●	-	-	-	2.470	0.09724	14.00	50.00	3.00	130
48172248	●	-	-	-	2.480	0.09764	14.00	50.00	3.00	130
48172249	●	-	-	-	2.490	0.09803	14.00	50.00	3.00	130
3300250	●	-	-	-	2.500	0.09843	14.00	50.00	3.00	130
48172251	●	-	-	-	2.510	0.09882	14.00	50.00	3.00	130
48172252	●	-	-	-	2.520	0.09921	14.00	50.00	3.00	130
48172253	●	-	-	-	2.530	0.09961	14.00	50.00	3.00	130
48172254	●	-	-	-	2.540	0.10000	14.00	50.00	3.00	130
3300255	●	-	-	-	2.550	0.10039	14.00	50.00	3.00	130
48172256	●	-	-	-	2.560	0.10079	14.00	50.00	3.00	130
48172257	●	-	-	-	2.570	0.10118	14.00	50.00	3.00	130
48172258	●	-	-	-	2.580	0.10157	14.00	50.00	3.00	130
48172259	●	-	-	-	2.590	0.10197	14.00	50.00	3.00	130
3300260	●	-	-	-	2.600	0.10236	14.00	50.00	3.00	130
48172261	●	-	-	-	2.610	0.10276	14.00	50.00	3.00	130
48172262	●	-	-	-	2.620	0.10315	14.00	50.00	3.00	130
48172263	●	-	-	-	2.630	0.10354	14.00	50.00	3.00	130
48172264	●	-	-	-	2.640	0.10394	14.00	50.00	3.00	130
3300265	●	-	-	-	2.650	0.10433	14.00	50.00	3.00	130
48172266	●	-	-	-	2.660	0.10472	16.00	50.00	3.00	130
48172267	●	-	-	-	2.670	0.10512	16.00	50.00	3.00	130
48172268	●	-	-	-	2.680	0.10551	16.00	50.00	3.00	130
48172269	●	-	-	-	2.690	0.10591	16.00	50.00	3.00	130
3300270	●	-	-	-	2.700	0.10630	16.00	50.00	3.00	130
48172271	●	-	-	-	2.710	0.10669	16.00	50.00	3.00	130
48172272	●	-	-	-	2.720	0.10709	16.00	50.00	3.00	130
48172273	●	-	-	-	2.730	0.10748	16.00	50.00	3.00	130
48172274	●	-	-	-	2.740	0.10787	16.00	50.00	3.00	130
3300275	●	-	-	-	2.750	0.10827	16.00	50.00	3.00	130
48172276	●	-	-	-	2.760	0.10866	16.00	50.00	3.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

List 5330 (Continued)

EXOCARB® WX-MS-GDS, Precision Drill

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	JOBBER	30°	SHANK h6	PACKED
332							1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
48172277	●	-	-	-	2.770	0.10906	16.00	50.00	3.00	130
48172278	●	-	-	-	2.780	0.10945	16.00	50.00	3.00	130
48172279	●	-	-	-	2.790	0.10984	16.00	50.00	3.00	130
3300280	●	-	-	-	2.800	0.11024	16.00	50.00	3.00	130
48172281	●	-	-	-	2.810	0.11063	16.00	50.00	3.00	130
48172282	●	-	-	-	2.820	0.11102	16.00	50.00	3.00	130
48172283	●	-	-	-	2.830	0.11142	16.00	50.00	3.00	130
48172284	●	-	-	-	2.840	0.11181	16.00	50.00	3.00	130
3300285	●	-	-	-	2.850	0.11220	16.00	50.00	3.00	130
48172286	●	-	-	-	2.860	0.11260	16.00	50.00	3.00	130
48172287	●	-	-	-	2.870	0.11299	16.00	50.00	3.00	130
48172288	●	-	-	-	2.880	0.11339	16.00	50.00	3.00	130
48172289	●	-	-	-	2.890	0.11378	16.00	50.00	3.00	130
3300290	●	-	-	-	2.900	0.11417	16.00	50.00	3.00	130
48172291	●	-	-	-	2.910	0.11457	16.00	50.00	3.00	130
48172292	●	-	-	-	2.920	0.11496	16.00	50.00	3.00	130
48172293	●	-	-	-	2.930	0.11535	16.00	50.00	3.00	130
48172294	●	-	-	-	2.940	0.11575	16.00	50.00	3.00	130
3300295	●	-	-	-	2.950	0.11614	16.00	50.00	3.00	130
48172296	●	-	-	-	2.960	0.11654	16.00	50.00	3.00	130
48172297	●	-	-	-	2.970	0.11693	16.00	50.00	3.00	130
48172298	●	-	-	-	2.980	0.11732	16.00	50.00	3.00	130
48172299	●	-	-	-	2.990	0.11772	16.00	50.00	3.00	130
3300300	●	-	-	-	3.000	0.11811	16.00	50.00	3.00	130
48172301	●	-	-	-	3.010	0.11850	18.00	56.00	4.00	130
48172302	●	-	-	-	3.020	0.11890	18.00	56.00	4.00	130
48172303	●	-	-	-	3.030	0.11929	18.00	56.00	4.00	130
48172304	●	-	-	-	3.040	0.11969	18.00	56.00	4.00	130
3300305	●	-	-	-	3.050	0.12008	18.00	56.00	4.00	130
48172306	●	-	-	-	3.060	0.12047	18.00	56.00	4.00	130
48172307	●	-	-	-	3.070	0.12087	18.00	56.00	4.00	130
48172308	●	-	-	-	3.080	0.12126	18.00	56.00	4.00	130
48172309	●	-	-	-	3.090	0.12165	18.00	56.00	4.00	130
3300310	●	-	-	-	3.100	0.12205	18.00	56.00	4.00	130
48172311	●	-	-	-	3.110	0.12244	18.00	56.00	4.00	130
48172312	●	-	-	-	3.120	0.12283	18.00	56.00	4.00	130
48172313	●	-	-	-	3.130	0.12323	18.00	56.00	4.00	130
48172314	●	-	-	-	3.140	0.12362	18.00	56.00	4.00	130
3300315	●	-	-	-	3.150	0.12402	18.00	56.00	4.00	130
48172316	●	-	-	-	3.160	0.12441	18.00	56.00	4.00	130
48172317	●	-	-	-	3.170	0.12480	18.00	56.00	4.00	130
48172318	●	-	-	-	3.180	0.12520	18.00	56.00	4.00	130
48172319	●	-	-	-	3.190	0.12559	18.00	56.00	4.00	130
3300320	●	-	-	-	3.200	0.12598	18.00	56.00	4.00	130
48172321	●	-	-	-	3.210	0.12638	18.00	56.00	4.00	130
48172322	●	-	-	-	3.220	0.12677	18.00	56.00	4.00	130
48172323	●	-	-	-	3.230	0.12717	18.00	56.00	4.00	130
48172324	●	-	-	-	3.240	0.12756	18.00	56.00	4.00	130
3300325	●	-	-	-	3.250	0.12795	18.00	56.00	4.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○	○	○	○	○	◎	◎		○				

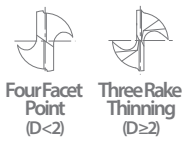
○ Good ◎ Best

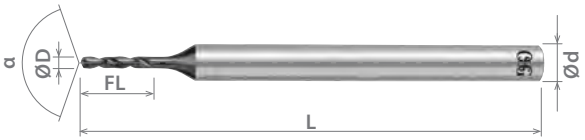
List 5330 (Continued)

EXOCARB® WX-MS-GDS, Precision Drill

SPEED FEED	CARBIDE			JOBBER		SHANK	PACKED
332		TiAlN	2 FLUTE		30°	h6	1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.2 ≤ D ≤ 5	+0 / -0.010	+0 / -0.0004





EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Point Angle α
48172326	●	-	-	-	3.260	0.12835	18.00	56.00	4.00	130
48172327	●	-	-	-	3.270	0.12874	18.00	56.00	4.00	130
48172328	●	-	-	-	3.280	0.12913	18.00	56.00	4.00	130
48172329	●	-	-	-	3.290	0.12953	18.00	56.00	4.00	130
3300330	●	-	-	-	3.300	0.12992	18.00	56.00	4.00	130
48172331	●	-	-	-	3.310	0.13031	18.00	56.00	4.00	130
48172332	●	-	-	-	3.320	0.13071	18.00	56.00	4.00	130
48172333	●	-	-	-	3.330	0.13110	18.00	56.00	4.00	130
48172334	●	-	-	-	3.340	0.13150	18.00	56.00	4.00	130
3300335	●	-	-	-	3.350	0.13189	18.00	56.00	4.00	130
48172336	●	-	-	-	3.360	0.13228	20.00	56.00	4.00	130
48172337	●	-	-	-	3.370	0.13268	20.00	56.00	4.00	130
48172338	●	-	-	-	3.380	0.13307	20.00	56.00	4.00	130
48172339	●	-	-	-	3.390	0.13346	20.00	56.00	4.00	130
3300340	●	-	-	-	3.400	0.13386	20.00	56.00	4.00	130
48172341	●	-	-	-	3.410	0.13425	20.00	56.00	4.00	130
48172342	●	-	-	-	3.420	0.13465	20.00	56.00	4.00	130
48172343	●	-	-	-	3.430	0.13504	20.00	56.00	4.00	130
48172344	●	-	-	-	3.440	0.13543	20.00	56.00	4.00	130
3300345	●	-	-	-	3.450	0.13583	20.00	56.00	4.00	130
48172346	●	-	-	-	3.460	0.13622	20.00	56.00	4.00	130
48172347	●	-	-	-	3.470	0.13661	20.00	56.00	4.00	130
48172348	●	-	-	-	3.480	0.13701	20.00	56.00	4.00	130
48172349	●	-	-	-	3.490	0.13740	20.00	56.00	4.00	130
3300350	●	-	-	-	3.500	0.13780	20.00	56.00	4.00	130
48172351	●	-	-	-	3.510	0.13819	20.00	56.00	4.00	130
48172352	●	-	-	-	3.520	0.13858	20.00	56.00	4.00	130
48172353	●	-	-	-	3.530	0.13898	20.00	56.00	4.00	130
48172354	●	-	-	-	3.540	0.13937	20.00	56.00	4.00	130
3300355	●	-	-	-	3.550	0.13976	20.00	56.00	4.00	130
48172356	●	-	-	-	3.560	0.14016	20.00	56.00	4.00	130
48172357	●	-	-	-	3.570	0.14055	20.00	56.00	4.00	130
48172358	●	-	-	-	3.580	0.14094	20.00	56.00	4.00	130
48172359	●	-	-	-	3.590	0.14134	20.00	56.00	4.00	130
3300360	●	-	-	-	3.600	0.14173	20.00	56.00	4.00	130
48172361	●	-	-	-	3.610	0.14213	20.00	56.00	4.00	130
48172362	●	-	-	-	3.620	0.14252	20.00	56.00	4.00	130
48172363	●	-	-	-	3.630	0.14291	20.00	56.00	4.00	130
48172364	●	-	-	-	3.640	0.14331	20.00	56.00	4.00	130
3300365	●	-	-	-	3.650	0.14370	20.00	56.00	4.00	130
48172366	●	-	-	-	3.660	0.14409	20.00	56.00	4.00	130
48172367	●	-	-	-	3.670	0.14449	20.00	56.00	4.00	130
48172368	●	-	-	-	3.680	0.14488	20.00	56.00	4.00	130
48172369	●	-	-	-	3.690	0.14528	20.00	56.00	4.00	130
3300370	●	-	-	-	3.700	0.14567	20.00	56.00	4.00	130
48172371	●	-	-	-	3.710	0.14606	20.00	56.00	4.00	130
48172372	●	-	-	-	3.720	0.14646	20.00	56.00	4.00	130
48172373	●	-	-	-	3.730	0.14685	20.00	56.00	4.00	130
48172374	●	-	-	-	3.740	0.14724	20.00	56.00	4.00	130
3300375	●	-	-	-	3.750	0.14764	20.00	56.00	4.00	130
48172376	●	-	-	-	3.760	0.14803	22.00	56.00	4.00	130
48172377	●	-	-	-	3.770	0.14843	22.00	56.00	4.00	130
48172378	●	-	-	-	3.780	0.14882	22.00	56.00	4.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

List 5330 (Continued)

EXOCARB® WX-MS-GDS, Precision Drill

SPEED FEED	CARBIDE			JOBBER			PACKED
332		TiAlN	2 FLUTE		30°	SHANK h6	1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
48172379	●	-	-	-	3.790	0.14921	22.00	56.00	4.00	130
3300380	●	-	-	-	3.800	0.14961	22.00	56.00	4.00	130
48172381	●	-	-	-	3.810	0.15000	22.00	56.00	4.00	130
48172382	●	-	-	-	3.820	0.15039	22.00	56.00	4.00	130
48172383	●	-	-	-	3.830	0.15079	22.00	56.00	4.00	130
48172384	●	-	-	-	3.840	0.15118	22.00	56.00	4.00	130
3300385	●	-	-	-	3.850	0.15157	22.00	56.00	4.00	130
48172386	●	-	-	-	3.860	0.15197	22.00	56.00	4.00	130
48172387	●	-	-	-	3.870	0.15236	22.00	56.00	4.00	130
48172388	●	-	-	-	3.880	0.15276	22.00	56.00	4.00	130
48172389	●	-	-	-	3.890	0.15315	22.00	56.00	4.00	130
3300390	●	-	-	-	3.900	0.15354	22.00	56.00	4.00	130
48172391	●	-	-	-	3.910	0.15394	22.00	56.00	4.00	130
48172392	●	-	-	-	3.920	0.15433	22.00	56.00	4.00	130
48172393	●	-	-	-	3.930	0.15472	22.00	56.00	4.00	130
48172394	●	-	-	-	3.940	0.15512	22.00	56.00	4.00	130
3300395	●	-	-	-	3.950	0.15551	22.00	56.00	4.00	130
48172396	●	-	-	-	3.960	0.15591	22.00	56.00	4.00	130
48172397	●	-	-	-	3.970	0.15630	22.00	56.00	4.00	130
48172398	●	-	-	-	3.980	0.15669	22.00	56.00	4.00	130
48172399	●	-	-	-	3.990	0.15709	22.00	56.00	4.00	130
3300400	●	-	-	-	4.000	0.15748	22.00	56.00	4.00	130
3300405	●	-	-	-	4.050	0.15945	22.00	64.00	5.00	130
3300410	●	-	-	-	4.100	0.16142	22.00	64.00	5.00	130
3300415	●	-	-	-	4.150	0.16339	22.00	64.00	5.00	130
3300420	●	-	-	-	4.200	0.16535	22.00	64.00	5.00	130
3300425	●	-	-	-	4.250	0.16732	22.00	64.00	5.00	130
3300430	●	-	-	-	4.300	0.16929	24.00	64.00	5.00	130
3300435	●	-	-	-	4.350	0.17126	24.00	64.00	5.00	130
3300440	●	-	-	-	4.400	0.17323	24.00	64.00	5.00	130
3300445	●	-	-	-	4.450	0.17520	24.00	64.00	5.00	130
3300450	●	-	-	-	4.500	0.17717	24.00	64.00	5.00	130
3300455	●	-	-	-	4.550	0.17913	24.00	64.00	5.00	130
3300460	●	-	-	-	4.600	0.18110	24.00	64.00	5.00	130
3300465	●	-	-	-	4.650	0.18307	24.00	64.00	5.00	130
3300470	●	-	-	-	4.700	0.18504	24.00	64.00	5.00	130
3300475	●	-	-	-	4.750	0.18701	24.00	64.00	5.00	130
3300480	●	-	-	-	4.800	0.18898	26.00	64.00	5.00	130
3300485	●	-	-	-	4.850	0.19094	26.00	64.00	5.00	130
3300490	●	-	-	-	4.900	0.19291	26.00	64.00	5.00	130
3300495	●	-	-	-	4.950	0.19488	26.00	64.00	5.00	130
3300500	●	-	-	-	5.000	0.19685	26.00	64.00	5.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○	○	◎	◎		○				

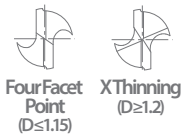
○ Good ◎ Best

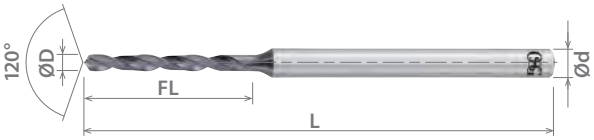
List 5340

EXOCARB® MAX-MINI MRS-GDL, Precision Drill

SPEED FEED	CARBIDE			TAPER		SHANK	PACKED
333		SS	2 FLUTE		30°	h6	1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.008	+0 / -0.0003





EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
8577050	●	-	-	-	0.500	0.01969	6.00	42.00	3.00
8577054	●	-	-	-	0.540	0.02126	6.60	42.00	3.00
8577055	●	-	-	-	0.550	0.02165	6.60	42.00	3.00
8577056	●	-	-	-	0.560	0.02205	7.20	42.00	3.00
8577060	●	-	-	-	0.600	0.02362	7.20	42.00	3.00
8577063	●	-	-	-	0.630	0.02480	7.80	46.00	3.00
8577064	●	-	-	-	0.640	0.02520	7.80	46.00	3.00
8577065	●	-	-	-	0.650	0.02559	7.80	46.00	3.00
8577070	●	-	-	-	0.700	0.02756	8.40	46.00	3.00
8577071	●	-	-	-	0.710	0.02795	9.00	46.00	3.00
8577072	●	-	-	-	0.720	0.02835	9.00	46.00	3.00
8577073	●	-	-	-	0.730	0.02874	9.00	46.00	3.00
8577074	●	-	-	-	0.740	0.02913	9.00	46.00	3.00
8577075	●	-	-	-	0.750	0.02953	9.00	46.00	3.00
8577080	●	-	-	-	0.800	0.03150	9.60	46.00	3.00
8577081	●	-	-	-	0.810	0.03189	10.20	46.00	3.00
8577082	●	-	-	-	0.820	0.03228	10.20	46.00	3.00
8577090	●	-	-	-	0.900	0.03543	10.80	46.00	3.00
8577091	●	-	-	-	0.910	0.03583	11.40	46.00	3.00
8577092	●	-	-	-	0.920	0.03622	11.40	46.00	3.00
8577100	●	-	-	-	1.000	0.03937	12.00	46.00	3.00
8577110	●	-	-	-	1.100	0.04331	13.20	50.00	3.00
8577111	●	-	-	-	1.110	0.04370	13.80	50.00	3.00
8577112	●	-	-	-	1.120	0.04409	13.80	50.00	3.00
8577115	●	-	-	-	1.150	0.04528	13.80	50.00	3.00
8577120	●	-	-	-	1.200	0.04724	14.40	50.00	3.00
8577127	●	-	-	-	1.270	0.05000	15.60	50.00	3.00
8577128	●	-	-	-	1.280	0.05039	15.60	50.00	3.00
8577129	●	-	-	-	1.290	0.05079	15.60	50.00	3.00
8577130	●	-	-	-	1.300	0.05118	15.60	50.00	3.00
8577140	●	-	-	-	1.400	0.05512	16.80	54.00	3.00
8577145	●	-	-	-	1.450	0.05709	17.40	54.00	3.00
8577146	●	-	-	-	1.460	0.05748	18.00	54.00	3.00
8577147	●	-	-	-	1.470	0.05787	18.00	54.00	3.00
8577150	●	-	-	-	1.500	0.05906	18.00	54.00	3.00
8577151	●	-	-	-	1.510	0.05945	18.60	54.00	3.00
8577152	●	-	-	-	1.520	0.05984	18.60	54.00	3.00
8577153	●	-	-	-	1.530	0.06024	18.60	54.00	3.00
8577155	●	-	-	-	1.550	0.06102	18.60	54.00	3.00
8577156	●	-	-	-	1.560	0.06142	19.20	54.00	3.00
8577157	●	-	-	-	1.570	0.06181	19.20	54.00	3.00
8577160	●	-	-	-	1.600	0.06299	19.20	54.00	3.00
8577170	●	-	-	-	1.700	0.06693	20.40	58.00	3.00
8577180	●	-	-	-	1.800	0.07087	21.60	58.00	3.00
8577181	●	-	-	-	1.810	0.07126	22.20	58.00	3.00
8577182	●	-	-	-	1.820	0.07165	22.20	58.00	3.00
8577183	●	-	-	-	1.830	0.07205	22.20	58.00	3.00
8577190	●	-	-	-	1.900	0.07480	22.80	58.00	3.00
8577198	●	-	-	-	1.980	0.07795	24.00	58.00	3.00
8577199	●	-	-	-	1.990	0.07835	24.00	58.00	3.00
8577200	●	-	-	-	2.000	0.07874	24.00	58.00	3.00
8577210	●	-	-	-	2.100	0.08268	25.20	62.00	3.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

List 5340 (Continued)

EXOCARB® MAX-MINI MRS-GDL, Precision Drill

SPEED FEED 333 | CARBIDE | SS | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
8577212	●	-	-	-	2.120	0.08346	25.80	62.00	3.00
8577213	●	-	-	-	2.130	0.08386	25.80	62.00	3.00
8577214	●	-	-	-	2.140	0.08425	25.80	62.00	3.00
8577220	●	-	-	-	2.200	0.08661	26.40	62.00	3.00
8577229	●	-	-	-	2.290	0.09016	27.60	62.00	3.00
8577230	●	-	-	-	2.300	0.09055	27.60	62.00	3.00
8577231	●	-	-	-	2.310	0.09094	28.20	62.00	3.00
8577239	●	-	-	-	2.390	0.09409	28.80	62.00	3.00
8577240	●	-	-	-	2.400	0.09449	28.80	62.00	3.00
8577241	●	-	-	-	2.410	0.09488	29.40	66.00	3.00
8577242	●	-	-	-	2.420	0.09528	29.40	66.00	3.00
8577250	●	-	-	-	2.500	0.09843	30.00	66.00	3.00
8577255	●	-	-	-	2.550	0.10039	30.60	66.00	3.00
8577256	●	-	-	-	2.560	0.10079	31.20	66.00	3.00
8577257	●	-	-	-	2.570	0.10118	31.20	66.00	3.00
8577260	●	-	-	-	2.600	0.10236	31.20	66.00	3.00
8577270	●	-	-	-	2.700	0.10630	32.40	66.00	3.00
8577277	●	-	-	-	2.770	0.10906	33.60	66.00	3.00
8577278	●	-	-	-	2.780	0.10945	33.60	66.00	3.00
8577279	●	-	-	-	2.790	0.10984	33.60	66.00	3.00
8577280	●	-	-	-	2.800	0.11024	33.60	66.00	3.00
8577290	●	-	-	-	2.900	0.11417	34.80	66.00	3.00
8577300	●	-	-	-	3.000	0.11811	36.00	66.00	3.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	◎	◎	◎		◎	◎		○				

○ Good ◎ Best

List HP253

HY-PRO® CARB-OH-3D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
D = 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP253-1181	●	-	-	-	3.000	0.11811	20.00	62.00	6.00
HP253-1220	●	-	-	-	3.100	0.12205	20.00	62.00	6.00
HP253-1248	●	1/8	-	-	3.175	0.12500	20.00	62.00	6.00
HP253-1260	●	-	-	-	3.200	0.12598	20.00	62.00	6.00
HP253-1299	●	-	-	-	3.300	0.12992	20.00	62.00	6.00
HP253-1339	●	-	-	-	3.400	0.13386	20.00	62.00	6.00
HP253-1378	●	-	-	-	3.500	0.13780	20.00	62.00	6.00
HP253-1406	●	9/64	-	-	3.572	0.14063	20.00	62.00	6.00
HP253-1417	●	-	-	-	3.600	0.14173	20.00	62.00	6.00
HP253-1457	●	-	-	-	3.700	0.14567	20.00	62.00	6.00
HP253-1496	●	-	-	-	3.800	0.14961	24.00	66.00	6.00
HP253-1535	●	-	-	-	3.900	0.15354	24.00	66.00	6.00
HP253-1563	●	5/32	-	-	3.969	0.15625	24.00	66.00	6.00
HP253-1575	●	-	-	-	4.000	0.15748	24.00	66.00	6.00
HP253-1610	●	-	20	-	4.089	0.16100	24.00	66.00	6.00
HP253-1614	●	-	-	-	4.100	0.16142	24.00	66.00	6.00
HP253-1654	●	-	-	-	4.200	0.16535	24.00	66.00	6.00
HP253-1693	●	-	-	-	4.300	0.16929	24.00	66.00	6.00
HP253-1720	●	11/64	-	-	4.366	0.17188	24.00	66.00	6.00
HP253-1732	●	-	-	-	4.400	0.17323	24.00	66.00	6.00
HP253-1772	●	-	-	-	4.500	0.17717	24.00	66.00	6.00
HP253-1811	●	-	-	-	4.600	0.18110	24.00	66.00	6.00
HP253-1831	●	-	-	-	4.650	0.18307	24.00	66.00	6.00
HP253-1850	●	-	-	-	4.700	0.18504	24.00	66.00	6.00
HP253-1874	●	3/16	-	-	4.763	0.18750	28.00	66.00	6.00
HP253-1890	●	-	-	-	4.800	0.18898	28.00	66.00	6.00
HP253-1929	●	-	-	-	4.900	0.19291	28.00	66.00	6.00
HP253-1969	●	-	-	-	5.000	0.19685	28.00	66.00	6.00
HP253-2008	●	-	-	-	5.100	0.20079	28.00	66.00	6.00
HP253-2031	●	13/64	-	-	5.159	0.20313	28.00	66.00	6.00
HP253-2047	●	-	-	-	5.200	0.20472	28.00	66.00	6.00
HP253-2087	●	-	-	-	5.300	0.20866	28.00	66.00	6.00
HP253-2126	●	-	-	-	5.400	0.21260	28.00	66.00	6.00
HP253-2130	●	-	3	-	5.410	0.21300	28.00	66.00	6.00
HP253-2165	●	-	-	-	5.500	0.21654	28.00	66.00	6.00
HP253-2189	●	7/32	-	-	5.556	0.21875	28.00	66.00	6.00
HP253-2205	●	-	-	-	5.600	0.22047	28.00	66.00	6.00
HP253-2244	●	-	-	-	5.700	0.22441	28.00	66.00	6.00
HP253-2283	●	-	-	-	5.800	0.22835	28.00	66.00	6.00
HP253-2323	●	-	-	-	5.900	0.23228	28.00	66.00	6.00
HP253-2343	●	15/64	-	-	5.953	0.23438	28.00	66.00	6.00
HP253-2362	●	-	-	-	6.000	0.23622	28.00	66.00	6.00
HP253-2402	●	-	-	-	6.100	0.24016	34.00	79.00	8.00
HP253-2441	●	-	-	-	6.200	0.24409	34.00	79.00	8.00
HP253-2480	●	-	-	-	6.300	0.24803	34.00	79.00	8.00
HP253-2500	●	1/4	-	E	6.350	0.25000	34.00	79.00	8.00
HP253-2520	●	-	-	-	6.400	0.25197	34.00	79.00	8.00
HP253-2559	●	-	-	-	6.500	0.25591	34.00	79.00	8.00
HP253-2571	●	-	-	F	6.528	0.25700	34.00	79.00	8.00
HP253-2598	●	-	-	-	6.600	0.25984	34.00	79.00	8.00
HP253-2638	●	-	-	-	6.700	0.26378	34.00	79.00	8.00
HP253-2657	●	17/64	-	-	6.747	0.26563	34.00	79.00	8.00
HP253-2677	●	-	-	-	6.800	0.26772	34.00	79.00	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP253 (Continued)

HY-PRO® CARB-OH-3D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP253-2717	●	-	-	-	6.900	0.27165	34.00	79.00	8.00
HP253-2756	●	-	-	-	7.000	0.27559	34.00	79.00	8.00
HP253-2795	●	-	-	-	7.100	0.27953	41.00	79.00	8.00
HP253-2811	●	9/32	-	-	7.144	0.28125	41.00	79.00	8.00
HP253-2835	●	-	-	-	7.200	0.28346	41.00	79.00	8.00
HP253-2874	●	-	-	-	7.300	0.28740	41.00	79.00	8.00
HP253-2913	●	-	-	-	7.400	0.29134	41.00	79.00	8.00
HP253-2953	●	-	-	-	7.500	0.29528	41.00	79.00	8.00
HP253-2969	●	19/64	-	-	7.541	0.29688	41.00	79.00	8.00
HP253-2992	●	-	-	-	7.600	0.29921	41.00	79.00	8.00
HP253-3031	●	-	-	-	7.700	0.30315	41.00	79.00	8.00
HP253-3071	●	-	-	-	7.800	0.30709	41.00	79.00	8.00
HP253-3110	●	-	-	-	7.900	0.31102	41.00	79.00	8.00
HP253-3126	●	5/16	-	-	7.938	0.31250	41.00	79.00	8.00
HP253-3150	●	-	-	-	8.000	0.31496	41.00	79.00	8.00
HP253-3189	●	-	-	-	8.100	0.31890	47.00	89.00	10.00
HP253-3228	●	-	-	-	8.200	0.32283	47.00	89.00	10.00
HP253-3268	●	-	-	-	8.300	0.32677	47.00	89.00	10.00
HP253-3280	●	21/64	-	-	8.334	0.32813	47.00	89.00	10.00
HP253-3307	●	-	-	-	8.400	0.33071	47.00	89.00	10.00
HP253-3319	●	-	-	Q	8.433	0.33200	47.00	89.00	10.00
HP253-3346	●	-	-	-	8.500	0.33465	47.00	89.00	10.00
HP253-3386	●	-	-	-	8.600	0.33858	47.00	89.00	10.00
HP253-3425	●	-	-	-	8.700	0.34252	47.00	89.00	10.00
HP253-3437	●	11/32	-	-	8.731	0.34375	47.00	89.00	10.00
HP253-3465	●	-	-	-	8.800	0.34646	47.00	89.00	10.00
HP253-3504	●	-	-	-	8.900	0.35039	47.00	89.00	10.00
HP253-3543	●	-	-	-	9.000	0.35433	47.00	89.00	10.00
HP253-3583	●	-	-	-	9.100	0.35827	47.00	89.00	10.00
HP253-3594	●	23/64	-	-	9.128	0.35938	47.00	89.00	10.00
HP253-3622	●	-	-	-	9.200	0.36220	47.00	89.00	10.00
HP253-3642	●	-	-	-	9.250	0.36417	47.00	89.00	10.00
HP253-3661	●	-	-	-	9.300	0.36614	47.00	89.00	10.00
HP253-3701	●	-	-	-	9.400	0.37008	47.00	89.00	10.00
HP253-3740	●	-	-	-	9.500	0.37402	47.00	89.00	10.00
HP253-3748	●	3/8	-	-	9.525	0.37500	47.00	89.00	10.00
HP253-3780	●	-	-	-	9.600	0.37795	47.00	89.00	10.00
HP253-3819	●	-	-	-	9.700	0.38189	47.00	89.00	10.00
HP253-3858	●	-	-	-	9.800	0.38583	47.00	89.00	10.00
HP253-3898	●	-	-	-	9.900	0.38976	47.00	89.00	10.00
HP253-3906	●	25/64	-	-	9.922	0.39063	47.00	89.00	10.00
HP253-3937	●	-	-	-	10.000	0.39370	47.00	89.00	10.00
HP253-3976	●	-	-	-	10.100	0.39764	55.00	102.00	12.00
HP253-4016	●	-	-	-	10.200	0.40157	55.00	102.00	12.00
HP253-4055	●	-	-	-	10.300	0.40551	55.00	102.00	12.00
HP253-4063	●	13/32	-	-	10.319	0.40625	55.00	102.00	12.00
HP253-4094	●	-	-	-	10.400	0.40945	55.00	102.00	12.00
HP253-4134	●	-	-	-	10.500	0.41339	55.00	102.00	12.00
HP253-4173	●	-	-	-	10.600	0.41732	55.00	102.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		

○ Good ◎ Best

List HP253 (Continued)

HY-PRO® CARB-OH-3D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
D = 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP253-4213	●	-	-	-	10.700	0.42126	55.00	102.00	12.00
HP253-4220	●	27/64	-	-	10.716	0.42188	55.00	102.00	12.00
HP253-4252	●	-	-	-	10.800	0.42520	55.00	102.00	12.00
HP253-4291	●	-	-	-	10.900	0.42913	55.00	102.00	12.00
HP253-4331	●	-	-	-	11.000	0.43307	55.00	102.00	12.00
HP253-4370	●	-	-	-	11.100	0.43701	55.00	102.00	12.00
HP253-4374	●	7/16	-	-	11.113	0.43750	55.00	102.00	12.00
HP253-4409	●	-	-	-	11.200	0.44094	55.00	102.00	12.00
HP253-4449	●	-	-	-	11.300	0.44488	55.00	102.00	12.00
HP253-4488	●	-	-	-	11.400	0.44882	55.00	102.00	12.00
HP253-4528	●	-	-	-	11.500	0.45276	55.00	102.00	12.00
HP253-4531	●	29/64	-	-	11.509	0.45313	55.00	102.00	12.00
HP253-4567	●	-	-	-	11.600	0.45669	55.00	102.00	12.00
HP253-4606	●	-	-	-	11.700	0.46063	55.00	102.00	12.00
HP253-4646	●	-	-	-	11.800	0.46457	55.00	102.00	12.00
HP253-4685	●	-	-	-	11.900	0.46850	55.00	102.00	12.00
HP253-4689	●	15/32	-	-	11.906	0.46875	55.00	102.00	12.00
HP253-4724	●	-	-	-	12.000	0.47244	55.00	102.00	12.00
HP253-4764	●	-	-	-	12.100	0.47638	60.00	107.00	14.00
HP253-4803	●	-	-	-	12.200	0.48031	60.00	107.00	14.00
HP253-4843	●	-	-	-	12.303	0.48438	60.00	107.00	14.00
HP253-4882	●	-	-	-	12.400	0.48819	60.00	107.00	14.00
HP253-4921	●	-	-	-	12.500	0.49213	60.00	107.00	14.00
HP253-4961	●	-	-	-	12.600	0.49606	60.00	107.00	14.00
HP253-5000	●	1/2	-	-	12.700	0.50000	60.00	107.00	14.00
HP253-5039	●	-	-	-	12.800	0.50394	60.00	107.00	14.00
HP253-5079	●	-	-	-	12.900	0.50787	60.00	107.00	14.00
HP253-5118	●	-	-	-	13.000	0.51181	60.00	107.00	14.00
HP253-5157	●	-	-	-	13.097	0.51563	60.00	107.00	14.00
HP253-5197	●	-	-	-	13.200	0.51969	60.00	107.00	14.00
HP253-5236	●	-	-	-	13.300	0.52362	60.00	107.00	14.00
HP253-5276	●	-	-	-	13.400	0.52756	60.00	107.00	14.00
HP253-5311	●	17/32	-	-	13.494	0.53125	60.00	107.00	14.00
HP253-5315	●	-	-	-	13.500	0.53150	60.00	107.00	14.00
HP253-5394	●	-	-	-	13.700	0.53937	60.00	107.00	14.00
HP253-5512	●	-	-	-	14.000	0.55118	60.00	107.00	14.00
HP253-5626	●	9/16	-	-	14.288	0.56250	65.00	115.00	16.00
HP253-5709	●	-	-	-	14.500	0.57087	65.00	115.00	16.00
HP253-5780	●	37/64	-	-	14.684	0.57813	65.00	115.00	16.00
HP253-5787	●	-	-	-	14.700	0.57874	65.00	115.00	16.00
HP253-5906	●	-	-	-	15.000	0.59055	65.00	115.00	16.00
HP253-5937	●	19/32	-	-	15.081	0.59375	65.00	115.00	16.00
HP253-6102	●	-	-	-	15.500	0.61024	65.00	115.00	16.00
HP253-6181	●	-	-	-	15.700	0.61811	65.00	115.00	16.00
HP253-6248	●	5/8	-	-	15.875	0.62500	65.00	115.00	16.00
HP253-6299	●	-	-	-	16.000	0.62992	65.00	115.00	16.00
HP253-6339	●	-	-	-	16.100	0.63386	73.00	123.00	18.00
HP253-6496	●	-	-	-	16.500	0.64961	73.00	123.00	18.00
HP253-6563	●	21/32	-	-	16.669	0.65625	73.00	123.00	18.00
HP253-6693	●	-	-	-	17.000	0.66929	73.00	123.00	18.00
HP253-6890	●	-	-	-	17.500	0.68898	73.00	123.00	18.00
HP253-7087	●	-	-	-	18.000	0.70866	73.00	123.00	18.00
HP253-7283	●	-	-	-	18.500	0.72835	79.00	131.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP253 (Continued)

HY-PRO® CARB-OH-3D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP253-7480	●	-	-	-	19.000	0.74803	79.00	131.00	20.00
HP253-7500	●	3/4	-	-	19.050	0.75000	79.00	131.00	20.00
HP253-7579	●	-	-	-	19.250	0.75787	79.00	131.00	20.00
HP253-7677	●	-	-	-	19.500	0.76772	79.00	131.00	20.00
HP253-7874	●	-	-	-	20.000	0.78740	79.00	131.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		

○ Good ◎ Best

List HP255

HY-PRO® CARB-OH-5D

SPEED FEED	CARBIDE				JOBBER		SHANK	PACKED
334-335		EgiAs		2 FLUTE		30°	h6	1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
D = 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



EDP Number		Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP255-1181	●	-	-	-	3.000	0.11811	28.00	66.00	6.00
HP255-1220	●	-	-	-	3.100	0.12205	28.00	66.00	6.00
HP255-1248	●	1/8	-	-	3.175	0.12500	28.00	66.00	6.00
HP255-1260	●	-	-	-	3.200	0.12598	28.00	66.00	6.00
HP255-1299	●	-	-	-	3.300	0.12992	28.00	66.00	6.00
HP255-1339	●	-	-	-	3.400	0.13386	28.00	66.00	6.00
HP255-1378	●	-	-	-	3.500	0.13780	28.00	66.00	6.00
HP255-1406	●	9/64	-	-	3.572	0.14063	28.00	66.00	6.00
HP255-1417	●	-	-	-	3.600	0.14173	28.00	66.00	6.00
HP255-1457	●	-	-	-	3.700	0.14567	28.00	66.00	6.00
HP255-1496	●	-	-	-	3.800	0.14961	36.00	74.00	6.00
HP255-1535	●	-	-	-	3.900	0.15354	36.00	74.00	6.00
HP255-1563	●	5/32	-	-	3.969	0.15625	36.00	74.00	6.00
HP255-1575	●	-	-	-	4.000	0.15748	36.00	74.00	6.00
HP255-1610	●	-	20	-	4.089	0.16100	36.00	74.00	6.00
HP255-1614	●	-	-	-	4.100	0.16142	36.00	74.00	6.00
HP255-1654	●	-	-	-	4.200	0.16535	36.00	74.00	6.00
HP255-1693	●	-	-	-	4.300	0.16929	36.00	74.00	6.00
HP255-1720	●	11/64	-	-	4.366	0.17188	36.00	74.00	6.00
HP255-1732	●	-	-	-	4.400	0.17323	36.00	74.00	6.00
HP255-1772	●	-	-	-	4.500	0.17717	36.00	74.00	6.00
HP255-1811	●	-	-	-	4.600	0.18110	36.00	74.00	6.00
HP255-1831	●	-	-	-	4.650	0.18307	36.00	74.00	6.00
HP255-1850	●	-	-	-	4.700	0.18504	36.00	74.00	6.00
HP255-1874	●	3/16	-	-	4.763	0.18750	44.00	82.00	6.00
HP255-1890	●	-	-	-	4.800	0.18898	44.00	82.00	6.00
HP255-1929	●	-	-	-	4.900	0.19291	44.00	82.00	6.00
HP255-1969	●	-	-	-	5.000	0.19685	44.00	82.00	6.00
HP255-2008	●	-	-	-	5.100	0.20079	44.00	82.00	6.00
HP255-2031	●	13/64	-	-	5.159	0.20313	44.00	82.00	6.00
HP255-2047	●	-	-	-	5.200	0.20472	44.00	82.00	6.00
HP255-2087	●	-	-	-	5.300	0.20866	44.00	82.00	6.00
HP255-2126	●	-	-	-	5.400	0.21260	44.00	82.00	6.00
HP255-2130	●	-	3	-	5.410	0.21300	44.00	82.00	6.00
HP255-2165	●	-	-	-	5.500	0.21654	44.00	82.00	6.00
HP255-2189	●	7/32	-	-	5.556	0.21875	44.00	82.00	6.00
HP255-2205	●	-	-	-	5.600	0.22047	44.00	82.00	6.00
HP255-2244	●	-	-	-	5.700	0.22441	44.00	82.00	6.00
HP255-2283	●	-	-	-	5.800	0.22835	44.00	82.00	6.00
HP255-2323	●	-	-	-	5.900	0.23228	44.00	82.00	6.00
HP255-2343	●	15/64	-	-	5.953	0.23438	44.00	82.00	6.00
HP255-2362	●	-	-	-	6.000	0.23622	44.00	82.00	6.00
HP255-2402	●	-	-	-	6.100	0.24016	53.00	91.00	8.00
HP255-2441	●	-	-	-	6.200	0.24409	53.00	91.00	8.00
HP255-2480	●	-	-	-	6.300	0.24803	53.00	91.00	8.00
HP255-2500	●	1/4	-	E	6.350	0.25000	53.00	91.00	8.00
HP255-2520	●	-	-	-	6.400	0.25197	53.00	91.00	8.00
HP255-2559	●	-	-	-	6.500	0.25591	53.00	91.00	8.00
HP255-2571	●	-	-	F	6.528	0.25700	53.00	91.00	8.00
HP255-2598	●	-	-	-	6.600	0.25984	53.00	91.00	8.00
HP255-2638	●	-	-	-	6.700	0.26378	53.00	91.00	8.00
HP255-2657	●	17/64	-	-	6.746	0.26563	53.00	91.00	8.00
HP255-2677	●	-	-	-	6.800	0.26772	53.00	91.00	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP255 (Continued)

HY-PRO® CARB-OH-5D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP255-2717	●	-	-	-	6.900	0.27165	53.00	91.00	8.00
HP255-2756	●	-	-	-	7.000	0.27559	53.00	91.00	8.00
HP255-2795	●	-	-	-	7.100	0.27953	53.00	91.00	8.00
HP255-2811	●	9/32	-	-	7.145	0.28125	53.00	91.00	8.00
HP255-2835	●	-	-	-	7.200	0.28346	53.00	91.00	8.00
HP255-2874	●	-	-	-	7.300	0.28740	53.00	91.00	8.00
HP255-2913	●	-	-	-	7.400	0.29134	53.00	91.00	8.00
HP255-2953	●	-	-	-	7.500	0.29528	53.00	91.00	8.00
HP255-2969	●	19/64	-	-	7.541	0.29688	53.00	91.00	8.00
HP255-2992	●	-	-	-	7.600	0.29921	53.00	91.00	8.00
HP255-3031	●	-	-	-	7.700	0.30315	53.00	91.00	8.00
HP255-3071	●	-	-	-	7.800	0.30709	53.00	91.00	8.00
HP255-3110	●	-	-	-	7.900	0.31102	53.00	91.00	8.00
HP255-3126	●	5/16	-	-	7.938	0.31250	53.00	91.00	8.00
HP255-3150	●	-	-	-	8.000	0.31496	53.00	91.00	8.00
HP255-3189	●	-	-	-	8.100	0.31890	61.00	103.00	10.00
HP255-3228	●	-	-	-	8.200	0.32283	61.00	103.00	10.00
HP255-3268	●	-	-	-	8.300	0.32677	61.00	103.00	10.00
HP255-3280	●	21/64	-	-	8.334	0.32813	61.00	103.00	10.00
HP255-3307	●	-	-	-	8.400	0.33071	61.00	103.00	10.00
HP255-3319	●	-	-	Q	8.433	0.33200	61.00	103.00	10.00
HP255-3346	●	-	-	-	8.500	0.33465	61.00	103.00	10.00
HP255-3386	●	-	-	-	8.600	0.33858	61.00	103.00	10.00
HP255-3425	●	-	-	-	8.700	0.34252	61.00	103.00	10.00
HP255-3437	●	11/32	-	-	8.733	0.34375	61.00	103.00	10.00
HP255-3465	●	-	-	-	8.800	0.34646	61.00	103.00	10.00
HP255-3504	●	-	-	-	8.900	0.35039	61.00	103.00	10.00
HP255-3543	●	-	-	-	9.000	0.35433	61.00	103.00	10.00
HP255-3583	●	-	-	-	9.100	0.35827	61.00	103.00	10.00
HP255-3594	●	23/64	-	-	9.129	0.35938	61.00	103.00	10.00
HP255-3622	●	-	-	-	9.200	0.36220	61.00	103.00	10.00
HP255-3642	●	-	-	-	9.250	0.36417	61.00	103.00	10.00
HP255-3661	●	-	-	-	9.300	0.36614	61.00	103.00	10.00
HP255-3701	●	-	-	-	9.400	0.37008	61.00	103.00	10.00
HP255-3740	●	-	-	-	9.500	0.37402	61.00	103.00	10.00
HP255-3748	●	3/8	-	-	9.525	0.37500	61.00	103.00	10.00
HP255-3780	●	-	-	-	9.600	0.37795	61.00	103.00	10.00
HP255-3819	●	-	-	-	9.700	0.38189	61.00	103.00	10.00
HP255-3858	●	-	-	-	9.800	0.38583	61.00	103.00	10.00
HP255-3898	●	-	-	-	9.900	0.38976	61.00	103.00	10.00
HP255-3906	●	25/64	-	-	9.921	0.39063	61.00	103.00	10.00
HP255-3937	●	-	-	-	10.000	0.39370	61.00	103.00	10.00
HP255-3976	●	-	-	-	10.100	0.39764	71.00	118.00	12.00
HP255-4016	●	-	-	-	10.200	0.40157	71.00	118.00	12.00
HP255-4055	●	-	-	-	10.300	0.40551	71.00	118.00	12.00
HP255-4063	●	13/32	-	-	10.319	0.40625	71.00	118.00	12.00
HP255-4094	●	-	-	-	10.400	0.40945	71.00	118.00	12.00
HP255-4134	●	-	-	-	10.500	0.41339	71.00	118.00	12.00
HP255-4173	●	-	-	-	10.600	0.41732	71.00	118.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		

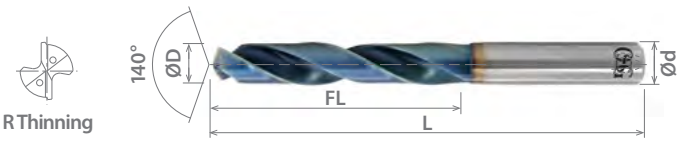
○ Good ◎ Best

List HP255 (Continued)

HY-PRO® CARB-OH-5D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
D = 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



EDP Number		Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP255-4213	●	-	-	-	10.700	0.42126	71.00	118.00	12.00
HP255-4220	●	27/64	-	-	10.716	0.42188	71.00	118.00	12.00
HP255-4252	●	-	-	-	10.800	0.42520	71.00	118.00	12.00
HP255-4291	●	-	-	-	10.900	0.42913	71.00	118.00	12.00
HP255-4331	●	-	-	-	11.000	0.43307	71.00	118.00	12.00
HP255-4370	●	-	-	-	11.100	0.43701	71.00	118.00	12.00
HP255-4374	●	7/16	-	-	11.113	0.43750	71.00	118.00	12.00
HP255-4409	●	-	-	-	11.200	0.44094	71.00	118.00	12.00
HP255-4449	●	-	-	-	11.300	0.44488	71.00	118.00	12.00
HP255-4488	●	-	-	-	11.400	0.44882	71.00	118.00	12.00
HP255-4528	●	-	-	-	11.500	0.45276	71.00	118.00	12.00
HP255-4531	●	29/64	-	-	11.509	0.45313	71.00	118.00	12.00
HP255-4567	●	-	-	-	11.600	0.45669	71.00	118.00	12.00
HP255-4606	●	-	-	-	11.700	0.46063	71.00	118.00	12.00
HP255-4646	●	-	-	-	11.800	0.46457	71.00	118.00	12.00
HP255-4685	●	-	-	-	11.900	0.46850	71.00	118.00	12.00
HP255-4689	●	15/32	-	-	11.908	0.46875	71.00	118.00	12.00
HP255-4724	●	-	-	-	12.000	0.47244	71.00	118.00	12.00
HP255-4764	●	-	-	-	12.100	0.47638	77.00	124.00	14.00
HP255-4803	●	-	-	-	12.200	0.48031	77.00	124.00	14.00
HP255-4843	●	-	-	-	12.300	0.48425	77.00	124.00	14.00
HP255-4882	●	-	-	-	12.400	0.48819	77.00	124.00	14.00
HP255-4921	●	-	-	-	12.500	0.49213	77.00	124.00	14.00
HP255-4961	●	-	-	-	12.600	0.49606	77.00	124.00	14.00
HP255-5000	●	1/2	-	-	12.700	0.50000	77.00	124.00	14.00
HP255-5039	●	-	-	-	12.800	0.50394	77.00	124.00	14.00
HP255-5079	●	-	-	-	12.900	0.50787	77.00	124.00	14.00
HP255-5118	●	-	-	-	13.000	0.51181	77.00	124.00	14.00
HP255-5157	●	-	-	-	13.100	0.51575	77.00	124.00	14.00
HP255-5197	●	-	-	-	13.200	0.51969	77.00	124.00	14.00
HP255-5236	●	-	-	-	13.300	0.52362	77.00	124.00	14.00
HP255-5276	●	-	-	-	13.400	0.52756	77.00	124.00	14.00
HP255-5311	●	17/32	-	-	13.495	0.53125	77.00	124.00	14.00
HP255-5315	●	-	-	-	13.500	0.53150	77.00	124.00	14.00
HP255-5394	●	-	-	-	13.700	0.53937	77.00	124.00	14.00
HP255-5512	●	-	-	-	14.000	0.55118	77.00	124.00	14.00
HP255-5626	●	9/16	-	-	14.288	0.56250	83.00	133.00	16.00
HP255-5709	●	-	-	-	14.500	0.57087	83.00	133.00	16.00
HP255-5780	●	37/64	-	-	14.684	0.57813	83.00	133.00	16.00
HP255-5787	●	-	-	-	14.700	0.57874	83.00	133.00	16.00
HP255-5906	●	-	-	-	15.000	0.59055	83.00	133.00	16.00
HP255-5937	●	19/32	-	-	15.083	0.59375	83.00	133.00	16.00
HP255-6102	●	-	-	-	15.500	0.61024	83.00	133.00	16.00
HP255-6181	●	-	-	-	15.700	0.61811	83.00	133.00	16.00
HP255-6248	●	5/8	-	-	15.875	0.62500	83.00	133.00	16.00
HP255-6299	●	-	-	-	16.000	0.62992	83.00	133.00	16.00
HP255-6339	●	-	-	-	16.100	0.63386	93.00	143.00	18.00
HP255-6496	●	-	-	-	16.500	0.64961	93.00	143.00	18.00
HP255-6563	●	21/32	-	-	16.669	0.65625	93.00	143.00	18.00
HP255-6693	●	-	-	-	17.000	0.66929	93.00	143.00	18.00
HP255-6890	●	-	-	-	17.500	0.68898	93.00	143.00	18.00
HP255-7087	●	-	-	-	18.000	0.70866	93.00	143.00	18.00
HP255-7283	●	-	-	-	18.500	0.72835	101.00	153.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP255 (Continued)

HY-PRO® CARB-OH-5D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP255-7480	●	-	-	-	19.000	0.74803	101.00	153.00	20.00
HP255-7500	●	3/4	-	-	19.050	0.75000	101.00	153.00	20.00
HP255-7579	●	-	-	-	19.250	0.75787	101.00	153.00	20.00
HP255-7677	●	-	-	-	19.500	0.76772	101.00	153.00	20.00
HP255-7874	●	-	-	-	20.000	0.78740	101.00	153.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		

○ Good ◎ Best

List HP258

HY-PRO® CARB-OH-8D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
D = 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP258-1181	●	-	-	-	3.000	0.11811	34.00	77.00	4.00
HP258-1220	●	-	-	-	3.100	0.12205	36.00	77.00	4.00
HP258-1248	●	1/8	-	-	3.175	0.12500	43.00	81.00	4.00
HP258-1260	●	-	-	-	3.200	0.12598	36.00	77.00	4.00
HP258-1299	●	-	-	-	3.300	0.12992	36.00	77.00	4.00
HP258-1339	●	-	-	-	3.400	0.13386	36.00	77.00	4.00
HP258-1378	●	-	-	-	3.500	0.13780	36.00	77.00	4.00
HP258-1406	●	9/64	-	-	3.572	0.14063	43.00	81.00	4.00
HP258-1417	●	-	-	-	3.600	0.14173	36.00	77.00	4.00
HP258-1457	●	-	-	-	3.700	0.14567	36.00	77.00	4.00
HP258-1496	●	-	-	-	3.800	0.14961	45.00	85.00	4.00
HP258-1535	●	-	-	-	3.900	0.15354	45.00	85.00	4.00
HP258-1563	●	5/32	-	-	3.969	0.15625	43.00	81.00	4.00
HP258-1575	●	-	-	-	4.000	0.15748	45.00	85.00	4.00
HP258-1610	●	-	20	-	4.089	0.16100	50.00	90.00	6.00
HP258-1614	●	-	-	-	4.100	0.16142	45.00	85.00	6.00
HP258-1654	●	-	-	-	4.200	0.16535	45.00	85.00	6.00
HP258-1693	●	-	-	-	4.300	0.16929	45.00	85.00	6.00
HP258-1720	●	11/64	-	-	4.366	0.17188	50.00	90.00	6.00
HP258-1732	●	-	-	-	4.400	0.17323	45.00	85.00	6.00
HP258-1772	●	-	-	-	4.500	0.17717	45.00	85.00	6.00
HP258-1811	●	-	-	-	4.600	0.18110	45.00	85.00	6.00
HP258-1831	●	-	-	-	4.650	0.18307	45.00	85.00	6.00
HP258-1850	●	-	-	-	4.700	0.18504	45.00	85.00	6.00
HP258-1874	●	3/16	-	-	4.763	0.18750	50.00	90.00	6.00
HP258-1890	●	-	-	-	4.800	0.18898	50.00	90.00	6.00
HP258-1929	●	-	-	-	4.900	0.19291	50.00	90.00	6.00
HP258-1969	●	-	-	-	5.000	0.19685	50.00	90.00	6.00
HP258-2008	●	-	-	-	5.100	0.20079	57.00	97.00	6.00
HP258-2031	●	13/64	-	-	5.159	0.20313	57.00	97.00	6.00
HP258-2047	●	-	-	-	5.200	0.20472	57.00	97.00	6.00
HP258-2087	●	-	-	-	5.300	0.20866	57.00	97.00	6.00
HP258-2126	●	-	-	-	5.400	0.21260	57.00	97.00	6.00
HP258-2130	●	-	3	-	5.410	0.21300	57.00	97.00	6.00
HP258-2165	●	-	-	-	5.500	0.21654	57.00	97.00	6.00
HP258-2189	●	7/32	-	-	5.556	0.21875	57.00	97.00	6.00
HP258-2205	●	-	-	-	5.600	0.22047	57.00	97.00	6.00
HP258-2244	●	-	-	-	5.700	0.22441	57.00	97.00	6.00
HP258-2283	●	-	-	-	5.800	0.22835	57.00	97.00	6.00
HP258-2323	●	-	-	-	5.900	0.23228	57.00	97.00	6.00
HP258-2343	●	15/64	-	-	5.953	0.23438	57.00	97.00	6.00
HP258-2362	●	-	-	-	6.000	0.23622	57.00	97.00	6.00
HP258-2402	●	-	-	-	6.100	0.24016	66.00	106.00	8.00
HP258-2441	●	-	-	-	6.200	0.24409	66.00	106.00	8.00
HP258-2480	●	-	-	-	6.300	0.24803	66.00	106.00	8.00
HP258-2500	●	1/4	-	E	6.350	0.25000	66.00	106.00	8.00
HP258-2520	●	-	-	-	6.400	0.25197	66.00	106.00	8.00
HP258-2559	●	-	-	-	6.500	0.25591	66.00	106.00	8.00
HP258-2571	●	-	-	F	6.528	0.25700	66.00	106.00	8.00
HP258-2598	●	-	-	-	6.600	0.25984	66.00	106.00	8.00
HP258-2638	●	-	-	-	6.700	0.26378	66.00	106.00	8.00
HP258-2657	●	17/64	-	-	6.746	0.26563	66.00	106.00	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP258 (Continued)

HY-PRO® CARB-OH-8D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP258-2677	●	-	-	-	6.800	0.26772	66.00	106.00	8.00
HP258-2717	●	-	-	-	6.900	0.27165	76.00	116.00	8.00
HP258-2756	●	-	-	-	7.000	0.27559	76.00	116.00	8.00
HP258-2795	●	-	-	-	7.100	0.27953	76.00	116.00	8.00
HP258-2811	●	9/32	-	-	7.145	0.28125	76.00	116.00	8.00
HP258-2835	●	-	-	-	7.200	0.28346	76.00	116.00	8.00
HP258-2874	●	-	-	-	7.300	0.28740	76.00	116.00	8.00
HP258-2913	●	-	-	-	7.400	0.29134	76.00	116.00	8.00
HP258-2953	●	-	-	-	7.500	0.29528	76.00	116.00	8.00
HP258-2969	●	19/64	-	-	7.541	0.29688	76.00	116.00	8.00
HP258-2992	●	-	-	-	7.600	0.29921	76.00	116.00	8.00
HP258-3031	●	-	-	-	7.700	0.30315	76.00	116.00	8.00
HP258-3071	●	-	-	-	7.800	0.30709	76.00	116.00	8.00
HP258-3110	●	-	-	-	7.900	0.31102	76.00	116.00	8.00
HP258-3126	●	5/16	-	-	7.938	0.31250	76.00	116.00	8.00
HP258-3150	●	-	-	-	8.000	0.31496	76.00	116.00	8.00
HP258-3189	●	-	-	-	8.100	0.31890	87.00	131.00	10.00
HP258-3228	●	-	-	-	8.200	0.32283	87.00	131.00	10.00
HP258-3268	●	-	-	-	8.300	0.32677	87.00	131.00	10.00
HP258-3280	●	21/64	-	-	8.334	0.32813	87.00	131.00	10.00
HP258-3307	●	-	-	-	8.400	0.33071	87.00	131.00	10.00
HP258-3319	●	-	-	Q	8.433	0.33200	87.00	131.00	10.00
HP258-3346	●	-	-	-	8.500	0.33465	87.00	131.00	10.00
HP258-3386	●	-	-	-	8.600	0.33858	87.00	131.00	10.00
HP258-3425	●	-	-	-	8.700	0.34252	87.00	131.00	10.00
HP258-3437	●	11/32	-	-	8.733	0.34375	87.00	131.00	10.00
HP258-3465	●	-	-	-	8.800	0.34646	87.00	131.00	10.00
HP258-3504	●	-	-	-	8.900	0.35039	87.00	131.00	10.00
HP258-3543	●	-	-	-	9.000	0.35433	87.00	131.00	10.00
HP258-3583	●	-	-	-	9.100	0.35827	95.00	139.00	10.00
HP258-3594	●	23/64	-	-	9.129	0.35938	95.00	139.00	10.00
HP258-3622	●	-	-	-	9.200	0.36220	95.00	139.00	10.00
HP258-3642	●	-	-	-	9.250	0.36417	95.00	139.00	10.00
HP258-3661	●	-	-	-	9.300	0.36614	95.00	139.00	10.00
HP258-3701	●	-	-	-	9.400	0.37008	95.00	139.00	10.00
HP258-3740	●	-	-	-	9.500	0.37402	95.00	139.00	10.00
HP258-3748	●	3/8	-	-	9.525	0.37500	95.00	139.00	10.00
HP258-3780	●	-	-	-	9.600	0.37795	95.00	139.00	10.00
HP258-3819	●	-	-	-	9.700	0.38189	95.00	139.00	10.00
HP258-3858	●	-	-	-	9.800	0.38583	95.00	139.00	10.00
HP258-3898	●	-	-	-	9.900	0.38976	95.00	139.00	10.00
HP258-3906	●	25/64	-	-	9.921	0.39063	95.00	139.00	10.00
HP258-3937	●	-	-	-	10.000	0.39370	95.00	139.00	10.00
HP258-3976	●	-	-	-	10.100	0.39764	106.00	155.00	12.00
HP258-4016	●	-	-	-	10.200	0.40157	106.00	155.00	12.00
HP258-4055	●	-	-	-	10.300	0.40551	106.00	155.00	12.00
HP258-4063	●	13/32	-	-	10.319	0.40625	106.00	155.00	12.00
HP258-4094	●	-	-	-	10.400	0.40945	106.00	155.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		

○ Good ◎ Best

List HP258 (Continued)

HY-PRO® CARB-OH-8D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
D = 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



R Thinning



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)
HP258-4134	●	-	-	-	10.500	0.41339	106.00	155.00	12.00
HP258-4173	●	-	-	-	10.600	0.41732	106.00	155.00	12.00
HP258-4213	●	-	-	-	10.700	0.42126	106.00	155.00	12.00
HP258-4220	●	27/64	-	-	10.716	0.42188	106.00	155.00	12.00
HP258-4252	●	-	-	-	10.800	0.42520	106.00	155.00	12.00
HP258-4291	●	-	-	-	10.900	0.42913	106.00	155.00	12.00
HP258-4331	●	-	-	-	11.000	0.43307	106.00	155.00	12.00
HP258-4370	●	-	-	-	11.100	0.43701	114.00	163.00	12.00
HP258-4374	●	7/16	-	-	11.113	0.43750	114.00	163.00	12.00
HP258-4409	●	-	-	-	11.200	0.44094	114.00	163.00	12.00
HP258-4449	●	-	-	-	11.300	0.44488	114.00	163.00	12.00
HP258-4488	●	-	-	-	11.400	0.44882	114.00	163.00	12.00
HP258-4528	●	-	-	-	11.500	0.45276	114.00	163.00	12.00
HP258-4531	●	29/64	-	-	11.509	0.45313	114.00	163.00	12.00
HP258-4567	●	-	-	-	11.600	0.45669	114.00	163.00	12.00
HP258-4606	●	-	-	-	11.700	0.46063	114.00	163.00	12.00
HP258-4646	●	-	-	-	11.800	0.46457	114.00	163.00	12.00
HP258-4685	●	-	-	-	11.900	0.46850	114.00	163.00	12.00
HP258-4689	●	15/32	-	-	11.908	0.46875	114.00	163.00	12.00
HP258-4724	●	-	-	-	12.000	0.47244	114.00	163.00	12.00
HP258-4764	●	-	-	-	12.100	0.47638	133.00	182.00	14.00
HP258-4803	●	-	-	-	12.200	0.48031	133.00	182.00	14.00
HP258-4843	●	-	-	-	12.300	0.48425	133.00	182.00	14.00
HP258-4882	●	-	-	-	12.400	0.48819	133.00	182.00	14.00
HP258-4921	●	-	-	-	12.500	0.49213	133.00	182.00	14.00
HP258-4961	●	-	-	-	12.600	0.49606	133.00	182.00	14.00
HP258-5000	●	1/2	-	-	12.700	0.50000	133.00	182.00	14.00
HP258-5039	●	-	-	-	12.800	0.50394	133.00	182.00	14.00
HP258-5079	●	-	-	-	12.900	0.50787	133.00	182.00	14.00
HP258-5118	●	-	-	-	13.000	0.51181	133.00	182.00	14.00
HP258-5157	●	-	-	-	13.100	0.51575	133.00	182.00	14.00
HP258-5197	●	-	-	-	13.200	0.51969	133.00	182.00	14.00
HP258-5236	●	-	-	-	13.300	0.52362	133.00	182.00	14.00
HP258-5276	●	-	-	-	13.400	0.52756	133.00	182.00	14.00
HP258-5311	●	17/32	-	-	13.495	0.53125	133.00	182.00	14.00
HP258-5315	●	-	-	-	13.500	0.53150	133.00	182.00	14.00
HP258-5394	●	-	-	-	13.700	0.53937	133.00	182.00	14.00
HP258-5512	●	-	-	-	14.000	0.55118	133.00	182.00	14.00
HP258-5626	●	9/16	-	-	14.288	0.56250	152.00	204.00	16.00
HP258-5709	●	-	-	-	14.500	0.57087	152.00	204.00	16.00
HP258-5780	●	37/64	-	-	14.684	0.57813	152.00	204.00	16.00
HP258-5787	●	-	-	-	14.700	0.57874	152.00	204.00	16.00
HP258-5906	●	-	-	-	15.000	0.59055	152.00	204.00	16.00
HP258-5937	●	19/32	-	-	15.083	0.59375	152.00	204.00	16.00
HP258-6102	●	-	-	-	15.500	0.61024	152.00	204.00	16.00
HP258-6181	●	-	-	-	15.700	0.61811	152.00	204.00	16.00
HP258-6248	●	5/8	-	-	15.875	0.62500	152.00	204.00	16.00
HP258-6299	●	-	-	-	16.000	0.62992	152.00	204.00	16.00
HP258-6496	●	-	-	-	16.500	0.64961	171.00	223.00	18.00
HP258-6563	●	21/32	-	-	16.669	0.65625	171.00	223.00	18.00
HP258-6693	●	-	-	-	17.000	0.66929	171.00	223.00	18.00
HP258-6890	●	-	-	-	17.500	0.68898	171.00	223.00	18.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP258 (Continued)

HY-PRO® CARB-OH-8D

SPEED FEED 334-335 | CARBIDE | EgiAs | 2 FLUTE | TAPER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP258-7087	●	-	-	-	18.000	0.70866	171.00	223.00	18.00
HP258-7283	●	-	-	-	18.500	0.72835	190.00	244.00	20.00
HP258-7480	●	-	-	-	19.000	0.74803	190.00	244.00	20.00
HP258-7500	●	3/4	-	-	19.050	0.75000	190.00	244.00	20.00
HP258-7677	●	-	-	-	19.500	0.76772	190.00	244.00	20.00
HP258-7874	●	-	-	-	20.000	0.78740	190.00	244.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎		○	○	○	◎	○		

○ Good ◎ Best

List HP243

HY-PRO® CARB-3D

SPEED FEED 336-337 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
1 ≤ D ≤ 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP243-0394	●	-	-	-	1.000	0.03937	7.00	35.00	3.00
HP243-0433	●	-	-	-	1.100	0.04331	7.00	35.00	3.00
HP243-0469	●	3/64	-	-	1.191	0.04688	8.00	35.00	3.00
HP243-0472	●	-	-	-	1.200	0.04724	8.00	35.00	3.00
HP243-0512	●	-	-	-	1.300	0.05118	8.00	35.00	3.00
HP243-0551	●	-	-	-	1.400	0.05512	9.00	35.00	3.00
HP243-0591	●	-	-	-	1.500	0.05906	9.00	40.00	3.00
HP243-0626	●	1/16	-	-	1.588	0.06250	10.00	40.00	3.00
HP243-0630	●	-	-	-	1.600	0.06299	10.00	40.00	3.00
HP243-0669	●	-	-	-	1.700	0.06693	10.00	40.00	3.00
HP243-0709	●	-	-	-	1.800	0.07087	11.00	40.00	3.00
HP243-0748	●	-	-	-	1.900	0.07480	11.00	40.00	3.00
HP243-0780	●	5/64	-	-	1.984	0.07813	13.00	45.00	3.00
HP243-0787	●	-	-	-	2.000	0.07874	13.00	45.00	3.00
HP243-0827	●	-	-	-	2.100	0.08268	13.00	45.00	3.00
HP243-0866	●	-	-	-	2.200	0.08661	13.00	45.00	3.00
HP243-0906	●	-	-	-	2.300	0.09055	13.00	45.00	3.00
HP243-0937	●	3/32	-	-	2.381	0.09375	13.00	45.00	3.00
HP243-0945	●	-	-	-	2.400	0.09449	15.00	45.00	3.00
HP243-0984	●	-	-	-	2.500	0.09843	15.00	50.00	3.00
HP243-1024	●	-	-	-	2.600	0.10236	15.00	50.00	3.00
HP243-1063	●	-	-	-	2.700	0.10630	17.00	50.00	3.00
HP243-1094	●	7/64	-	-	2.778	0.10938	17.00	50.00	3.00
HP243-1102	●	-	-	-	2.800	0.11024	17.00	50.00	3.00
HP243-1142	●	-	-	-	2.900	0.11417	17.00	50.00	3.00
HP243-1181	●	-	-	-	3.000	0.11811	20.00	62.00	6.00
HP243-1220	●	-	-	-	3.100	0.12205	20.00	62.00	6.00
HP243-1248	●	1/8	-	-	3.175	0.12500	20.00	62.00	6.00
HP243-1260	●	-	-	-	3.200	0.12598	20.00	62.00	6.00
HP243-1299	●	-	-	-	3.300	0.12992	20.00	62.00	6.00
HP243-1339	●	-	-	-	3.400	0.13386	20.00	62.00	6.00
HP243-1378	●	-	-	-	3.500	0.13780	20.00	62.00	6.00
HP243-1406	●	9/64	-	-	3.572	0.14063	20.00	62.00	6.00
HP243-1417	●	-	-	-	3.600	0.14173	20.00	62.00	6.00
HP243-1457	●	-	-	-	3.700	0.14567	20.00	62.00	6.00
HP243-1496	●	-	-	-	3.800	0.14961	24.00	66.00	6.00
HP243-1535	●	-	-	-	3.900	0.15354	24.00	66.00	6.00
HP243-1563	●	5/32	-	-	3.969	0.15625	24.00	66.00	6.00
HP243-1575	●	-	-	-	4.000	0.15748	24.00	66.00	6.00
HP243-1610	●	-	20	-	4.089	0.16100	24.00	66.00	6.00
HP243-1614	●	-	-	-	4.100	0.16142	24.00	66.00	6.00
HP243-1654	●	-	-	-	4.200	0.16535	24.00	66.00	6.00
HP243-1693	●	-	-	-	4.300	0.16929	24.00	66.00	6.00
HP243-1720	●	11/64	-	-	4.366	0.17188	24.00	66.00	6.00
HP243-1732	●	-	-	-	4.400	0.17323	24.00	66.00	6.00
HP243-1772	●	-	-	-	4.500	0.17717	24.00	66.00	6.00
HP243-1811	●	-	-	-	4.600	0.18110	24.00	66.00	6.00
HP243-1831	●	-	-	-	4.650	0.18307	24.00	66.00	6.00
HP243-1850	●	-	-	-	4.700	0.18504	24.00	66.00	6.00
HP243-1874	●	3/16	-	-	4.763	0.18750	28.00	66.00	6.00
HP243-1890	●	-	-	-	4.800	0.18898	28.00	66.00	6.00
HP243-1929	●	-	-	-	4.900	0.19291	28.00	66.00	6.00
HP243-1969	●	-	-	-	5.000	0.19685	28.00	66.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP243 (Continued)

HY-PRO® CARB-3D

SPEED FEED 336-337 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP243-2008	●	-	-	-	5.100	0.20079	28.00	66.00	6.00
HP243-2031	●	13/64	-	-	5.159	0.20313	28.00	66.00	6.00
HP243-2047	●	-	-	-	5.200	0.20472	28.00	66.00	6.00
HP243-2087	●	-	-	-	5.300	0.20866	28.00	66.00	6.00
HP243-2126	●	-	-	-	5.400	0.21260	28.00	66.00	6.00
HP243-2130	●	-	3	-	5.410	0.21300	28.00	66.00	6.00
HP243-2165	●	-	-	-	5.500	0.21654	28.00	66.00	6.00
HP243-2189	●	7/32	-	-	5.556	0.21875	28.00	66.00	6.00
HP243-2205	●	-	-	-	5.600	0.22047	28.00	66.00	6.00
HP243-2244	●	-	-	-	5.700	0.22441	28.00	66.00	6.00
HP243-2283	●	-	-	-	5.800	0.22835	28.00	66.00	6.00
HP243-2323	●	-	-	-	5.900	0.23228	28.00	66.00	6.00
HP243-2343	●	15/64	-	-	5.953	0.23438	28.00	66.00	6.00
HP243-2362	●	-	-	-	6.000	0.23622	28.00	66.00	6.00
HP243-2402	●	-	-	-	6.100	0.24016	34.00	79.00	8.00
HP243-2441	●	-	-	-	6.200	0.24409	34.00	79.00	8.00
HP243-2480	●	-	-	-	6.300	0.24803	34.00	79.00	8.00
HP243-2500	●	1/4	-	E	6.350	0.25000	34.00	79.00	8.00
HP243-2520	●	-	-	-	6.400	0.25197	34.00	79.00	8.00
HP243-2559	●	-	-	-	6.500	0.25591	34.00	79.00	8.00
HP243-2571	●	-	-	F	6.528	0.25700	34.00	79.00	8.00
HP243-2598	●	-	-	-	6.600	0.25984	34.00	79.00	8.00
HP243-2638	●	-	-	-	6.700	0.26378	34.00	79.00	8.00
HP243-2657	●	17/64	-	-	6.747	0.26563	34.00	79.00	8.00
HP243-2677	●	-	-	-	6.800	0.26772	34.00	79.00	8.00
HP243-2717	●	-	-	-	6.900	0.27165	34.00	79.00	8.00
HP243-2756	●	-	-	-	7.000	0.27559	34.00	79.00	8.00
HP243-2795	●	-	-	-	7.100	0.27953	41.00	79.00	8.00
HP243-2811	●	9/32	-	-	7.144	0.28125	41.00	79.00	8.00
HP243-2835	●	-	-	-	7.200	0.28346	41.00	79.00	8.00
HP243-2874	●	-	-	-	7.300	0.28740	41.00	79.00	8.00
HP243-2913	●	-	-	-	7.400	0.29134	41.00	79.00	8.00
HP243-2953	●	-	-	-	7.500	0.29528	41.00	79.00	8.00
HP243-2969	●	19/64	-	-	7.541	0.29688	41.00	79.00	8.00
HP243-2992	●	-	-	-	7.600	0.29921	41.00	79.00	8.00
HP243-3031	●	-	-	-	7.700	0.30315	41.00	79.00	8.00
HP243-3071	●	-	-	-	7.800	0.30709	41.00	79.00	8.00
HP243-3110	●	-	-	-	7.900	0.31102	41.00	79.00	8.00
HP243-3126	●	5/16	-	-	7.938	0.31250	41.00	79.00	8.00
HP243-3150	●	-	-	-	8.000	0.31496	41.00	79.00	8.00
HP243-3189	●	-	-	-	8.100	0.31890	47.00	89.00	10.00
HP243-3228	●	-	-	-	8.200	0.32283	47.00	89.00	10.00
HP243-3268	●	-	-	-	8.300	0.32677	47.00	89.00	10.00
HP243-3280	●	21/64	-	-	8.334	0.32813	47.00	89.00	10.00
HP243-3307	●	-	-	-	8.400	0.33071	47.00	89.00	10.00
HP243-3319	●	-	-	Q	8.433	0.33200	47.00	89.00	10.00
HP243-3346	●	-	-	-	8.500	0.33465	47.00	89.00	10.00
HP243-3386	●	-	-	-	8.600	0.33858	47.00	89.00	10.00
HP243-3425	●	-	-	-	8.700	0.34252	47.00	89.00	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎				◎		○			◎	○		

○ Good ◎ Best

List HP243 (Continued)

HY-PRO® CARB-3D

SPEED FEED 336-337 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE



Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
1 ≤ D ≤ 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP243-3437	●	11/32	-	-	8.731	0.34375	47.00	89.00	10.00
HP243-3465	●	-	-	-	8.800	0.34646	47.00	89.00	10.00
HP243-3504	●	-	-	-	8.900	0.35039	47.00	89.00	10.00
HP243-3543	●	-	-	-	9.000	0.35433	47.00	89.00	10.00
HP243-3583	●	-	-	-	9.100	0.35827	47.00	89.00	10.00
HP243-3594	●	23/64	-	-	9.128	0.35938	47.00	89.00	10.00
HP243-3622	●	-	-	-	9.200	0.36220	47.00	89.00	10.00
HP243-3642	●	-	-	-	9.250	0.36417	47.00	89.00	10.00
HP243-3661	●	-	-	-	9.300	0.36614	47.00	89.00	10.00
HP243-3701	●	-	-	-	9.400	0.37008	47.00	89.00	10.00
HP243-3740	●	-	-	-	9.500	0.37402	47.00	89.00	10.00
HP243-3748	●	3/8	-	-	9.525	0.37500	47.00	89.00	10.00
HP243-3780	●	-	-	-	9.600	0.37795	47.00	89.00	10.00
HP243-3819	●	-	-	-	9.700	0.38189	47.00	89.00	10.00
HP243-3858	●	-	-	-	9.800	0.38583	47.00	89.00	10.00
HP243-3898	●	-	-	-	9.900	0.38976	47.00	89.00	10.00
HP243-3906	●	25/64	-	-	9.922	0.39063	47.00	89.00	10.00
HP243-3937	●	-	-	-	10.000	0.39370	47.00	89.00	10.00
HP243-3976	●	-	-	-	10.100	0.39764	55.00	102.00	12.00
HP243-4016	●	-	-	-	10.200	0.40157	55.00	102.00	12.00
HP243-4055	●	-	-	-	10.300	0.40551	55.00	102.00	12.00
HP243-4063	●	13/32	-	-	10.319	0.40625	55.00	102.00	12.00
HP243-4094	●	-	-	-	10.400	0.40945	55.00	102.00	12.00
HP243-4134	●	-	-	-	10.500	0.41339	55.00	102.00	12.00
HP243-4173	●	-	-	-	10.600	0.41732	55.00	102.00	12.00
HP243-4213	●	-	-	-	10.700	0.42126	55.00	102.00	12.00
HP243-4220	●	27/64	-	-	10.716	0.42188	55.00	102.00	12.00
HP243-4252	●	-	-	-	10.800	0.42520	55.00	102.00	12.00
HP243-4291	●	-	-	-	10.900	0.42913	55.00	102.00	12.00
HP243-4331	●	-	-	-	11.000	0.43307	55.00	102.00	12.00
HP243-4370	●	-	-	-	11.100	0.43701	55.00	102.00	12.00
HP243-4374	●	7/16	-	-	11.113	0.43750	55.00	102.00	12.00
HP243-4409	●	-	-	-	11.200	0.44094	55.00	102.00	12.00
HP243-4449	●	-	-	-	11.300	0.44488	55.00	102.00	12.00
HP243-4488	●	-	-	-	11.400	0.44882	55.00	102.00	12.00
HP243-4528	●	-	-	-	11.500	0.45276	55.00	102.00	12.00
HP243-4531	●	29/64	-	-	11.509	0.45313	55.00	102.00	12.00
HP243-4567	●	-	-	-	11.600	0.45669	55.00	102.00	12.00
HP243-4606	●	-	-	-	11.700	0.46063	55.00	102.00	12.00
HP243-4646	●	-	-	-	11.800	0.46457	55.00	102.00	12.00
HP243-4685	●	-	-	-	11.900	0.46850	55.00	102.00	12.00
HP243-4689	●	15/32	-	-	11.906	0.46875	55.00	102.00	12.00
HP243-4724	●	-	-	-	12.000	0.47244	55.00	102.00	12.00
HP243-4764	●	-	-	-	12.100	0.47638	60.00	107.00	14.00
HP243-4803	●	-	-	-	12.200	0.48031	60.00	107.00	14.00
HP243-4843	●	31/64	-	-	12.303	0.48438	60.00	107.00	14.00
HP243-4882	●	-	-	-	12.400	0.48819	60.00	107.00	14.00
HP243-4921	●	-	-	-	12.500	0.49213	60.00	107.00	14.00
HP243-4961	●	-	-	-	12.600	0.49606	60.00	107.00	14.00
HP243-5000	●	1/2	-	-	12.700	0.50000	60.00	107.00	14.00
HP243-5039	●	-	-	-	12.800	0.50394	60.00	107.00	14.00
HP243-5079	●	-	-	-	12.900	0.50787	60.00	107.00	14.00
HP243-5118	●	-	-	-	13.000	0.51181	60.00	107.00	14.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP243 (Continued)

HY-PRO® CARB-3D

SPEED FEED 336-337 | CARBIDE | EgiAs | 2 FLUTE | STUB | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP243-5157	●	33/64	-	-	13.097	0.51563	60.00	107.00	14.00
HP243-5197	●	-	-	-	13.200	0.51969	60.00	107.00	14.00
HP243-5236	●	-	-	-	13.300	0.52362	60.00	107.00	14.00
HP243-5276	●	-	-	-	13.400	0.52756	60.00	107.00	14.00
HP243-5311	●	17/32	-	-	13.494	0.53125	60.00	107.00	14.00
HP243-5315	●	-	-	-	13.500	0.53150	60.00	107.00	14.00
HP243-5394	●	-	-	-	13.700	0.53937	60.00	107.00	14.00
HP243-5512	●	-	-	-	14.000	0.55118	60.00	107.00	14.00
HP243-5626	●	9/16	-	-	14.288	0.56250	65.00	115.00	16.00
HP243-5709	●	-	-	-	14.500	0.57087	65.00	115.00	16.00
HP243-5780	●	37/64	-	-	14.684	0.57813	65.00	115.00	16.00
HP243-5787	●	-	-	-	14.700	0.57874	65.00	115.00	16.00
HP243-5906	●	-	-	-	15.000	0.59055	65.00	115.00	16.00
HP243-5937	●	19/32	-	-	15.081	0.59375	65.00	115.00	16.00
HP243-6102	●	-	-	-	15.500	0.61024	65.00	115.00	16.00
HP243-6181	●	-	-	-	15.700	0.61811	65.00	115.00	16.00
HP243-6248	●	5/8	-	-	15.875	0.62500	65.00	115.00	16.00
HP243-6299	●	-	-	-	16.000	0.62992	65.00	115.00	16.00
HP243-6339	●	-	-	-	16.100	0.63386	73.00	123.00	18.00
HP243-6496	●	-	-	-	16.500	0.64961	73.00	123.00	18.00
HP243-6563	●	21/32	-	-	16.669	0.65625	73.00	123.00	18.00
HP243-6693	●	-	-	-	17.000	0.66929	73.00	123.00	18.00
HP243-6890	●	-	-	-	17.500	0.68898	73.00	123.00	18.00
HP243-7087	●	-	-	-	18.000	0.70866	73.00	123.00	18.00
HP243-7283	●	-	-	-	18.500	0.72835	79.00	131.00	20.00
HP243-7480	●	-	-	-	19.000	0.74803	79.00	131.00	20.00
HP243-7500	●	3/4	-	-	19.050	0.75000	79.00	131.00	20.00
HP243-7579	●	-	-	-	19.250	0.75787	79.00	131.00	20.00
HP243-7677	●	-	-	-	19.500	0.76772	79.00	131.00	20.00
HP243-7874	●	-	-	-	20.000	0.78740	79.00	131.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎				◎		○			◎	○		

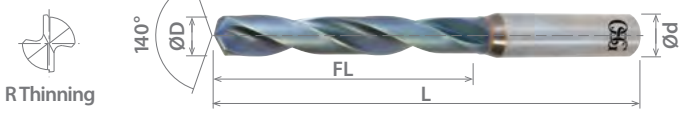
○ Good ◎ Best

List HP245

HY-PRO® CARB-5D

SPEED FEED 336-337 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
1 ≤ D ≤ 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP245-0394	●	-	-	-	1.000	0.03937	9.00	38.00	3.00
HP245-0433	●	-	-	-	1.100	0.04331	9.00	38.00	3.00
HP245-0469	●	3/64	-	-	1.191	0.04688	11.00	38.00	3.00
HP245-0472	●	-	-	-	1.200	0.04724	11.00	38.00	3.00
HP245-0512	●	-	-	-	1.300	0.05118	11.00	38.00	3.00
HP245-0551	●	-	-	-	1.400	0.05512	12.00	38.00	3.00
HP245-0591	●	-	-	-	1.500	0.05906	12.00	45.00	3.00
HP245-0626	●	1/16	-	-	1.588	0.06250	14.00	45.00	3.00
HP245-0630	●	-	-	-	1.600	0.06299	14.00	45.00	3.00
HP245-0669	●	-	-	-	1.700	0.06693	14.00	45.00	3.00
HP245-0709	●	-	-	-	1.800	0.07087	16.00	45.00	3.00
HP245-0748	●	-	-	-	1.900	0.07480	16.00	45.00	3.00
HP245-0780	●	5/64	-	-	1.984	0.07813	18.00	52.00	3.00
HP245-0787	●	-	-	-	2.000	0.07874	18.00	50.00	3.00
HP245-0827	●	-	-	-	2.100	0.08268	18.00	50.00	3.00
HP245-0866	●	-	-	-	2.200	0.08661	20.00	52.00	3.00
HP245-0906	●	-	-	-	2.300	0.09055	20.00	52.00	3.00
HP245-0937	●	3/32	-	-	2.381	0.09375	22.00	52.00	3.00
HP245-0945	●	-	-	-	2.400	0.09449	22.00	52.00	3.00
HP245-0984	●	-	-	-	2.500	0.09843	22.00	56.00	3.00
HP245-1024	●	-	-	-	2.600	0.10236	22.00	56.00	3.00
HP245-1063	●	-	-	-	2.700	0.10630	23.00	56.00	3.00
HP245-1094	●	7/64	-	-	2.778	0.10938	23.00	56.00	3.00
HP245-1102	●	-	-	-	2.800	0.11024	23.00	56.00	3.00
HP245-1142	●	-	-	-	2.900	0.11417	23.00	56.00	3.00
HP245-1181	●	-	-	-	3.000	0.11811	28.00	66.00	6.00
HP245-1220	●	-	-	-	3.100	0.12205	28.00	66.00	6.00
HP245-1248	●	1/8	-	-	3.175	0.12500	28.00	66.00	6.00
HP245-1260	●	-	-	-	3.200	0.12598	28.00	66.00	6.00
HP245-1299	●	-	-	-	3.300	0.12992	28.00	66.00	6.00
HP245-1339	●	-	-	-	3.400	0.13386	28.00	66.00	6.00
HP245-1378	●	-	-	-	3.500	0.13780	28.00	66.00	6.00
HP245-1406	●	9/64	-	-	3.572	0.14063	28.00	66.00	6.00
HP245-1417	●	-	-	-	3.600	0.14173	28.00	66.00	6.00
HP245-1457	●	-	-	-	3.700	0.14567	28.00	66.00	6.00
HP245-1496	●	-	-	-	3.800	0.14961	36.00	74.00	6.00
HP245-1535	●	-	-	-	3.900	0.15354	36.00	74.00	6.00
HP245-1563	●	5/32	-	-	3.969	0.15625	36.00	74.00	6.00
HP245-1575	●	-	-	-	4.000	0.15748	36.00	74.00	6.00
HP245-1610	●	-	20	-	4.089	0.16100	36.00	74.00	6.00
HP245-1614	●	-	-	-	4.100	0.16142	36.00	74.00	6.00
HP245-1654	●	-	-	-	4.200	0.16535	36.00	74.00	6.00
HP245-1693	●	-	-	-	4.300	0.16929	36.00	74.00	6.00
HP245-1720	●	11/64	-	-	4.366	0.17188	36.00	74.00	6.00
HP245-1732	●	-	-	-	4.400	0.17323	36.00	74.00	6.00
HP245-1772	●	-	-	-	4.500	0.17717	36.00	74.00	6.00
HP245-1811	●	-	-	-	4.600	0.18110	36.00	74.00	6.00
HP245-1831	●	-	-	-	4.650	0.18307	36.00	74.00	6.00
HP245-1850	●	-	-	-	4.700	0.18504	36.00	74.00	6.00
HP245-1874	●	3/16	-	-	4.763	0.18750	44.00	82.00	6.00
HP245-1890	●	-	-	-	4.800	0.18898	44.00	82.00	6.00
HP245-1929	●	-	-	-	4.900	0.19291	44.00	82.00	6.00
HP245-1969	●	-	-	-	5.000	0.19685	44.00	82.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP245 (Continued)

HY-PRO® CARB-5D

SPEED FEED 336-337 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP245-2008	●	-	-	-	5.100	0.20079	44.00	82.00	6.00
HP245-2031	●	13/64	-	-	5.159	0.20313	44.00	82.00	6.00
HP245-2047	●	-	-	-	5.200	0.20472	44.00	82.00	6.00
HP245-2087	●	-	-	-	5.300	0.20866	44.00	82.00	6.00
HP245-2126	●	-	-	-	5.400	0.21260	44.00	82.00	6.00
HP245-2130	●	-	3	-	5.410	0.21300	44.00	82.00	6.00
HP245-2165	●	-	-	-	5.500	0.21654	44.00	82.00	6.00
HP245-2189	●	7/32	-	-	5.556	0.21875	44.00	82.00	6.00
HP245-2205	●	-	-	-	5.600	0.22047	44.00	82.00	6.00
HP245-2244	●	-	-	-	5.700	0.22441	44.00	82.00	6.00
HP245-2283	●	-	-	-	5.800	0.22835	44.00	82.00	6.00
HP245-2323	●	-	-	-	5.900	0.23228	44.00	82.00	6.00
HP245-2343	●	15/64	-	-	5.953	0.23438	44.00	82.00	6.00
HP245-2362	●	-	-	-	6.000	0.23622	44.00	82.00	6.00
HP245-2402	●	-	-	-	6.100	0.24016	53.00	91.00	8.00
HP245-2441	●	-	-	-	6.200	0.24409	53.00	91.00	8.00
HP245-2480	●	-	-	-	6.300	0.24803	53.00	91.00	8.00
HP245-2500	●	1/4	-	E	6.350	0.25000	53.00	91.00	8.00
HP245-2520	●	-	-	-	6.400	0.25197	53.00	91.00	8.00
HP245-2559	●	-	-	-	6.500	0.25591	53.00	91.00	8.00
HP245-2571	●	-	-	F	6.528	0.25700	53.00	91.00	8.00
HP245-2598	●	-	-	-	6.600	0.25984	53.00	91.00	8.00
HP245-2638	●	-	-	-	6.700	0.26378	53.00	91.00	8.00
HP245-2657	●	17/64	-	-	6.747	0.26563	53.00	91.00	8.00
HP245-2677	●	-	-	-	6.800	0.26772	53.00	91.00	8.00
HP245-2717	●	-	-	-	6.900	0.27165	53.00	91.00	8.00
HP245-2756	●	-	-	-	7.000	0.27559	53.00	91.00	8.00
HP245-2795	●	-	-	-	7.100	0.27953	53.00	91.00	8.00
HP245-2811	●	9/32	-	-	7.144	0.28125	53.00	91.00	8.00
HP245-2835	●	-	-	-	7.200	0.28346	53.00	91.00	8.00
HP245-2874	●	-	-	-	7.300	0.28740	53.00	91.00	8.00
HP245-2913	●	-	-	-	7.400	0.29134	53.00	91.00	8.00
HP245-2953	●	-	-	-	7.500	0.29528	53.00	91.00	8.00
HP245-2969	●	19/64	-	-	7.541	0.29688	53.00	91.00	8.00
HP245-2992	●	-	-	-	7.600	0.29921	53.00	91.00	8.00
HP245-3031	●	-	-	-	7.700	0.30315	53.00	91.00	8.00
HP245-3071	●	-	-	-	7.800	0.30709	53.00	91.00	8.00
HP245-3110	●	-	-	-	7.900	0.31102	53.00	91.00	8.00
HP245-3126	●	5/16	-	-	7.938	0.31250	53.00	91.00	8.00
HP245-3150	●	-	-	-	8.000	0.31496	53.00	91.00	8.00
HP245-3189	●	-	-	-	8.100	0.31890	61.00	103.00	10.00
HP245-3228	●	-	-	-	8.200	0.32283	61.00	103.00	10.00
HP245-3268	●	-	-	-	8.300	0.32677	61.00	103.00	10.00
HP245-3280	●	21/64	-	-	8.334	0.32813	61.00	103.00	10.00
HP245-3307	●	-	-	-	8.400	0.33071	61.00	103.00	10.00
HP245-3319	●	-	-	Q	8.433	0.33200	61.00	103.00	10.00
HP245-3346	●	-	-	-	8.500	0.33465	61.00	103.00	10.00
HP245-3386	●	-	-	-	8.600	0.33858	61.00	103.00	10.00
HP245-3425	●	-	-	-	8.700	0.34252	61.00	103.00	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎				◎		○			◎	○		

○ Good ◎ Best

List HP245 (Continued)

HY-PRO® CARB-5D

SPEED FEED 336-337 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

Cutting Diameter Tolerance (m7)		
Size (mm)	mm	inch
1 ≤ D ≤ 3	+0.002 / +0.012	+0.0001 / +0.0005
3 < D ≤ 6	+0.004 / +0.016	+0.0002 / +0.0006
6 < D ≤ 10	+0.006 / +0.021	+0.0002 / +0.0008
10 < D ≤ 18	+0.007 / +0.025	+0.0003 / +0.0010
18 < D ≤ 20	+0.008 / +0.029	+0.0003 / +0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP245-3437	●	11/32	-	-	8.731	0.34375	61.00	103.00	10.00
HP245-3465	●	-	-	-	8.800	0.34646	61.00	103.00	10.00
HP245-3504	●	-	-	-	8.900	0.35039	61.00	103.00	10.00
HP245-3543	●	-	-	-	9.000	0.35433	61.00	103.00	10.00
HP245-3583	●	-	-	-	9.100	0.35827	61.00	103.00	10.00
HP245-3594	●	23/64	-	-	9.128	0.35938	61.00	103.00	10.00
HP245-3622	●	-	-	-	9.200	0.36220	61.00	103.00	10.00
HP245-3642	●	-	-	-	9.250	0.36417	61.00	103.00	10.00
HP245-3661	●	-	-	-	9.300	0.36614	61.00	103.00	10.00
HP245-3701	●	-	-	-	9.400	0.37008	61.00	103.00	10.00
HP245-3740	●	-	-	-	9.500	0.37402	61.00	103.00	10.00
HP245-3748	●	3/8	-	-	9.525	0.37500	61.00	103.00	10.00
HP245-3780	●	-	-	-	9.600	0.37795	61.00	103.00	10.00
HP245-3819	●	-	-	-	9.700	0.38189	61.00	103.00	10.00
HP245-3858	●	-	-	-	9.800	0.38583	61.00	103.00	10.00
HP245-3898	●	-	-	-	9.900	0.38976	61.00	103.00	10.00
HP245-3906	●	25/64	-	-	9.922	0.39063	61.00	103.00	10.00
HP245-3937	●	-	-	-	10.000	0.39370	61.00	103.00	10.00
HP245-3976	●	-	-	-	10.100	0.39764	71.00	118.00	12.00
HP245-4016	●	-	-	-	10.200	0.40157	71.00	118.00	12.00
HP245-4055	●	-	-	-	10.300	0.40551	71.00	118.00	12.00
HP245-4063	●	13/32	-	-	10.319	0.40625	71.00	118.00	12.00
HP245-4094	●	-	-	-	10.400	0.40945	71.00	118.00	12.00
HP245-4134	●	-	-	-	10.500	0.41339	71.00	118.00	12.00
HP245-4173	●	-	-	-	10.600	0.41732	71.00	118.00	12.00
HP245-4213	●	-	-	-	10.700	0.42126	71.00	118.00	12.00
HP245-4220	●	27/64	-	-	10.716	0.42188	71.00	118.00	12.00
HP245-4252	●	-	-	-	10.800	0.42520	71.00	118.00	12.00
HP245-4291	●	-	-	-	10.900	0.42913	71.00	118.00	12.00
HP245-4331	●	-	-	-	11.000	0.43307	71.00	118.00	12.00
HP245-4370	●	-	-	-	11.100	0.43701	71.00	118.00	12.00
HP245-4374	●	7/16	-	-	11.113	0.43750	71.00	118.00	12.00
HP245-4409	●	-	-	-	11.200	0.44094	71.00	118.00	12.00
HP245-4449	●	-	-	-	11.300	0.44488	71.00	118.00	12.00
HP245-4488	●	-	-	-	11.400	0.44882	71.00	118.00	12.00
HP245-4528	●	-	-	-	11.500	0.45276	71.00	118.00	12.00
HP245-4531	●	29/64	-	-	11.509	0.45313	71.00	118.00	12.00
HP245-4567	●	-	-	-	11.600	0.45669	71.00	118.00	12.00
HP245-4606	●	-	-	-	11.700	0.46063	71.00	118.00	12.00
HP245-4646	●	-	-	-	11.800	0.46457	71.00	118.00	12.00
HP245-4685	●	-	-	-	11.900	0.46850	71.00	118.00	12.00
HP245-4689	●	15/32	-	-	11.906	0.46875	71.00	118.00	12.00
HP245-4724	●	-	-	-	12.000	0.47244	71.00	118.00	12.00
HP245-4764	●	-	-	-	12.100	0.47638	77.00	124.00	14.00
HP245-4803	●	-	-	-	12.200	0.48031	77.00	124.00	14.00
HP245-4843	●	31/64	-	-	12.303	0.48438	77.00	124.00	14.00
HP245-4882	●	-	-	-	12.400	0.48819	77.00	124.00	14.00
HP245-4921	●	-	-	-	12.500	0.49213	77.00	124.00	14.00
HP245-4961	●	-	-	-	12.600	0.49606	77.00	124.00	14.00
HP245-5000	●	1/2	-	-	12.700	0.50000	77.00	124.00	14.00
HP245-5039	●	-	-	-	12.800	0.50394	77.00	124.00	14.00
HP245-5079	●	-	-	-	12.900	0.50787	77.00	124.00	14.00
HP245-5118	●	-	-	-	13.000	0.51181	77.00	124.00	14.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List HP245 (Continued)

HY-PRO® CARB-5D

SPEED FEED 336-337 | CARBIDE | EgiAs | 2 FLUTE | JOBBER | 30° | SHANK h6 | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
HP245-5157	●	33/64	-	-	13.097	0.51563	77.00	124.00	14.00
HP245-5197	●	-	-	-	13.200	0.51969	77.00	124.00	14.00
HP245-5236	●	-	-	-	13.300	0.52362	77.00	124.00	14.00
HP245-5276	●	-	-	-	13.400	0.52756	77.00	124.00	14.00
HP245-5311	●	17/32	-	-	13.494	0.53125	77.00	124.00	14.00
HP245-5315	●	-	-	-	13.500	0.53150	77.00	124.00	14.00
HP245-5394	●	-	-	-	13.700	0.53937	77.00	124.00	14.00
HP245-5512	●	-	-	-	14.000	0.55118	77.00	124.00	14.00
HP245-5626	●	9/16	-	-	14.288	0.56250	83.00	133.00	16.00
HP245-5709	●	-	-	-	14.500	0.57087	83.00	133.00	16.00
HP245-5780	●	37/64	-	-	14.684	0.57813	83.00	133.00	16.00
HP245-5787	●	-	-	-	14.700	0.57874	83.00	133.00	16.00
HP245-5906	●	-	-	-	15.000	0.59055	83.00	133.00	16.00
HP245-5937	●	19/32	-	-	15.081	0.59375	83.00	133.00	16.00
HP245-6102	●	-	-	-	15.500	0.61024	83.00	133.00	16.00
HP245-6181	●	-	-	-	15.700	0.61811	83.00	133.00	16.00
HP245-6248	●	5/8	-	-	15.875	0.62500	83.00	133.00	16.00
HP245-6299	●	-	-	-	16.000	0.62992	83.00	133.00	16.00
HP245-6339	●	-	-	-	16.100	0.63386	93.00	143.00	18.00
HP245-6496	●	-	-	-	16.500	0.64961	93.00	143.00	18.00
HP245-6563	●	21/32	-	-	16.669	0.65625	93.00	143.00	18.00
HP245-6693	●	-	-	-	17.000	0.66929	93.00	143.00	18.00
HP245-6890	●	-	-	-	17.500	0.68898	93.00	143.00	18.00
HP245-7087	●	-	-	-	18.000	0.70866	93.00	143.00	18.00
HP245-7283	●	-	-	-	18.500	0.72835	101.00	153.00	20.00
HP245-7480	●	-	-	-	19.000	0.74803	101.00	153.00	20.00
HP245-7500	●	3/4	-	-	19.050	0.75000	101.00	153.00	20.00
HP245-7579	●	-	-	-	19.250	0.75787	101.00	153.00	20.00
HP245-7677	●	-	-	-	19.500	0.76772	101.00	153.00	20.00
HP245-7874	●	-	-	-	20.000	0.78740	101.00	153.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎				◎		○			◎	○		

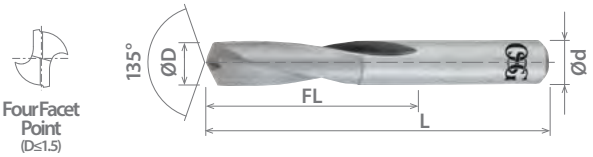
○ Good ◎ Best

List 215

OSG CARBIDE SLOW SPIRAL DRILL

SPEED FEED	CARBIDE	BR	2 FLUTE	JOBBER	15°	PACKED
338-340						1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1 ≤ D ≤ 12.7	+0 / -0.013	+0 / -0.0005



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
215-0394	●	-	-	-	1.000	0.03937	11.11	38.10	-	1.00
215-0433	●	-	-	-	1.100	0.04331	12.70	38.10	-	1.10
215-0465	●	-	56	-	1.181	0.04650	12.70	38.10	-	1.18
215-0469	●	3/64	-	-	1.191	0.04688	12.70	38.10	0.05	-
215-0472	●	-	-	-	1.200	0.04724	12.70	38.10	-	1.20
215-0512	●	-	-	-	1.300	0.05118	12.70	38.10	-	1.30
215-0520	●	-	55	-	1.321	0.05200	12.70	38.10	-	1.32
215-0550	●	-	54	-	1.397	0.05500	12.70	38.10	-	1.40
215-0551	●	-	-	-	1.400	0.05512	12.70	38.10	-	1.40
215-0591	●	-	-	-	1.500	0.05906	12.70	38.10	-	1.50
215-0595	●	-	53	-	1.511	0.05950	12.70	38.10	-	1.51
215-0625	●	1/16	-	-	1.588	0.06250	15.88	41.28	0.06	-
215-0630	●	-	-	-	1.600	0.06299	17.46	42.86	-	1.60
215-0635	●	-	52	-	1.613	0.06350	17.46	42.69	-	1.61
215-0669	●	-	-	-	1.700	0.06693	17.46	42.86	-	1.70
215-0670	●	-	51	-	1.702	0.06700	17.46	42.86	-	1.70
215-0700	●	-	50	-	1.778	0.07000	17.46	42.86	-	1.78
215-0709	●	-	-	-	1.800	0.07087	18.01	43.00	-	1.80
215-0730	●	-	49	-	1.854	0.07300	17.46	42.86	-	1.85
215-0748	●	-	-	-	1.900	0.07480	17.46	42.86	-	1.90
215-0760	●	-	48	-	1.930	0.07600	17.46	42.86	-	1.93
215-0781	●	5/64	-	-	1.984	0.07813	17.46	42.86	0.078	-
215-0785	●	-	47	-	1.994	0.07850	19.05	44.45	-	1.99
215-0787	●	-	-	-	2.000	0.07874	19.05	44.45	-	2.00
215-0810	●	-	46	-	2.057	0.08100	19.05	44.45	-	2.06
215-0820	●	-	45	-	2.083	0.08200	19.05	44.45	-	2.08
215-0827	●	-	-	-	2.100	0.08268	19.05	44.45	-	2.10
215-0860	●	-	44	-	2.184	0.08600	19.05	44.45	-	2.18
215-0866	●	-	-	-	2.200	0.08661	19.05	44.45	-	2.20
215-0890	●	-	43	-	2.261	0.08900	19.05	44.45	-	2.26
215-0906	●	-	-	-	2.300	0.09055	19.05	44.45	-	2.30
215-0935	●	-	42	-	2.375	0.09350	19.05	44.45	-	2.37
215-0938	●	3/32	-	-	2.381	0.09375	19.05	44.45	0.094	-
215-0945	●	-	-	-	2.400	0.09449	20.64	46.04	-	2.40
215-0960	●	-	41	-	2.438	0.09600	20.64	46.04	-	2.44
215-0980	●	-	40	-	2.489	0.09800	20.64	46.04	-	2.49
215-0984	●	-	-	-	2.500	0.09843	20.64	46.04	-	2.50
215-0995	●	-	39	-	2.527	0.09950	20.64	46.04	-	2.53
215-1015	●	-	38	-	2.578	0.10150	20.64	46.04	-	2.58
215-1024	●	-	-	-	2.600	0.10236	20.64	46.04	-	2.60
215-1040	●	-	37	-	2.642	0.10400	20.64	46.04	-	2.64
215-1063	●	-	-	-	2.700	0.10630	20.64	46.04	-	2.70
215-1065	●	-	36	-	2.705	0.10650	20.64	46.04	-	2.71
215-1094	●	7/64	-	-	2.778	0.10938	20.64	46.04	0.109	-
215-1100	●	-	35	-	2.794	0.11000	22.23	47.63	-	2.79
215-1102	●	-	-	-	2.800	0.11024	22.23	47.63	-	2.80
215-1110	●	-	34	-	2.819	0.11100	22.23	47.63	-	2.82
215-1130	●	-	33	-	2.870	0.11300	22.23	47.63	-	2.87
215-1142	●	-	-	-	2.900	0.11417	22.23	47.63	-	2.90
215-1160	●	-	32	-	2.946	0.11600	22.23	47.63	-	2.95
215-1181	●	-	-	-	3.000	0.11811	22.23	47.63	-	3.00
215-1200	●	-	31	-	3.048	0.12000	22.23	47.63	-	3.05
215-1220	●	-	-	-	3.100	0.12205	22.23	47.63	-	3.10

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

List 215 (Continued)

OSG CARBIDE SLOW SPIRAL DRILL

SPEED FEED 338-340 | CARBIDE | BR | 2 FLUTE | JOBBER | 15° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
215-1250	●	1/8	-	-	3.175	0.12500	22.23	47.63	0.125	-
215-1260	●	-	-	-	3.200	0.12598	23.81	49.21	-	3.20
215-1285	●	-	30	-	3.264	0.12850	23.81	49.21	-	3.26
215-1299	●	-	-	-	3.300	0.12992	23.81	49.21	-	3.30
215-1339	●	-	-	-	3.400	0.13386	23.81	49.21	-	3.40
215-1360	●	-	29	-	3.454	0.13600	23.81	49.21	-	3.45
215-1378	●	-	-	-	3.500	0.13780	23.81	49.21	-	3.50
215-1405	●	-	28	-	3.569	0.14050	23.81	49.21	-	3.57
215-1406	●	9/64	-	-	3.572	0.14063	23.81	49.21	0.141	-
215-1417	●	-	-	-	3.600	0.14173	25.40	52.39	-	3.60
215-1440	●	-	27	-	3.658	0.14400	25.40	52.39	-	3.66
215-1457	●	-	-	-	3.700	0.14567	25.40	52.39	-	3.70
215-1470	●	-	26	-	3.734	0.14700	25.40	52.39	-	3.73
215-1495	●	-	25	-	3.797	0.14950	25.40	52.39	-	3.80
215-1496	●	-	-	-	3.800	0.14961	25.40	52.39	-	3.80
215-1520	●	-	24	-	3.861	0.15200	25.40	52.39	-	3.86
215-1535	●	-	-	-	3.900	0.15354	25.40	52.39	-	3.90
215-1540	●	-	23	-	3.912	0.15400	25.40	52.39	-	3.91
215-1562	●	5/32	-	-	3.969	0.15625	25.40	52.39	0.156	-
215-1570	●	-	22	-	3.988	0.15700	26.99	53.98	-	3.99
215-1575	●	-	-	-	4.000	0.15748	26.99	53.98	-	4.00
215-1590	●	-	21	-	4.039	0.15900	26.99	53.98	-	4.04
215-1610	●	-	20	-	4.089	0.16100	26.99	53.98	-	4.09
215-1614	●	-	-	-	4.100	0.16142	26.99	53.98	-	4.10
215-1654	●	-	-	-	4.200	0.16535	26.99	53.98	-	4.20
215-1660	●	-	19	-	4.216	0.16600	26.99	53.98	-	4.22
215-1693	●	-	-	-	4.300	0.16929	26.99	53.98	-	4.30
215-1695	●	-	18	-	4.305	0.16950	26.99	53.98	-	4.31
215-1719	●	11/64	-	-	4.366	0.17188	26.99	53.98	0.172	-
215-1730	●	-	17	-	4.394	0.17300	28.58	55.56	-	4.39
215-1732	●	-	-	-	4.400	0.17323	28.58	55.56	-	4.40
215-1770	●	-	16	-	4.496	0.17700	28.58	55.56	-	4.50
215-1772	●	-	-	-	4.501	0.17720	28.58	55.56	-	4.50
215-1800	●	-	15	-	4.572	0.18000	28.58	55.56	-	4.57
215-1811	●	-	-	-	4.600	0.18110	28.58	55.56	-	4.60
215-1820	●	-	14	-	4.623	0.18200	28.58	55.56	-	4.62
215-1850	●	-	13	-	4.699	0.18500	28.58	55.56	-	4.70
215-1875	●	3/16	-	-	4.763	0.18750	28.58	55.56	0.188	-
215-1890	●	-	12	-	4.801	0.18900	30.16	57.15	-	4.80
215-1910	●	-	11	-	4.851	0.19100	30.16	57.15	-	4.85
215-1929	●	-	-	-	4.900	0.19291	30.16	57.15	-	4.90
215-1935	●	-	10	-	4.915	0.19350	30.16	57.15	-	4.91
215-1960	●	-	9	-	4.978	0.19600	30.16	57.15	-	4.98
215-1968	●	-	-	-	5.000	0.19685	30.16	57.15	-	5.00
215-1990	●	-	8	-	5.055	0.19900	30.16	57.15	-	5.05
215-2008	●	-	-	-	5.100	0.20079	30.16	57.15	-	5.10
215-2010	●	-	7	-	5.105	0.20100	30.16	57.15	-	5.11
215-2031	●	13/64	-	-	5.159	0.20313	30.16	57.15	0.203	-
215-2040	●	-	6	-	5.182	0.20400	31.75	60.33	-	5.18

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

CONTINUED ❯

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○		○	○	○		○	○	○	○	○		

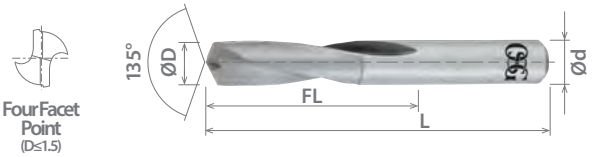
○ Good ◎ Best

List 215 (Continued)

OSG CARBIDE SLOW SPIRAL DRILL

SPEED FEED	CARBIDE	BR	2 FLUTE	JOBBER	15°	PACKED
338-340						1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1 ≤ D ≤ 12.7	+0 / -0.013	+0 / -0.0005



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
215-2047	●	-	-	-	5.200	0.20472	31.75	60.33	-	5.20
215-2055	●	-	5	-	5.220	0.20550	31.75	60.33	-	5.22
215-2087	●	-	-	-	5.300	0.20866	31.75	60.33	-	5.30
215-2090	●	-	4	-	5.309	0.20900	31.75	60.33	-	5.31
215-2126	●	-	-	-	5.400	0.21260	31.75	60.33	-	5.40
215-2130	●	-	3	-	5.410	0.21300	31.75	60.33	-	5.41
215-2165	●	-	-	-	5.500	0.21654	31.75	60.33	-	5.50
215-2188	●	7/32	-	-	5.556	0.21875	31.75	60.33	0.219	-
215-2205	●	-	-	-	5.600	0.22047	33.34	61.91	-	5.60
215-2210	●	-	2	-	5.613	0.22100	33.34	61.91	-	5.61
215-2244	●	-	-	-	5.700	0.22441	33.34	61.91	-	5.70
215-2280	●	-	1	-	5.791	0.22800	33.34	61.91	-	5.79
215-2283	●	-	-	-	5.800	0.22835	33.34	61.91	-	5.80
215-2323	●	-	-	-	5.900	0.23228	33.34	61.91	-	5.90
215-2340	●	-	-	A	5.944	0.23400	33.34	61.91	-	5.94
215-2344	●	15/64	-	-	5.953	0.23438	33.34	61.91	0.234	-
215-2362	●	-	-	-	6.000	0.23622	33.34	61.91	-	6.00
215-2380	●	-	-	B	6.045	0.23800	34.93	63.50	-	6.05
215-2402	●	-	-	-	6.100	0.24016	34.93	63.50	-	6.10
215-2420	●	-	-	C	6.147	0.24200	34.93	63.50	-	6.15
215-2441	●	-	-	-	6.200	0.24409	34.93	63.50	-	6.20
215-2460	●	-	-	D	6.248	0.24600	34.93	63.50	-	6.25
215-2480	●	-	-	-	6.300	0.24803	34.93	63.50	-	6.30
215-2500	●	1/4	-	E	6.350	0.25000	34.93	63.50	0.250	-
215-2520	●	-	-	-	6.400	0.25197	34.93	63.50	-	6.40
215-2559	●	-	-	-	6.500	0.25591	34.93	63.50	-	6.50
215-2570	●	-	-	F	6.528	0.25700	36.51	66.68	-	6.53
215-2598	●	-	-	-	6.600	0.25984	36.51	66.68	-	6.60
215-2610	●	-	-	G	6.629	0.26100	36.51	66.68	-	6.63
215-2638	●	-	-	-	6.700	0.26378	36.51	66.68	-	6.70
215-2656	●	17/64	-	-	6.747	0.26563	36.51	66.68	0.266	-
215-2660	●	-	-	H	6.756	0.26600	38.10	68.26	-	6.76
215-2677	●	-	-	-	6.800	0.26772	38.10	68.00	-	6.80
215-2717	●	-	-	-	6.900	0.27165	38.10	68.26	-	6.90
215-2720	●	-	-	I	6.909	0.27200	38.10	68.26	-	6.91
215-2756	●	-	-	-	7.000	0.27559	38.10	68.26	-	7.00
215-2770	●	-	-	J	7.036	0.27700	38.10	68.26	-	7.04
215-2795	●	-	-	-	7.100	0.27953	38.10	68.26	-	7.10
215-2810	●	-	-	K	7.137	0.28100	38.10	68.26	-	7.14
215-2812	●	9/32	-	-	7.144	0.28125	38.10	68.26	0.281	-
215-2835	●	-	-	-	7.200	0.28346	39.69	69.85	-	7.20
215-2874	●	-	-	-	7.300	0.28740	39.69	69.85	-	7.30
215-2900	●	-	-	L	7.366	0.29000	39.69	69.85	-	7.37
215-2913	●	-	-	-	7.400	0.29134	39.69	69.85	-	7.40
215-2950	●	-	-	M	7.493	0.29500	39.69	69.85	-	7.49
215-2953	●	-	-	-	7.500	0.29528	39.69	69.85	-	7.50
215-2969	●	19/64	-	-	7.541	0.29688	39.69	69.85	0.297	-
215-2992	●	-	-	-	7.600	0.29921	41.28	71.44	-	7.60
215-3020	●	-	-	N	7.671	0.30200	41.28	71.44	-	7.67
215-3031	●	-	-	-	7.700	0.30315	41.28	71.44	-	7.70
215-3071	●	-	-	-	7.800	0.30709	41.28	71.44	-	7.80
215-3110	●	-	-	-	7.900	0.31102	41.28	71.44	-	7.90
215-3125	●	5/16	-	-	7.938	0.31250	41.28	71.44	0.313	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

List 215 (Continued)

OSG CARBIDE SLOW SPIRAL DRILL

SPEED FEED	CARBIDE	BR	2 FLUTE	JOBBER	15°	PACKED
338-340						1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
215-3150	●	-	-	-	8.000	0.31496	41.28	71.44	-	8.00
215-3160	●	-	-	O	8.026	0.31600	42.86	74.61	-	8.03
215-3189	●	-	-	-	8.100	0.31890	42.86	74.61	-	8.10
215-3228	●	-	-	-	8.200	0.32283	42.86	74.61	-	8.20
215-3230	●	-	-	P	8.204	0.32300	42.86	74.61	-	8.20
215-3268	●	-	-	-	8.300	0.32677	42.86	74.61	-	8.30
215-3281	●	21/64	-	-	8.334	0.32813	42.86	74.61	0.656	-
215-3307	●	-	-	-	8.400	0.33071	42.86	76.20	-	8.40
215-3320	●	-	-	Q	8.433	0.33200	42.86	76.20	-	8.43
215-3346	●	-	-	-	8.500	0.33465	42.86	76.20	-	8.50
215-3386	●	-	-	-	8.600	0.33858	42.86	76.20	-	8.60
215-3390	●	-	-	R	8.611	0.33900	42.86	76.20	-	8.61
215-3425	●	-	-	-	8.700	0.34252	42.86	76.20	-	8.70
215-3438	●	11/32	-	-	8.731	0.34375	42.86	76.20	0.344	-
215-3465	●	-	-	-	8.800	0.34646	44.45	77.79	-	8.80
215-3480	●	-	-	S	8.839	0.34800	44.45	77.79	-	8.84
215-3504	●	-	-	-	8.900	0.35039	44.45	77.79	-	8.90
215-3543	●	-	-	-	9.000	0.35433	44.45	77.79	-	9.00
215-3580	●	-	-	T	9.093	0.35800	44.45	77.79	-	9.09
215-3583	●	-	-	-	9.100	0.35827	44.45	77.79	-	9.10
215-3594	●	23/64	-	-	9.128	0.35938	44.45	77.79	0.359	-
215-3622	●	-	-	-	9.200	0.36220	46.04	79.38	-	9.20
215-3661	●	-	-	-	9.300	0.36614	46.04	79.38	-	9.30
215-3680	●	-	-	U	9.347	0.36800	46.04	79.38	-	9.35
215-3701	●	-	-	-	9.400	0.37008	46.04	79.38	-	9.40
215-3740	●	-	-	-	9.500	0.37402	46.00	78.99	-	9.50
215-3750	●	3/8	-	-	9.525	0.37500	46.04	79.38	0.375	-
215-3770	●	-	-	V	9.576	0.37700	47.63	82.55	-	9.58
215-3780	●	-	-	-	9.600	0.37795	47.63	82.55	-	9.60
215-3819	●	-	-	-	9.700	0.38189	47.63	82.55	-	9.70
215-3858	●	-	-	-	9.800	0.38583	47.63	82.55	-	9.80
215-3860	●	-	-	W	9.804	0.38600	47.63	82.55	-	9.80
215-3898	●	-	-	-	9.900	0.38976	47.63	82.55	-	9.90
215-3906	●	25/64	-	-	9.922	0.39063	47.63	82.55	0.391	-
215-3937	●	-	-	-	10.000	0.39370	48.01	83.01	-	10.00
215-3970	●	-	-	X	10.084	0.39700	49.21	84.14	-	10.08
215-3976	●	-	-	-	10.100	0.39764	49.21	84.14	-	10.10
215-4016	●	-	-	-	10.200	0.40157	49.21	84.14	-	10.20
215-4040	●	-	-	Y	10.262	0.40400	49.21	84.14	-	10.26
215-4055	●	-	-	-	10.300	0.40551	49.21	84.14	-	10.30
215-4062	●	13/32	-	-	10.319	0.40625	49.21	84.14	0.406	-
215-4094	●	-	-	-	10.400	0.40945	50.80	85.73	-	10.40
215-4130	●	-	-	Z	10.490	0.41300	50.80	85.73	-	10.49
215-4134	●	-	-	-	10.500	0.41339	50.80	86.00	-	10.50
215-4173	●	-	-	-	10.600	0.41732	50.80	85.73	-	10.60
215-4213	●	-	-	-	10.700	0.42126	50.80	85.73	-	10.70
215-4219	●	27/64	-	-	10.716	0.42188	50.80	85.73	0.422	-
215-4252	●	-	-	-	10.800	0.42520	52.39	87.31	-	10.80
215-4291	●	-	-	-	10.900	0.42913	52.39	87.31	-	10.90

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYE

CONTINUED ❯

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○		○	○	○		○	○	○	○	○		

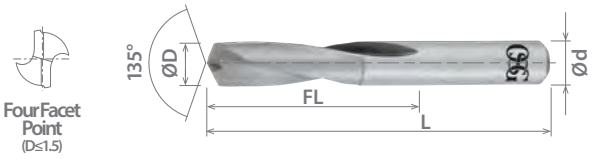
○ Good ◎ Best

List 215 (Continued)

SPEED FEED 338-340 | CARBIDE | BR | 2 FLUTE | JOBBER | 15° | PACKED 1 PIECE

OSG CARBIDE SLOW SPIRAL DRILL

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1 ≤ D ≤ 12.7	+0 / -0.013	+0 / -0.0005



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
215-4331	●	-	-	-	11.000	0.43307	52.39	87.31	-	11.00
215-4370	●	-	-	-	11.100	0.43701	52.39	87.31	-	11.10
215-4375	●	7/16	-	-	11.113	0.43750	52.39	87.31	0.438	-
215-4409	●	-	-	-	11.200	0.44094	53.98	90.49	-	11.20
215-4449	●	-	-	-	11.300	0.44488	53.98	90.49	-	11.30
215-4488	●	-	-	-	11.400	0.44882	53.98	90.49	-	11.40
215-4528	●	-	-	-	11.500	0.45276	53.98	89.99	-	11.50
215-4531	●	29/64	-	-	11.509	0.45313	53.98	90.49	0.453	-
215-4567	●	-	-	-	11.600	0.45669	53.98	92.08	-	11.60
215-4606	●	-	-	-	11.700	0.46063	53.98	92.08	-	11.70
215-4646	●	-	-	-	11.800	0.46457	53.98	92.08	-	11.80
215-4685	●	-	-	-	11.900	0.46850	53.98	92.08	-	11.90
215-4688	●	15/32	-	-	11.906	0.46875	53.98	92.08	0.469	-
215-4724	●	-	-	-	12.000	0.47244	54.00	93.01	-	12.00
215-4844	●	31/64	-	-	12.303	0.48438	55.56	93.66	0.484	-
215-5000	●	1/2	-	-	12.700	0.50000	57.15	95.25	0.500	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○		○	○	○		○	○	○	○	○		

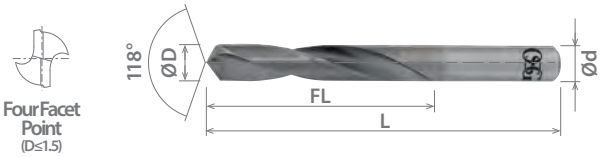
○ Good ◎ Best

List 220D

OSG CARBIDE TWIST DRILL

SPEED FEED	CARBIDE	BR	2 FLUTE	JOBBER	20°	PACKED
338-340						1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1.18 ≤ D ≤ 12.7	+0 / -0.013	+0 / -0.0005



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
220-0465	●	-	56	-	1.181	0.04650	19.05	38.10	-	1.18
220-0469	●	3/64	-	-	1.191	0.04688	19.05	38.10	0.047	-
220-0520	●	-	55	-	1.321	0.05200	19.05	38.10	-	1.32
220-0550	●	-	54	-	1.397	0.05500	19.05	38.10	-	1.40
220-0591	●	-	-	-	1.500	0.05906	19.05	38.10	-	1.50
220-0595	●	-	53	-	1.511	0.05950	19.05	38.10	-	1.51
220-0625	●	1/16	-	-	1.588	0.06250	19.05	38.10	0.063	-
220-0635	●	-	52	-	1.613	0.06350	19.05	38.10	-	1.61
220-0670	●	-	51	-	1.702	0.06700	19.05	38.10	-	1.70
220-0700	●	-	50	-	1.778	0.07000	22.23	44.45	-	1.78
220-0730	●	-	49	-	1.854	0.07300	22.23	44.45	-	1.85
220-0760	●	-	48	-	1.930	0.07600	22.23	44.45	-	1.93
220-0781	●	5/64	-	-	1.984	0.07813	22.23	44.45	0.078	-
220-0785	●	-	47	-	1.994	0.07850	22.23	44.45	-	1.99
220-0787	●	-	-	-	2.000	0.07874	22.23	44.45	-	2.00
220-0810	●	-	46	-	2.057	0.08100	22.23	44.45	-	2.06
220-0820	●	-	45	-	2.083	0.08200	22.23	44.45	-	2.08
220-0860	●	-	44	-	2.184	0.08600	25.40	50.80	-	2.18
220-0890	●	-	43	-	2.261	0.08900	25.40	50.80	-	2.26
220-0935	●	-	42	-	2.375	0.09350	25.40	50.80	-	2.37
220-0938	●	3/32	-	-	2.291	0.09375	25.40	50.80	0.094	-
220-0960	●	-	41	-	2.438	0.09600	25.40	50.80	-	2.44
220-0980	●	-	40	-	2.489	0.09800	25.40	50.80	-	2.49
220-0984	●	-	-	-	2.500	0.09843	25.40	50.80	-	2.50
220-0995	●	-	39	-	2.527	0.09950	31.75	57.15	-	2.53
220-1015	●	-	38	-	2.578	0.10150	31.75	57.15	-	2.58
220-1040	●	-	37	-	2.642	0.10400	31.75	57.15	-	2.64
220-1065	●	-	36	-	2.705	0.10650	31.75	57.15	-	2.71
220-1094	●	7/64	-	-	2.778	0.10938	31.75	57.15	0.109	-
220-1100	●	-	35	-	2.794	0.11000	31.75	57.15	-	2.79
220-1110	●	-	34	-	2.819	0.11100	31.75	57.15	-	2.82
220-1130	●	-	33	-	2.870	0.11300	31.75	57.15	-	2.87
220-1160	●	-	32	-	2.946	0.11600	31.75	57.15	-	2.95
220-1181	●	-	-	-	3.000	0.11811	31.75	57.15	-	3.00
220-1200	●	-	31	-	3.048	0.12000	31.75	57.15	-	3.05
220-1250	●	1/8	-	-	3.175	0.12500	31.75	57.15	0.125	-
220-1285	●	-	30	-	3.264	0.12850	31.75	57.15	-	3.26
220-1360	●	-	29	-	3.454	0.13600	34.93	63.50	-	3.45
220-1378	●	-	-	-	3.500	0.13780	34.93	63.50	-	3.50
220-1405	●	-	28	-	3.569	0.14050	34.93	63.50	-	3.57
220-1406	●	9/64	-	-	3.572	0.14063	34.93	63.50	0.141	-
220-1440	●	-	27	-	3.658	0.14400	34.93	63.50	-	3.66
220-1470	●	-	26	-	3.734	0.14700	34.93	63.50	-	3.73
220-1495	●	-	25	-	3.797	0.14950	34.93	63.50	-	3.80
220-1520	●	-	24	-	3.861	0.15200	34.93	63.50	-	3.86
220-1540	●	-	23	-	3.912	0.15400	34.93	63.50	-	3.91
220-1562	●	5/32	-	-	3.969	0.15625	34.93	63.50	0.156	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○			○	○	○	○	○			○			

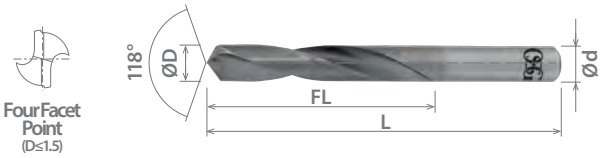
○ Good ◎ Best

List 220D (Continued)

OSG CARBIDE TWIST DRILL

SPEED FEED 338-340 | CARBIDE | BR | 2 FLUTE | JOBBER | 20° | PACKED 1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1.18 ≤ D ≤ 12.7	+0 / -0.013	+0 / -0.0005



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
220-1570	●	-	22	-	3.988	0.15700	34.93	63.50	-	3.99
220-1575	●	-	-	-	4.000	0.15748	34.93	63.50	-	4.00
220-1590	●	-	21	-	4.039	0.15900	34.93	63.50	-	4.04
220-1610	●	-	20	-	4.089	0.16100	34.93	63.50	-	4.09
220-1660	●	-	19	-	4.216	0.16600	41.28	69.85	-	4.22
220-1695	●	-	18	-	4.305	0.16950	41.28	69.85	-	4.31
220-1719	●	11/64	-	-	4.366	0.17188	41.28	69.85	0.172	-
220-1730	●	-	17	-	4.394	0.17300	41.28	69.85	-	4.39
220-1770	●	-	16	-	4.496	0.17700	41.28	69.85	-	4.50
220-1772	●	-	-	-	4.500	0.17720	41.28	69.85	-	4.50
220-1800	●	-	15	-	4.572	0.18000	41.28	69.85	-	4.57
220-1820	●	-	14	-	4.623	0.18200	41.28	69.85	-	4.62
220-1850	●	-	13	-	4.699	0.18500	41.28	69.85	-	4.70
220-1875	●	3/16	-	-	4.763	0.18750	41.28	69.85	0.188	-
220-1890	●	-	12	-	4.801	0.18900	41.28	69.85	-	4.80
220-1910	●	-	11	-	4.851	0.19100	41.28	69.85	-	4.85
220-1935	●	-	10	-	4.915	0.19350	41.28	69.85	-	4.91
220-1960	●	-	9	-	4.978	0.19600	44.45	76.20	-	4.98
220-1968	●	-	-	-	5.000	0.19685	44.45	76.20	-	5.00
220-1990	●	-	8	-	5.055	0.19900	44.45	76.20	-	5.05
220-2010	●	-	7	-	5.105	0.20100	44.45	76.20	-	5.11
220-2031	●	13/64	-	-	5.159	0.20313	44.45	76.20	0.203	-
220-2040	●	-	6	-	5.182	0.20400	44.45	76.20	-	5.18
220-2055	●	-	5	-	5.220	0.20550	44.45	76.20	-	5.22
220-2090	●	-	4	-	5.309	0.20900	44.45	76.20	-	5.31
220-2130	●	-	3	-	5.410	0.21300	44.45	76.20	-	5.41
220-2165	●	-	-	-	5.500	0.21654	44.45	76.20	-	5.50
220-2188	●	7/32	-	-	5.556	0.21875	44.45	76.20	0.219	-
220-2210	●	-	2	-	5.613	0.22100	44.45	76.20	-	5.61
220-2280	●	-	1	-	5.791	0.22800	44.45	76.20	-	5.79
220-2340	●	-	-	A	5.944	0.23400	50.80	82.55	-	5.94
220-2344	●	15/64	-	-	5.953	0.23438	50.80	82.55	0.234	-
220-2362	●	-	-	-	6.000	0.23622	50.80	82.55	-	6.00
220-2380	●	-	-	B	6.045	0.23800	50.80	82.55	-	6.05
220-2420	●	-	-	C	6.147	0.24200	50.80	82.55	-	6.15
220-2460	●	-	-	D	6.248	0.24600	50.80	82.55	-	6.25
220-2500	●	1/4	-	E	6.350	0.25000	50.80	82.55	0.250	-
220-2559	●	-	-	-	6.500	0.25591	50.80	82.55	-	6.50
220-2570	●	-	-	F	6.528	0.25700	50.80	82.55	-	6.53
220-2610	●	-	-	G	6.629	0.26100	53.98	88.90	-	6.63
220-2656	●	17/64	-	-	6.747	0.26563	53.98	88.90	0.266	-
220-2660	●	-	-	H	6.756	0.26600	53.98	88.90	-	6.76
220-2720	●	-	-	I	6.909	0.27200	53.98	88.90	-	6.91
220-2756	●	-	-	-	7.000	0.27559	53.98	88.90	-	7.00
220-2770	●	-	-	J	7.036	0.27700	53.98	88.90	-	7.04
220-2810	●	-	-	K	7.137	0.28100	53.98	88.90	-	7.14
220-2812	●	9/32	-	-	7.144	0.28125	53.98	88.90	0.281	-
220-2900	●	-	-	L	7.366	0.29000	53.98	88.90	-	7.37
220-2950	●	-	-	M	7.493	0.29500	60.33	95.25	-	7.49
220-2953	●	-	-	-	7.500	0.29528	60.33	95.25	-	7.50
220-2969	●	19/64	-	-	7.541	0.29688	60.33	95.25	0.297	-
220-3020	●	-	-	N	7.671	0.30200	60.33	95.25	-	7.67
220-3125	●	5/16	-	-	7.938	0.31250	60.33	95.25	-	7.94
220-3150	●	-	-	-	8.000	0.31496	60.33	95.25	-	8.00
220-3160	●	-	-	O	8.026	0.31600	60.33	95.25	-	8.03
220-3230	●	-	-	P	8.204	0.32300	60.33	95.25	-	8.20
220-3281	●	21/64	-	-	8.334	0.32813	63.50	101.60	0.656	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

List 220D (Continued)

OSG CARBIDE TWIST DRILL

SPEED FEED 338-340 | CARBIDE | BR | 2 FLUTE | JOBBER | 20° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
220-3320	●	-	-	Q	8.433	0.33200	63.50	101.60	-	8.43
220-3346	●	-	-	-	8.500	0.33465	63.50	101.60	-	8.50
220-3390	●	-	-	R	8.611	0.33900	63.50	101.60	-	8.61
220-3438	●	11/32	-	-	8.731	0.34375	63.50	101.60	0.344	-
220-3480	●	-	-	S	8.839	0.34800	63.50	101.60	-	8.84
220-3543	●	-	-	-	9.000	0.35433	63.50	101.60	-	9.00
220-3580	●	-	-	T	9.093	0.35800	69.85	107.95	-	9.09
220-3594	●	23/64	-	-	9.128	0.35938	63.50	101.60	0.359	-
220-3680	●	-	-	U	9.347	0.36800	69.85	107.95	-	9.35
220-3740	●	-	-	-	9.500	0.37402	69.85	107.95	-	9.50
220-3750	●	3/8	-	-	9.525	0.37500	69.85	107.95	-	9.53
220-3770	●	-	-	V	9.576	0.37700	69.85	107.95	-	9.58
220-3860	●	-	-	W	9.804	0.38600	73.03	114.30	-	9.80
220-3906	●	25/64	-	-	9.922	0.39063	73.03	114.30	0.391	-
220-3937	●	-	-	-	10.000	0.39370	73.03	114.30	-	10.00
220-3970	●	-	-	X	10.084	0.39700	73.03	114.30	-	10.08
220-4040	●	-	-	Y	10.262	0.40400	73.03	114.30	-	10.26
220-4062	●	13/32	-	-	10.319	0.40625	73.03	114.30	0.406	-
220-4130	●	-	-	Z	10.490	0.41300	73.03	114.30	-	10.49
220-4134	●	-	-	-	10.500	0.41339	73.03	114.30	-	10.50
220-4219	●	27/64	-	-	10.716	0.42188	73.03	114.30	0.266	-
220-4331	●	-	-	-	11.000	0.43307	73.03	114.30	-	11.00
220-4375	●	7/16	-	-	11.113	0.43750	73.03	114.30	0.438	-
220-4528	●	-	-	-	11.500	0.45276	76.20	120.65	-	11.50
220-4531	●	29/64	-	-	11.509	0.45313	76.20	120.65	0.453	-
220-4688	●	15/32	-	-	11.906	0.46875	76.20	120.65	0.469	-
220-4724	●	-	-	-	12.000	0.47244	76.20	120.65	-	12.00
220-4844	●	31/64	-	-	12.303	0.48438	76.20	120.65	0.484	-
220-5000	●	1/2	-	-	12.700	0.50000	76.20	120.65	0.250	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○			○	○	○	○	○			○			

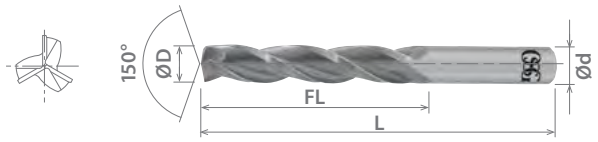
○ Good ◎ Best

List 233

OSG CARBIDE THREE FLUTE DRILL

SPEED FEED	CARBIDE	BR	3 FLUTE	JOBBER	30°	PACKED
338-340						1 PIECE

Cutting Diameter Tolerance		
Size	mm	inch
3.00≤D≤19.05	+0 / -0.013	+0 / -0.0005



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
233-1181	●	-	-	-	3.000	0.11811	31.75	57.15	-	3.00
233-1250	●	1/8	-	-	3.175	0.12500	31.75	57.15	0.125	-
233-1406	●	9/64	-	-	3.572	0.14063	34.93	63.50	0.141	-
233-1562	●	5/32	-	-	3.969	0.15625	34.93	63.50	0.156	-
233-1719	●	11/64	-	-	4.366	0.17188	41.28	69.85	0.172	-
233-1875	●	3/16	-	-	4.763	0.18750	41.28	69.85	0.188	-
233-2031	●	13/64	-	-	5.159	0.20313	44.45	76.20	0.203	-
233-2188	●	7/32	-	-	5.556	0.21875	44.45	76.20	0.219	-
233-2344	●	15/64	-	-	5.953	0.23438	50.80	82.55	0.234	-
233-2362	●	-	-	-	6.000	0.23622	50.80	82.55	-	6.00
233-2500	●	1/4	-	E	6.350	0.25000	50.80	82.55	0.250	-
233-2656	●	17/64	-	-	6.747	0.26563	53.98	88.90	0.266	-
233-2812	●	9/32	-	-	7.144	0.28125	53.98	88.90	0.281	-
233-2969	●	19/64	-	-	7.541	0.29688	60.33	95.25	0.297	-
233-3125	●	5/16	-	-	7.938	0.31250	60.33	95.25	0.313	-
233-3150	●	-	-	-	8.000	0.31496	60.33	95.25	-	8.00
233-3281	●	21/64	-	-	8.334	0.32813	63.50	101.60	0.656	-
233-3438	●	11/32	-	-	8.733	0.34375	63.50	101.60	0.344	-
233-3594	●	23/64	-	-	9.128	0.35938	63.50	101.60	0.359	-
233-3750	●	3/8	-	-	9.525	0.37500	69.85	107.95	0.375	-
233-3906	●	25/64	-	-	9.922	0.39063	73.03	114.30	0.391	-
233-3937	●	-	-	-	10.000	0.39370	73.03	114.30	-	10.00
233-4062	●	13/32	-	-	10.319	0.40625	73.03	114.30	0.406	-
233-4219	●	27/64	-	-	10.716	0.42188	73.03	114.30	0.422	-
233-4375	●	7/16	-	-	11.113	0.43750	73.03	114.30	0.438	-
233-4531	●	29/64	-	-	11.509	0.45313	76.20	120.65	0.453	-
233-4688	●	15/32	-	-	11.906	0.46875	76.20	120.65	0.469	-
233-4724	●	-	-	-	12.000	0.47244	76.20	120.65	-	12.00
233-4844	●	31/64	-	-	12.303	0.48438	76.20	120.65	0.484	-
233-5000	●	1/2	-	-	12.700	0.50000	76.20	120.65	0.500	-
233-5312	●	17/32	-	-	13.494	0.53125	76.20	120.65	0.531	-
233-5512	●	-	-	-	14.000	0.55118	88.90	146.05	-	14.00
233-5625	●	9/16	-	-	14.288	0.56250	88.90	146.05	0.563	-
233-6250	●	5/8	-	-	15.875	0.62500	88.90	146.05	0.625	-
233-6299	●	-	-	-	16.000	0.62992	88.90	146.05	-	16.00
233-7500	●	3/4	-	-	19.050	0.75000	107.95	146.05	0.750	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
								○								

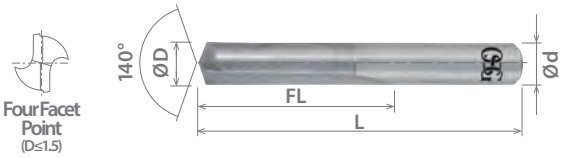
○ Good ◎ Best

List 200

OSG CARBIDE STRAIGHT DRILL

SPEED FEED	CARBIDE	BR	2 FLUTE	JOBBER	0°	PACKED
338-340						1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1.18 ≤ D ≤ 12.7	+0 / -0.013	+0 / -0.0005



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
200-0465	●	-	56	-	1.181	0.04650	12.70	38.10	-	1.18
200-0469	●	3/64	-	-	1.191	0.04688	12.70	38.10	0.047	-
200-0520	●	-	55	-	1.321	0.05200	12.70	38.10	-	1.32
200-0550	●	-	54	-	1.397	0.05500	12.70	38.10	-	1.40
200-0591	●	-	-	-	1.500	0.05906	12.70	38.10	-	1.50
200-0595	●	-	53	-	1.511	0.05950	12.70	38.10	-	1.51
200-0625	●	1/16	-	-	1.588	0.06250	15.88	41.28	0.063	-
200-0635	●	-	52	-	1.613	0.06350	17.46	42.86	-	1.61
200-0670	●	-	51	-	1.702	0.06700	17.46	42.86	-	1.70
200-0700	●	-	50	-	1.778	0.07000	17.46	42.86	-	1.78
200-0730	●	-	49	-	1.854	0.07300	17.46	42.86	-	1.85
200-0760	●	-	48	-	1.930	0.07600	17.46	42.86	-	1.93
200-0781	●	5/64	-	-	1.984	0.07813	17.46	42.86	0.078	-
200-0785	●	-	47	-	1.994	0.07850	19.05	44.45	-	1.99
200-0787	●	-	-	-	2.000	0.07874	19.05	44.45	-	2.00
200-0810	●	-	46	-	2.057	0.08100	19.05	44.45	-	2.06
200-0820	●	-	45	-	2.083	0.08200	19.05	44.45	-	2.08
200-0860	●	-	44	-	2.184	0.08600	19.05	44.45	-	2.18
200-0890	●	-	43	-	2.261	0.08900	19.05	44.45	-	2.26
200-0935	●	-	42	-	2.375	0.09350	19.05	44.45	-	2.37
200-0938	●	3/32	-	-	2.381	0.09375	19.05	44.45	0.094	-
200-0960	●	-	41	-	2.438	0.09600	20.62	46.02	-	2.44
200-0980	●	-	40	-	2.489	0.09800	20.62	46.02	-	2.49
200-0984	●	-	-	-	2.500	0.09843	20.62	46.02	-	2.50
200-0995	●	-	39	-	2.527	0.09950	20.62	46.02	-	2.53
200-1015	●	-	38	-	2.578	0.10150	20.62	46.02	-	2.58
200-1040	●	-	37	-	2.642	0.10400	20.62	46.02	-	2.64
200-1065	●	-	36	-	2.705	0.10650	20.62	46.02	-	2.71
200-1094	●	7/64	-	-	2.778	0.10938	20.62	46.02	0.109	-
200-1100	●	-	35	-	2.794	0.11000	22.23	47.63	-	2.79
200-1110	●	-	34	-	2.819	0.11100	22.23	47.63	-	2.82
200-1130	●	-	33	-	2.870	0.11300	22.23	47.63	-	2.87
200-1160	●	-	32	-	2.946	0.11600	22.23	47.63	-	2.95
200-1181	●	-	-	-	3.000	0.11811	22.23	47.63	-	3.00
200-1200	●	-	31	-	3.048	0.12000	22.23	47.63	-	3.05
200-1250	●	1/8	-	-	3.175	0.12500	22.23	47.63	0.125	-
200-1285	●	-	30	-	3.264	0.12850	23.81	49.23	-	3.26
200-1360	●	-	29	-	3.454	0.13600	23.81	49.23	-	3.45
200-1378	●	-	-	-	3.500	0.13780	23.81	49.23	-	3.50
200-1405	●	-	28	-	3.569	0.14050	23.81	49.23	-	3.57
200-1406	●	9/64	-	-	3.572	0.14063	23.81	49.23	0.141	-
200-1440	●	-	27	-	3.658	0.14400	25.40	52.40	-	3.66
200-1470	●	-	26	-	3.734	0.14700	25.40	52.40	-	3.73

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○								○								

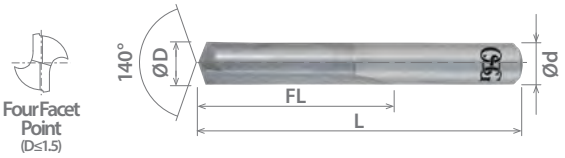
○ Good ◎ Best

List 200 (Continued)

SPEED FEED 338-340 | CARBIDE | BR | 2 FLUTE | JOBBER | 0° | PACKED 1 PIECE

OSG CARBIDE STRAIGHT DRILL

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1.18 ≤ D ≤ 12.7	+0 / -0.013	+0 / -0.0005



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
200-1495	●	-	25	-	3.797	0.14950	25.40	52.40	-	3.80
200-1520	●	-	24	-	3.861	0.15200	25.40	52.40	-	3.86
200-1540	●	-	23	-	3.912	0.15400	25.40	52.40	-	3.91
200-1562	●	5/32	-	-	3.969	0.15625	25.40	52.40	0.156	-
200-1570	●	-	22	-	3.988	0.15700	27.00	53.98	-	3.99
200-1575	●	-	-	-	4.000	0.15748	27.00	53.98	-	4.00
200-1590	●	-	21	-	4.039	0.15900	27.00	53.98	-	4.04
200-1610	●	-	20	-	4.089	0.16100	27.00	53.98	-	4.09
200-1660	●	-	19	-	4.216	0.16600	27.00	53.98	-	4.22
200-1695	●	-	18	-	4.305	0.16950	27.00	53.98	-	4.31
200-1719	●	11/64	-	-	4.366	0.17188	27.00	53.98	0.172	-
200-1730	●	-	17	-	4.394	0.17300	28.58	55.58	-	4.39
200-1770	●	-	16	-	4.496	0.17700	28.58	55.58	-	4.50
200-1772	●	-	-	-	4.500	1.77200	28.58	55.58	-	4.50
200-1800	●	-	15	-	4.572	0.18000	28.58	55.58	-	4.57
200-1820	●	-	14	-	4.623	0.18200	28.58	55.58	-	4.62
200-1850	●	-	13	-	4.699	0.18500	28.58	55.58	-	4.70
200-1875	●	3/16	-	-	4.763	0.18750	28.58	55.58	0.188	-
200-1890	●	-	12	-	4.801	0.18900	30.18	57.15	-	4.80
200-1910	●	-	11	-	4.851	0.19100	30.18	57.15	-	4.85
200-1935	●	-	10	-	4.915	0.19350	30.18	57.15	-	4.91
200-1960	●	-	9	-	4.978	0.19600	30.18	57.15	-	4.98
200-1968	●	-	-	-	5.000	0.19685	30.18	57.15	-	5.00
200-1990	●	-	8	-	5.055	0.19900	30.18	57.15	-	5.05
200-2010	●	-	7	-	5.105	0.20100	30.18	57.15	-	5.11
200-2031	●	13/64	-	-	5.159	0.20313	30.18	57.15	0.203	-
200-2040	●	-	6	-	5.182	0.20400	31.75	60.33	-	5.18
200-2055	●	-	5	-	5.220	0.20550	31.75	60.33	-	5.22
200-2090	●	-	4	-	5.309	0.20900	31.75	60.33	-	5.31
200-2130	●	-	3	-	5.410	0.21300	31.75	60.33	-	5.41
200-2165	●	-	-	-	5.500	0.21654	31.75	60.33	-	5.50
200-2188	●	7/32	-	-	5.556	0.21875	31.75	60.33	0.219	-
200-2210	●	-	2	-	5.613	0.22100	33.35	61.93	-	5.61
200-2280	●	-	1	-	5.791	0.22800	33.35	61.93	-	5.79
200-2340	●	-	-	A	5.944	0.23400	33.35	61.93	-	5.94
200-2344	●	15/64	-	-	5.953	0.23438	33.35	61.93	0.234	-
200-2362	●	-	-	-	6.000	0.23622	33.35	61.93	-	6.00
200-2380	●	-	-	B	6.045	0.23800	34.93	63.50	-	6.05
200-2420	●	-	-	C	6.147	0.24200	34.93	63.50	-	6.15
200-2460	●	-	-	D	6.248	0.24600	34.93	63.50	-	6.25
200-2500	●	1/4	-	E	6.350	0.25000	34.93	63.50	0.250	-
200-2559	●	-	-	-	6.500	0.25591	34.93	63.50	-	6.50
200-2570	●	-	-	F	6.528	0.25700	36.53	66.68	-	6.53
200-2610	●	-	-	G	6.629	0.26100	36.53	66.68	-	6.63
200-2656	●	17/64	-	-	6.747	0.26563	36.53	66.68	0.266	-
200-2660	●	-	-	H	6.756	0.26600	38.10	68.28	-	6.76
200-2720	●	-	-	I	6.909	0.27200	38.10	68.28	-	6.91
200-2756	●	-	-	-	7.000	0.27559	38.10	68.28	-	7.00
200-2770	●	-	-	J	7.036	0.27700	38.10	68.28	-	7.04
200-2810	●	-	-	K	7.137	0.28100	38.10	68.28	-	7.14
200-2812	●	9/32	-	-	7.144	0.28125	38.10	68.28	0.281	-
200-2900	●	-	-	L	7.366	0.29000	39.70	69.85	-	7.37

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

List 200 (Continued)

OSG CARBIDE STRAIGHT DRILL

SPEED FEED 338-340 | CARBIDE | BR | 2 FLUTE | JOBBER | 0° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
200-2950	●	-	-	M	7.493	0.29500	39.70	69.85	-	7.49
200-2953	●	-	-	-	7.500	0.29528	39.70	69.85	-	7.50
200-2969	●	19/64	-	-	7.541	0.29688	39.70	69.85	0.297	-
200-3020	●	-	-	N	7.671	0.30200	41.28	71.45	-	7.67
200-3125	●	5/16	-	-	7.938	0.31250	41.28	71.45	-	7.94
200-3150	●	-	-	-	8.000	0.31496	41.28	71.45	-	8.00
200-3160	●	-	-	O	8.026	0.31600	42.80	74.63	-	8.03
200-3230	●	-	-	P	8.204	0.32300	42.80	74.63	-	8.20
200-3281	●	21/64	-	-	8.334	0.32813	42.80	74.63	0.656	-
200-3320	●	-	-	Q	8.433	0.33200	42.80	76.20	-	8.43
200-3346	●	-	-	-	8.500	0.33465	42.80	76.20	-	8.50
200-3390	●	-	-	R	8.611	0.33900	42.80	76.20	-	8.61
200-3438	●	11/32	-	-	8.731	0.34375	42.80	76.20	0.344	-
200-3480	●	-	-	S	8.839	0.34800	44.45	77.80	-	8.84
200-3543	●	-	-	-	9.000	0.35433	44.45	77.80	-	9.00
200-3580	●	-	-	T	9.093	0.35800	44.45	77.80	-	9.09
200-3594	●	23/64	-	-	9.128	0.35938	44.45	77.80	-	9.13
200-3680	●	-	-	U	9.347	0.36800	46.05	79.38	-	9.35
200-3740	●	-	-	-	9.500	0.37402	46.05	79.38	-	9.50
200-3750	●	3/8	-	-	9.525	0.37500	46.05	79.38	-	9.53
200-3770	●	-	-	V	9.576	0.37700	47.63	82.55	-	9.58
200-3860	●	-	-	W	9.804	0.38600	47.63	82.55	-	9.80
200-3906	●	25/64	-	-	9.922	0.39063	47.63	82.55	-	9.92
200-3937	●	-	-	-	10.000	0.39370	47.63	82.55	-	10.00
200-3970	●	-	-	X	10.084	0.39700	49.23	84.15	-	10.08
200-4040	●	-	-	Y	10.262	0.40400	49.23	84.15	-	10.26
200-4062	●	13/32	-	-	10.319	0.40625	49.23	84.15	-	10.32
200-4130	●	-	-	Z	10.490	0.41300	50.80	85.73	-	10.49
200-4134	●	-	-	-	10.500	0.41339	50.80	85.73	-	10.50
200-4219	●	27/64	-	-	10.716	0.42188	50.80	85.73	-	10.72
200-4331	●	-	-	-	11.000	0.43307	52.40	87.33	-	11.00
200-4375	●	7/16	-	-	11.113	0.43750	52.40	87.33	-	11.11
200-4528	●	-	-	-	11.500	0.45276	53.98	90.50	-	11.50
200-4531	●	29/64	-	-	11.509	0.45313	53.98	90.50	-	11.51
200-4688	●	15/32	-	-	11.906	0.46875	53.98	92.08	-	11.91
200-4724	●	-	-	-	12.000	0.47244	53.98	92.08	-	12.00
200-4844	●	31/64	-	-	12.303	0.48438	55.58	93.68	-	12.30
200-5000	●	1/2	-	-	12.700	0.50000	57.15	95.25	0.500	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○								○								

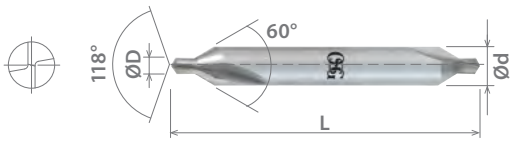
○ Good ◎ Best

List 235

OSG CARBIDE DRILL/COUNTERSINK

CARBIDE	BR	2 FLUTE	0°	PACKED 1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	inch
1.191 ≤ D ≤ 5.556	+0.076 / -0	+0.003 / -0



EDP Number		Diameter (D) Fractional Size	Diameter (D) mm	Diameter (D) inch	Type	Overall Length L (in)	Shank Diameter d (in)
235-0010	●	3/64	1.191	0.04688	1	1.472	0.125
235-0020	●	5/64	1.984	0.07813	2	1.827	0.188
235-0030	●	7/64	2.778	0.10938	3	1.872	0.250
235-0040	●	1/8	3.175	0.12500	4	2.425	0.313
235-0050	●	3/16	4.763	0.18750	5	2.638	0.438
235-0060	●	7/32	5.556	0.21875	6	2.869	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎		○	○	○	○	○	○	○	○	○			

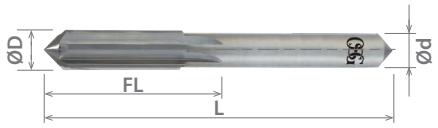
○ Good ◎ Best

List 300D

OSG CARBIDE CHUCKING REAMER

SPEED FEED	CARBIDE	BR	0°	PACKED
341				1 PIECE

Cutting Diameter Tolerance		
Size (mm)	mm	Inch
0.80mm-6.45mm	+.0025/+.0102	+.0001/+.0004
6.451mm-13mm	+.0025/+.0127	+.0001/+.0005



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Number of Flutes
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	
300-0315	●	-	-	-	0.800	0.03150	0.375	1.500	0.031	4
300-0354	●	-	-	-	0.900	0.03543	0.375	1.500	0.034	4
300-0394	●	-	-	-	1.000	0.03937	0.394	1.500	0.032	4
300-0433	●	-	-	-	1.100	0.04331	0.375	1.500	0.041	4
300-0465	●	-	56	-	1.181	0.04650	0.375	1.500	0.041	4
300-0469	●	3/64	-	-	1.191	0.04688	0.375	1.500	0.041	4
300-0472	●	-	-	-	1.200	0.04724	0.375	1.500	0.041	4
300-0512	●	-	-	-	1.300	0.05118	0.375	1.500	0.041	4
300-0520	●	-	55	-	1.321	0.05200	0.375	1.500	0.041	4
300-0550	●	-	54	-	1.397	0.05500	0.375	1.500	0.052	4
300-0551	●	-	-	-	1.400	0.05510	0.394	1.500	0.053	4
300-0591	●	-	-	-	1.500	0.05906	0.375	1.500	0.052	4
300-0595	●	-	53	-	1.511	0.05950	0.375	1.500	0.052	4
300-0625	●	1/16	-	-	1.588	0.06250	0.375	1.500	0.052	4
300-0630	●	-	-	-	1.600	0.06299	0.375	1.500	0.052	4
300-0635	●	-	52	-	1.613	0.06350	0.375	1.500	0.052	4
300-0669	●	-	-	-	1.700	0.06693	0.500	1.750	0.063	4
300-0670	●	-	51	-	1.702	0.06700	0.500	1.750	0.063	4
300-0700	●	-	50	-	1.778	0.07000	0.500	1.750	0.063	4
300-0709	●	-	-	-	1.800	0.07087	0.500	1.750	0.063	4
300-0730	●	-	49	-	1.854	0.07300	0.500	1.750	0.063	4
300-0748	●	-	-	-	1.900	0.07480	0.500	1.750	0.063	4
300-0760	●	-	48	-	1.930	0.07600	0.500	1.750	0.063	4
300-0781	●	5/64	-	-	1.984	0.07813	0.500	1.750	0.063	4
300-0785	●	-	47	-	1.994	0.07850	0.500	1.750	0.063	4
300-0787	●	-	-	-	2.000	0.07874	0.500	1.750	0.063	4
300-0810	●	-	46	-	2.057	0.08100	0.500	1.750	0.078	4
300-0820	●	-	45	-	2.083	0.08200	0.500	2.000	0.078	4
300-0827	●	-	-	-	2.100	0.08268	0.500	2.000	0.078	4
300-0860	●	-	44	-	2.184	0.08600	0.500	2.000	0.078	4
300-0866	●	-	-	-	2.200	0.08661	0.500	2.000	0.078	4
300-0890	●	-	43	-	2.261	0.08900	0.500	2.000	0.078	4
300-0906	●	-	-	-	2.300	0.09055	0.500	2.000	0.078	4
300-0935	●	-	42	-	2.375	0.09350	0.500	2.000	0.078	4
300-0938	●	3/32	-	-	2.381	0.09375	0.500	2.000	0.078	4
300-0945	●	-	-	-	2.400	0.09449	0.500	2.000	0.078	4
300-0960	●	-	41	-	2.438	0.09600	0.625	2.250	0.094	4
300-0980	●	-	40	-	2.489	0.09800	0.625	2.250	0.094	4
300-0984	●	-	-	-	2.500	0.09843	0.625	2.250	0.094	4
300-0995	●	-	39	-	2.527	0.09950	0.625	2.250	0.094	4
300-1015	●	-	38	-	2.578	0.10150	0.625	2.250	0.094	4
300-1024	●	-	-	-	2.600	0.10236	0.625	2.250	0.094	4
300-1040	●	-	37	-	2.642	0.10400	0.625	2.250	0.094	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYR

CONTINUED

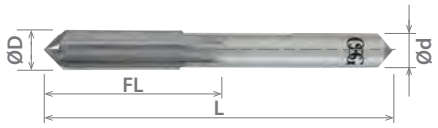
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○		○		○	○	○	○	○	○						

○ Good ◎ Best

List 300D (Continued)

OSG CARBIDE CHUCKING REAMER

SPEED FEED	CARBIDE	BR	0°	PACKED
341				1 PIECE



Cutting Diameter Tolerance		
Size (mm)	mm	Inch
0.80mm-6.45mm	+.0025/+.0102	+.0001/+.0004
6.451mm-13mm	+.0025/+.0127	+.0001/+.0005

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Number of Flutes
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	
300-1063	●	-	-	-	2.700	0.10630	0.625	2.250	0.094	4
300-1065	●	-	36	-	2.705	0.10650	0.625	2.250	0.094	4
300-1094	●	7/64	-	-	2.778	0.10938	0.625	2.250	0.094	4
300-1100	●	-	35	-	2.794	0.11000	0.625	2.250	0.094	4
300-1102	●	-	-	-	2.800	0.11024	0.625	2.250	0.094	4
300-1110	●	-	34	-	2.819	0.11100	0.625	2.250	0.094	4
300-1130	●	-	33	-	2.870	0.11300	0.625	2.250	0.094	4
300-1142	●	-	-	-	2.900	0.11417	0.625	2.250	0.109	4
300-1160	●	-	32	-	2.946	0.11600	0.625	2.250	0.109	4
300-1181	●	-	-	-	3.000	0.11811	0.625	2.250	0.109	4
300-1200	●	-	31	-	3.048	0.12000	0.625	2.250	0.109	4
300-1220	●	-	-	-	3.100	0.12205	0.625	2.250	0.109	4
300-1250	●	1/8	-	-	3.175	0.12500	0.625	2.250	0.109	4
300-1260	●	-	-	-	3.200	0.12598	0.625	2.250	0.109	4
300-1285	●	-	30	-	3.264	0.12850	0.625	2.250	0.109	4
300-1299	●	-	-	-	3.300	0.12992	0.750	2.500	0.125	4
300-1339	●	-	-	-	3.400	0.13386	0.750	2.500	0.125	4
300-1360	●	-	29	-	3.454	0.13600	0.750	2.500	0.125	4
300-1378	●	-	-	-	3.500	0.13780	0.750	2.500	0.125	4
300-1405	●	-	28	-	3.569	0.14050	0.750	2.500	0.125	4
300-1406	●	9/64	-	-	3.572	0.14063	0.750	2.500	0.125	4
300-1417	●	-	-	-	3.600	0.14173	0.750	2.500	0.125	4
300-1440	●	-	27	-	3.658	0.14400	0.750	2.500	0.125	4
300-1457	●	-	-	-	3.700	0.14567	0.750	2.500	0.141	4
300-1470	●	-	26	-	3.734	0.14700	0.750	2.500	0.141	4
300-1495	●	-	25	-	3.797	0.14950	0.750	2.500	0.141	4
300-1496	●	-	-	-	3.800	0.14960	0.750	2.500	0.141	4
300-1520	●	-	24	-	3.861	0.15200	0.750	2.500	0.141	4
300-1535	●	-	-	-	3.900	0.15354	0.750	2.500	0.141	4
300-1540	●	-	23	-	3.912	0.15400	0.750	2.500	0.141	4
300-1562	●	5/32	-	-	3.969	0.15625	0.750	2.500	0.141	4
300-1570	●	-	22	-	3.988	0.15700	0.750	2.500	0.141	4
300-1575	●	-	-	-	4.000	0.15748	0.750	2.500	0.141	4
300-1590	●	-	21	-	4.039	0.15900	0.750	2.500	0.141	4
300-1610	●	-	20	-	4.089	0.16100	0.875	2.750	0.156	4
300-1614	●	-	-	-	4.100	0.16142	0.875	2.750	0.156	4
300-1654	●	-	-	-	4.200	0.16535	0.875	2.750	0.156	4
300-1660	●	-	19	-	4.216	0.16600	0.875	2.750	0.156	4
300-1693	●	-	-	-	4.300	0.16929	0.875	2.750	0.156	4
300-1695	●	-	18	-	4.305	0.16950	0.875	2.750	0.156	4
300-1719	●	11/64	-	-	4.366	0.17188	0.875	2.750	0.156	4
300-1730	●	-	17	-	4.394	0.17300	0.875	2.750	0.156	4
300-1732	●	-	-	-	4.400	0.17323	0.875	2.750	0.156	4
300-1770	●	-	16	-	4.496	0.17700	0.875	2.750	0.172	4
300-1772	●	-	-	-	4.500	0.17720	0.875	2.750	0.172	4
300-1800	●	-	15	-	4.572	0.18000	0.875	2.750	0.172	4
300-1811	●	-	-	-	4.600	0.18110	0.875	2.750	0.172	4
300-1820	●	-	14	-	4.623	0.18200	0.875	2.750	0.172	4
300-1850	●	-	13	-	4.699	0.18500	0.875	2.750	0.172	4
300-1875	●	3/16	-	-	4.763	0.18750	0.875	2.750	0.172	4
300-1890	●	-	12	-	4.801	0.18900	0.875	2.750	0.172	4
300-1910	●	-	11	-	4.851	0.19100	1.000	3.000	0.188	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYR

List 300D (Continued)

OSG CARBIDE CHUCKING REAMER

SPEED FEED	CARBIDE			PACKED
341		BR	0°	1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Number of Flutes
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	
300-1929	●	-	-	-	4.900	0.19291	0.875	2.750	0.188	4
300-1935	●	-	10	-	4.915	0.19350	0.875	2.750	0.188	4
300-1960	●	-	9	-	4.978	0.19600	1.000	3.000	0.188	4
300-1969	●	-	-	-	5.000	0.19685	1.000	3.000	0.188	4
300-1990	●	-	8	-	5.055	0.19900	1.000	3.000	0.188	4
300-2008	●	-	-	-	5.100	0.20079	1.000	3.000	0.188	4
300-2010	●	-	7	-	5.105	0.20100	1.000	3.000	0.188	4
300-2031	●	13/64	-	-	5.159	0.20313	1.000	3.000	0.188	4
300-2040	●	-	6	-	5.182	0.20400	1.000	3.000	0.188	4
300-2047	●	-	-	-	5.200	0.20472	1.000	3.000	0.188	4
300-2055	●	-	5	-	5.220	0.20550	1.000	3.000	0.188	4
300-2087	●	-	-	-	5.300	0.20866	1.000	3.000	0.188	4
300-2090	●	-	4	-	5.309	0.20900	1.000	3.000	0.188	4
300-2126	●	-	-	-	5.400	0.21260	1.000	3.000	0.188	4
300-2130	●	-	3	-	5.410	0.21300	1.000	3.000	0.188	4
300-2165	●	-	-	-	5.500	0.21654	1.000	3.000	0.188	4
300-2188	●	7/32	-	-	5.556	0.21875	1.000	3.000	0.188	4
300-2205	●	-	-	-	5.600	0.22047	1.000	3.000	0.188	4
300-2210	●	-	2	-	5.613	0.22100	1.000	3.000	0.188	4
300-2244	●	-	-	-	5.700	0.22441	1.000	3.000	0.219	4
300-2280	●	-	1	-	5.791	0.22800	1.000	3.000	0.219	4
300-2283	●	-	-	-	5.800	0.22835	1.000	3.000	0.219	4
300-2323	●	-	-	-	5.900	0.23228	1.000	3.000	0.219	4
300-2340	●	-	-	A	5.944	0.23400	1.000	3.000	0.219	4
300-2344	●	15/64	-	-	5.953	0.23438	1.000	3.000	0.219	4
300-2362	●	-	-	-	6.000	0.23622	1.000	3.000	0.219	4
300-2380	●	-	-	B	6.045	0.23800	1.000	3.000	0.219	4
300-2402	●	-	-	-	6.100	0.24016	1.000	3.000	0.219	4
300-2420	●	-	-	C	6.147	0.24200	1.000	3.000	0.219	4
300-2441	●	-	-	-	6.200	0.24409	0.984	2.990	0.219	4
300-2460	●	-	-	D	6.248	0.24600	1.000	3.000	0.219	4
300-2480	●	-	-	-	6.300	0.24803	1.000	3.000	0.219	4
300-2500	●	1/4	-	E	6.350	0.25000	1.000	3.000	0.219	4
300-2520	●	-	-	-	6.400	0.25197	1.142	3.268	0.250	4
300-2559	●	-	-	-	6.500	0.25591	1.125	3.250	0.250	6
300-2570	●	-	-	F	6.528	0.25700	1.125	3.250	0.250	6
300-2598	●	-	-	-	6.600	0.25984	1.125	3.250	0.250	6
300-2610	●	-	-	G	6.629	0.26100	1.125	3.250	0.250	6
300-2638	●	-	-	-	6.700	0.26378	1.125	3.250	0.250	6
300-2656	●	17/64	-	-	6.747	0.26563	1.125	3.250	0.250	6
300-2660	●	-	-	H	6.756	0.26600	1.125	3.250	0.250	6
300-2677	●	-	-	-	6.800	0.26772	1.125	3.250	0.250	6
300-2717	●	-	-	-	6.900	0.27165	1.125	3.250	0.250	6
300-2720	●	-	-	I	6.909	0.27200	1.125	3.250	0.250	6
300-2756	●	-	-	-	7.000	0.27559	1.125	3.250	0.250	6
300-2770	●	-	-	J	7.036	0.27700	1.125	3.250	0.250	6
300-2795	●	-	-	-	7.100	0.27953	1.125	3.250	0.250	6
300-2810	●	-	-	K	7.137	0.28100	1.125	3.250	0.250	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYR

CONTINUED

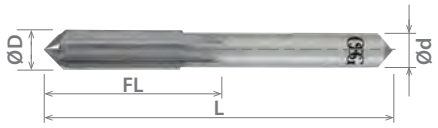
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○		○		○	○	○	○	○	○						

○ Good ◎ Best

List 300D (Continued)

OSG CARBIDE CHUCKING REAMER

SPEED FEED	CARBIDE	BR	0°	PACKED
341				1 PIECE



Cutting Diameter Tolerance		
Size (mm)	mm	Inch
0.80mm-6.45mm	+.0025/+.0102	+.0001/+.0004
6.451mm-13mm	+.0025/+.0127	+.0001/+.0005

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Number of Flutes
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	
300-2812	●	9/32	-	-	7.144	0.28125	1.125	3.250	0.250	6
300-2835	●	-	-	-	7.200	0.28346	1.125	3.250	0.250	6
300-2874	●	-	-	-	7.300	0.28740	1.125	3.250	0.281	6
300-2900	●	-	-	L	7.366	0.29000	1.125	3.250	0.281	6
300-2913	●	-	-	-	7.400	0.29134	1.125	3.250	0.281	6
300-2950	●	-	-	M	7.493	0.29500	1.125	3.250	0.281	6
300-2953	●	-	-	-	7.500	0.29528	1.125	3.250	0.281	6
300-2969	●	19/64	-	-	7.541	0.29688	1.125	3.250	0.281	6
300-2992	●	-	-	-	7.600	0.29921	1.125	3.250	0.281	6
300-3020	●	-	-	N	7.671	0.30200	1.125	3.250	0.281	6
300-3031	●	-	-	-	7.700	0.30315	1.125	3.250	0.281	6
300-3071	●	-	-	-	7.800	0.30709	1.125	3.250	0.281	6
300-3110	●	-	-	-	7.900	0.31102	1.125	3.250	0.281	6
300-3125	●	5/16	-	-	7.938	0.31250	1.125	3.250	0.281	6
300-3150	●	-	-	-	8.000	0.31496	1.125	3.250	0.281	6
300-3160	●	-	-	O	8.026	0.31600	1.250	3.500	0.313	6
300-3189	●	-	-	-	8.100	0.31890	1.250	3.500	0.313	6
300-3228	●	-	-	-	8.200	0.32283	1.250	3.500	0.313	6
300-3230	●	-	-	P	8.204	0.32300	1.250	3.500	0.313	6
300-3268	●	-	-	-	8.300	0.32677	1.250	3.500	0.313	6
300-3281	●	21/64	-	-	8.334	0.32813	1.250	3.500	0.313	6
300-3307	●	-	-	-	8.400	0.33071	1.250	3.500	0.313	6
300-3320	●	-	-	Q	8.433	0.33200	1.250	3.500	0.313	6
300-3346	●	-	-	-	8.500	0.33465	1.250	3.500	0.313	6
300-3386	●	-	-	-	8.600	0.33858	1.250	3.500	0.313	6
300-3390	●	-	-	R	8.611	0.33900	1.250	3.500	0.313	6
300-3425	●	-	-	-	8.700	0.34252	1.250	3.500	0.313	6
300-3438	●	11/32	-	-	8.733	0.34380	1.250	3.500	0.313	6
300-3465	●	-	-	-	8.800	0.34646	1.250	3.500	0.313	6
300-3480	●	-	-	S	8.839	0.34800	1.250	3.500	0.313	6
300-3504	●	-	-	-	8.900	0.35039	1.250	3.500	0.313	6
300-3543	●	-	-	-	9.000	0.35433	1.250	3.500	0.313	6
300-3580	●	-	-	T	9.093	0.35800	1.250	3.500	0.313	6
300-3583	●	-	-	-	9.100	0.35827	1.250	3.500	0.313	6
300-3594	●	23/64	-	-	9.128	0.35938	1.250	3.500	0.313	6
300-3622	●	-	-	-	9.200	0.36220	1.250	3.500	0.359	6
300-3661	●	-	-	-	9.300	0.36614	1.250	3.500	0.359	6
300-3680	●	-	-	U	9.347	0.36800	1.250	3.500	0.359	6
300-3701	●	-	-	-	9.400	0.37008	1.250	3.500	0.359	6
300-3740	●	-	-	-	9.500	0.37402	1.250	3.500	0.359	6
300-3750	●	3/8	-	-	9.525	0.37500	1.250	3.500	0.359	6
300-3770	●	-	-	V	9.576	0.37700	1.250	3.500	0.359	6
300-3780	●	-	-	-	9.600	0.37795	1.250	3.500	0.359	6
300-3819	●	-	-	-	9.700	0.38189	1.250	3.500	0.359	6
300-3858	●	-	-	-	9.800	0.38583	1.250	3.500	0.359	6
300-3860	●	-	-	W	9.804	0.38600	1.250	3.500	0.359	6
300-3898	●	-	-	-	9.900	0.38976	1.250	3.500	0.375	6
300-3906	●	25/64	-	-	9.922	0.39063	1.250	3.500	0.375	6
300-3937	●	-	-	-	10.000	0.39370	1.250	3.500	0.375	6
300-3970	●	-	-	X	10.084	0.39700	1.250	3.500	0.375	6
300-3976	●	-	-	-	10.100	0.39764	1.250	3.500	0.375	6
300-4016	●	-	-	-	10.200	0.40157	1.250	3.500	0.375	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYR

List 300D (Continued)

OSG CARBIDE CHUCKING REAMER

SPEED FEED	CARBIDE	BR	0°	PACKED
341				1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Number of Flutes
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	
300-4040	●	-	-	Y	10.262	0.40400	1.250	3.500	0.375	6
300-4055	●	-	-	-	10.300	0.40551	1.250	3.500	0.375	6
300-4062	●	13/32	-	-	10.319	0.40625	1.250	3.500	0.375	6
300-4094	●	-	-	-	10.400	0.40945	1.250	3.500	0.375	6
300-4130	●	-	-	Z	10.490	0.41300	1.250	3.500	0.375	6
300-4134	●	-	-	-	10.500	0.41339	1.250	3.500	0.375	6
300-4173	●	-	-	-	10.600	0.41732	1.375	3.750	0.375	6
300-4213	●	-	-	-	10.700	0.42126	1.375	3.750	0.375	6
300-4219	●	27/64	-	-	10.716	0.42188	1.375	3.750	0.375	6
300-4252	●	-	-	-	10.800	0.42520	1.375	3.750	0.375	6
300-4291	●	-	-	-	10.900	0.42913	1.375	3.750	0.375	6
300-4331	●	-	-	-	11.000	0.43307	1.378	3.750	0.375	6
300-4370	●	-	-	-	11.100	0.43701	1.375	3.750	0.375	6
300-4375	●	7/16	-	-	11.113	0.43750	1.375	3.750	0.375	6
300-4409	●	-	-	-	11.200	0.44094	1.375	3.750	0.375	6
300-4449	●	-	-	-	11.300	0.44488	1.375	3.750	0.375	6
300-4488	●	-	-	-	11.400	0.44882	1.375	3.750	0.375	6
300-4528	●	-	-	-	11.500	0.45276	1.375	3.750	0.375	6
300-4531	●	29/64	-	-	11.509	0.45313	1.375	3.750	0.438	6
300-4567	●	-	-	-	11.600	0.45669	1.375	3.750	0.438	6
300-4606	●	-	-	-	11.700	0.46063	1.375	3.750	0.438	6
300-4646	●	-	-	-	11.800	0.46457	1.375	3.750	0.438	6
300-4685	●	-	-	-	11.900	0.46850	1.375	3.750	0.438	6
300-4688	●	15/32	-	-	11.906	0.46875	1.375	3.750	0.438	6
300-4724	●	-	-	-	12.000	0.47244	1.375	3.750	0.438	6
300-4764	●	-	-	-	12.100	0.47638	1.500	4.000	0.438	6
300-4803	●	-	-	-	12.200	0.48031	1.500	4.000	0.438	6
300-4843	●	-	-	-	12.300	0.48425	1.500	4.000	0.438	6
300-4844	●	31/64	-	-	12.303	0.48438	1.500	4.000	0.438	6
300-4882	●	-	-	-	12.400	0.48819	1.500	4.000	0.438	6
300-4921	●	-	-	-	12.500	0.49213	1.500	4.000	0.438	6
300-4961	●	-	-	-	12.600	0.49606	1.500	4.000	0.438	6
300-5000	●	1/2	-	-	12.700	0.50000	1.500	4.000	0.438	6
300-5079	●	-	-	-	12.900	0.50787	1.500	4.000	0.438	6
300-5118	●	-	-	-	13.000	0.51181	1.500	4.000	0.438	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYR

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○		○		○	○	○	○	○	○						

○ Good ◎ Best

List 700

CARBIDE | BR | 1 FLUTE | 21° | PACKED 1 PIECE

OSG CARBIDE COUNTERSINK



EDP Number		Diameter D (in)	Diameter D (in)	Overall Length L (in)	Shank Diameter d (in)	Point Angle α
700-1250	●	1/8	0.12500	1.500	0.125	60
700-1251	●	1/8	0.12500	1.500	0.125	82
700-1252	●	1/8	0.12500	1.500	0.125	90
700-1871	●	3/16	0.18750	2	0.188	60
700-1872	●	3/16	0.18750	2	0.188	82
700-1875	●	3/16	0.18750	2	0.188	90
700-2500	●	1/4	0.25000	2	0.250	60
700-2501	●	1/4	0.25000	2	0.250	82
700-2502	●	1/4	0.25000	2	0.250	90
700-3750	●	3/8	0.37500	2.563	0.250	60
700-3751	●	3/8	0.37500	2.438	0.250	82
700-3752	●	3/8	0.37500	2.438	0.250	90
700-5000	●	1/2	0.50000	2.625	0.250	60
700-5001	●	1/2	0.50000	2.625	0.250	82
700-5002	●	1/2	0.50000	2.625	0.250	90
700-6250	●	5/8	0.62500	2.813	0.250	60
700-6251	●	5/8	0.62500	2.625	0.250	82
700-6252	●	5/8	0.62500	2.625	0.250	90
700-6253	●	5/8	0.62500	3.063	0.375	60
700-6254	●	5/8	0.62500	2.875	0.375	82
700-6255	●	5/8	0.62500	2.875	0.375	90
700-7500	●	3/4	0.75000	3	0.375	60
700-7501	●	3/4	0.75000	2.875	0.375	82
700-7502	●	3/4	0.75000	2.875	0.375	90
700-1000	●	1	1.00000	3.250	0.500	60
700-1001	●	1	1.00000	3	0.500	82
700-1002	●	1	1.00000	3	0.500	90

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: D ≥ 3/8" With brazed steel shank.

HYE

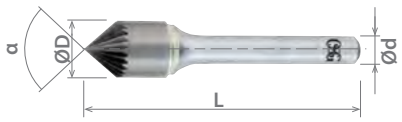
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○		○					○	○	○						

○ Good ◎ Best

List 701

CARBIDE | BR | 5° | PACKED 1 PIECE

OSG CARBIDE COUNTERSINK, Multiple Flute



EDP Number		Diameter		Overall Length	Shank Diameter	Point Angle	Number of Flutes
		D (in)	D (in)	L (in)	d (in)	α	
701-2500	●	1/4	0.25000	2.000	0.250	60	18
701-2501	●	1/4	0.25000	2.000	0.250	82	18
701-2502	●	1/4	0.25000	2.000	0.250	90	18
701-3750	●	3/8	0.37500	2.188	0.250	60	20
701-3751	●	3/8	0.37500	2.313	0.250	82	20
701-3752	●	3/8	0.37500	2.313	0.250	90	20
701-5000	●	1/2	0.50000	2.313	0.250	60	24
701-5001	●	1/2	0.50000	2.125	0.250	82	24
701-5002	●	1/2	0.50000	2.125	0.250	90	24
701-6250	●	5/8	0.62500	3.000	0.375	60	30
701-6251	●	5/8	0.62500	2.875	0.375	82	30
701-6252	●	5/8	0.62500	2.875	0.375	90	30
701-7500	●	3/4	0.75000	3.000	0.375	60	36
701-7501	●	3/4	0.75000	2.875	0.375	82	36
701-7502	●	3/4	0.75000	2.875	0.375	90	36
701-1000	●	1	1.00000	3.000	0.500	60	46
701-1001	●	1	1.00000	3.000	0.500	82	46
701-1002	●	1	1.00000	3.000	0.500	90	46

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: D ≥ 3/8 With brazed steel shank.

HYE

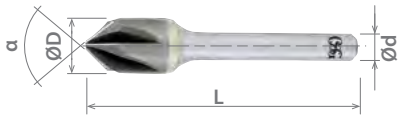
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
		○	○					○					○	○	○	

○ Good ◎ Best

List 706

CARBIDE | BR | 6 FLUTE | 0° | PACKED 1 PIECE

OSG CARBIDE COUNTERSINK



EDP Number		Diameter		Overall Length	Shank Diameter	Point Angle
		D (in)	D (in)	L (in)	d (in)	α
706-2500-060	●	1/4	0.25000	2.000	0.250	60
706-2500-082	●	1/4	0.25000	2.000	0.250	82
706-2500-090	●	1/4	0.25000	2.000	0.250	90
706-3750-060	●	3/8	0.37500	2.500	0.250	60
706-3750-082	●	3/8	0.37500	2.375	0.250	82
706-3750-090	●	3/8	0.37500	2.375	0.250	90
706-5000-060	●	1/2	0.50000	2.625	0.250	60
706-5000-082	●	1/2	0.50000	2.500	0.250	82
706-5000-090	●	1/2	0.50000	2.500	0.250	90
706-6250-060	●	5/8	0.62500	3.000	0.375	60
706-6250-082	●	5/8	0.62500	2.875	0.375	82
706-6250-090	●	5/8	0.62500	2.875	0.375	90
706-7500-060	●	3/4	0.75000	3.000	0.375	60
706-7500-082	●	3/4	0.75000	2.875	0.375	82
706-7500-090	●	3/4	0.75000	2.875	0.375	90
706-1000-060	●	1	1.00000	3.250	0.500	60
706-1000-082	●	1	1.00000	3.000	0.500	82
706-1000-090	●	1	1.00000	3.000	0.500	90

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: D ≥ 3/8 With brazed steel shank.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○		○						○	○						

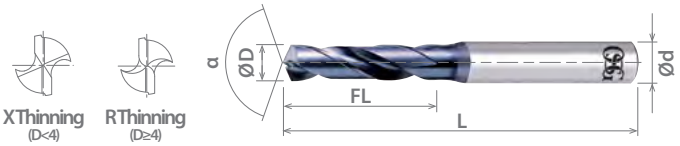
○ Good ◎ Best

List 1900

V-SERIES-VPH-GDS

SPEED FEED	XPM	V	2 FLUTE	STUB	30°	PACKED
342-343						1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8599005	●	-	-	-	0.500	0.01969	3.00	38.00	3.00	130
8608055	●	-	-	-	0.550	0.02165	3.50	38.00	3.00	130
8608056	●	-	-	-	0.560	0.02205	3.50	38.00	3.00	130
8608057	●	-	-	-	0.570	0.02244	3.50	38.00	3.00	130
8599006	●	-	-	-	0.600	0.02362	3.50	38.00	3.00	130
8608061	●	-	-	-	0.610	0.02402	4.00	38.00	3.00	130
8608063	●	-	-	-	0.630	0.02480	4.00	38.00	4.00	130
8608065	●	-	-	-	0.650	0.02559	4.00	38.00	3.00	130
8608066	●	-	-	-	0.660	0.02598	4.00	38.00	3.00	130
8608068	●	-	-	-	0.680	0.02677	4.50	38.00	3.00	130
8608069	●	-	-	-	0.690	0.02717	4.50	38.00	3.00	130
8599007	●	-	-	-	0.700	0.02756	4.50	38.00	3.00	130
8608071	●	-	-	-	0.710	0.02795	4.50	38.00	3.00	130
8608074	●	-	-	-	0.740	0.02913	4.50	38.00	4.00	130
8608075	●	-	-	-	0.750	0.02953	4.50	38.00	3.00	130
8599008	●	-	-	-	0.800	0.03150	5.00	38.00	3.00	130
8608082	●	-	-	-	0.820	0.03228	5.00	38.00	4.00	130
8608083	●	-	-	-	0.830	0.03268	5.00	38.00	5.00	130
8608085	●	-	-	-	0.850	0.03346	5.00	38.00	3.00	130
8608088	●	-	-	-	0.880	0.03465	5.50	38.00	3.00	130
8608089	●	-	-	-	0.890	0.03504	5.50	38.00	3.00	130
8599009	●	-	-	-	0.900	0.03543	5.50	38.00	3.00	130
8608094	●	-	-	-	0.940	0.03701	5.50	38.00	3.00	130
8608095	●	-	-	-	0.950	0.03740	5.50	38.00	3.00	130
8608099	●	-	-	-	0.990	0.03898	6.00	38.00	3.00	130
8599010	●	-	-	-	1.000	0.03937	6.00	38.00	3.00	130
8608102	●	-	-	-	1.020	0.04016	6.00	38.00	3.00	130
8608104	●	-	-	-	1.040	0.04094	6.00	38.00	3.00	130
8608105	●	-	-	-	1.050	0.04134	6.00	38.00	4.00	130
8608106	●	-	-	-	1.060	0.04173	6.00	38.00	5.00	130
8608107	●	-	-	-	1.070	0.04213	7.00	39.00	3.00	130
8608109	●	-	-	-	1.090	0.04291	7.00	39.00	3.00	130
8608113	●	-	-	-	1.130	0.04449	7.00	39.00	4.00	130
8608114	●	-	-	-	1.140	0.04488	7.00	39.00	5.00	130
8608118	●	-	-	-	1.180	0.04646	7.00	39.00	3.00	130
8608119	●	-	-	-	1.190	0.04685	8.00	40.00	3.00	130
8608122	●	-	-	-	1.220	0.04803	8.00	40.00	3.00	130
8608124	●	-	-	-	1.240	0.04882	8.00	40.00	3.00	130
8608125	●	-	-	-	1.250	0.04921	8.00	40.00	3.00	130
8608126	●	-	-	-	1.260	0.04961	8.00	40.00	3.00	130
8608127	●	-	-	-	1.270	0.05000	8.00	40.00	3.00	130
8608128	●	-	-	-	1.280	0.05039	8.00	40.00	3.00	130
8608129	●	-	-	-	1.290	0.05079	8.00	40.00	3.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	◎	◎	◎	◎		○	○	◎	○	○	◎	○	◎	◎	○	

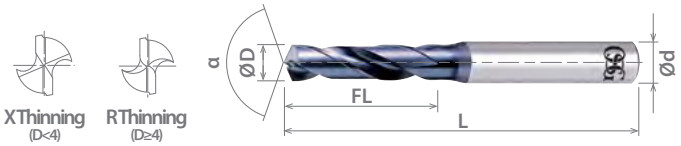
○ Good ◎ Best

List 1900 (Continued)

V-SERIES-VPH-GDS

SPEED FEED 342-343 | XPM | V | 2 FLUTE | STUB | 30° | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8599013	●	-	-	-	1.300	0.05118	8.00	40.00	3.00	130
8608131	●	-	-	-	1.310	0.05157	8.00	40.00	3.00	130
8608132	●	-	-	-	1.320	0.05197	8.00	40.00	3.00	130
8599014	●	-	-	-	1.400	0.05512	9.00	41.00	3.00	130
8608146	●	-	-	-	1.460	0.05748	9.00	41.00	3.00	130
8608147	●	-	-	-	1.470	0.05787	9.00	41.00	3.00	130
8608148	●	-	-	-	1.480	0.05827	9.00	41.00	3.00	130
8599015	●	-	-	-	1.500	0.05906	9.00	41.00	3.00	130
8608151	●	-	-	-	1.510	0.05945	10.00	42.00	3.00	130
8608153	●	-	-	-	1.530	0.06024	10.00	42.00	3.00	130
8608155	●	-	-	-	1.550	0.06102	10.00	42.00	3.00	130
8608159	●	-	-	-	1.590	0.06260	10.00	42.00	3.00	130
8608161	●	-	-	-	1.610	0.06339	10.00	42.00	3.00	130
8608162	●	-	-	-	1.620	0.06378	10.00	42.00	4.00	130
8608163	●	-	-	-	1.630	0.06417	10.00	42.00	5.00	130
8608164	●	-	-	-	1.640	0.06457	10.00	42.00	3.00	130
8608166	●	-	-	-	1.660	0.06535	10.00	42.00	3.00	130
8608169	●	-	-	-	1.690	0.06654	10.00	42.00	4.00	130
8599017	●	-	-	-	1.700	0.06693	10.00	42.00	3.00	130
8608176	●	-	-	-	1.760	0.06929	11.00	43.00	3.00	130
8608177	●	-	-	-	1.770	0.06969	11.00	43.00	3.00	130
8608178	●	-	-	-	1.780	0.07008	11.00	43.00	3.00	130
8599018	●	-	-	-	1.800	0.07087	11.00	43.00	3.00	130
8608182	●	-	-	-	1.820	0.07165	11.00	43.00	3.00	130
8608185	●	-	-	-	1.850	0.07283	11.00	43.00	3.00	130
8608193	●	-	-	-	1.930	0.07598	12.00	44.00	3.00	130
8608198	●	-	-	-	1.980	0.07795	12.00	44.00	3.00	130
8608199	●	-	-	-	1.990	0.07835	12.00	44.00	3.00	130
9599020	●	-	-	-	2.000	0.07874	12.00	44.00	3.00	130
8608203	●	-	-	-	2.030	0.07992	12.00	44.00	3.00	130
8608204	●	-	-	-	2.040	0.08031	12.00	44.00	4.00	130
8608206	●	-	-	-	2.060	0.08110	12.00	44.00	3.00	130
8608208	●	-	-	-	2.080	0.08189	12.00	44.00	3.00	130
9599021	●	-	-	-	2.100	0.08268	12.00	44.00	3.00	130
8608213	●	-	-	-	2.130	0.08386	13.00	45.00	3.00	130
8608215	●	-	-	-	2.150	0.08465	13.00	45.00	3.00	130
8608216	●	-	-	-	2.160	0.08504	13.00	45.00	3.00	130
8608218	●	-	-	-	2.180	0.08583	13.00	45.00	3.00	130
9599022	●	-	-	-	2.200	0.08661	13.00	45.00	3.00	130
8608222	●	-	-	-	2.220	0.08740	13.00	45.00	3.00	130
8608226	●	-	-	-	2.260	0.08898	13.00	45.00	3.00	130
9599023	●	-	-	-	2.300	0.09055	13.00	45.00	3.00	130
8608231	●	-	-	-	2.310	0.09094	13.00	45.00	4.00	130
8608233	●	-	-	-	2.330	0.09173	13.00	45.00	3.00	130
8608237	●	-	-	-	2.370	0.09331	14.00	46.00	3.00	130
8608238	●	-	-	-	2.380	0.09370	14.00	46.00	3.00	130
9599024	●	-	-	-	2.400	0.09449	14.00	46.00	3.00	130
8608244	●	-	-	-	2.440	0.09606	14.00	46.00	3.00	130
8608246	●	-	-	-	2.460	0.09685	14.00	46.00	4.00	130
8608249	●	-	-	-	2.490	0.09803	14.00	46.00	3.00	130
9599025	●	-	-	-	2.500	0.09843	14.00	46.00	3.00	130
8608253	●	-	-	-	2.530	0.09961	14.00	46.00	3.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1900 (Continued)

V-SERIES-VPH-GDS

SPEED FEED 342-343 | XPM | V | 2 FLUTE | STUB | 30° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8608258	●	-	-	-	2.580	0.10157	14.00	46.00	3.00	130
9599026	●	-	-	-	2.600	0.10236	14.00	46.00	3.00	130
8608264	●	-	-	-	2.640	0.10394	14.00	46.00	3.00	130
9599027	●	-	-	-	2.700	0.10630	16.00	46.00	3.00	130
8608271	●	-	-	-	2.710	0.10669	16.00	46.00	3.00	130
8608278	●	-	-	-	2.780	0.10945	16.00	46.00	3.00	130
8608279	●	-	-	-	2.790	0.10984	16.00	46.00	3.00	130
9599028	●	-	-	-	2.800	0.11024	16.00	48.00	3.00	130
8608281	●	-	-	-	2.810	0.11063	16.00	48.00	3.00	130
8608282	●	-	-	-	2.820	0.11102	16.00	48.00	3.00	130
8608287	●	-	-	-	2.870	0.11299	16.00	48.00	3.00	130
9599029	●	-	-	-	2.900	0.11417	16.00	48.00	3.00	130
8608295	●	-	-	-	2.950	0.11614	16.00	48.00	3.00	130
9599030	●	-	-	-	3.000	0.11811	16.00	48.00	3.00	130
8608305	●	-	-	-	3.050	0.12008	18.00	50.00	4.00	130
9599031	●	-	-	-	3.100	0.12205	18.00	50.00	4.00	130
8608318	●	1/8	-	-	3.180	0.12500	18.00	50.00	4.00	130
8608319	●	-	-	-	3.190	0.12559	18.00	50.00	4.00	130
9599032	●	-	-	-	3.200	0.12598	18.00	50.00	4.00	130
8608326	●	-	-	-	3.260	0.12835	18.00	50.00	4.00	130
9599033	●	-	-	-	3.300	0.12992	18.00	50.00	4.00	130
8608336	●	-	-	-	3.360	0.13228	20.00	52.00	4.00	130
9599034	●	-	-	-	3.400	0.13386	20.00	52.00	4.00	130
8608345	●	-	-	-	3.450	0.13583	20.00	52.00	4.00	130
9599035	●	-	-	-	3.500	0.13780	20.00	52.00	4.00	130
8608352	●	-	-	-	3.520	0.13858	20.00	52.00	4.00	130
8608357	●	-	-	-	3.570	0.14055	20.00	52.00	4.00	130
9599036	●	-	-	-	3.600	0.14173	20.00	52.00	4.00	130
8608366	●	-	-	-	3.660	0.14409	20.00	52.00	4.00	130
9599037	●	-	-	-	3.700	0.14567	20.00	52.00	4.00	130
8608373	●	-	-	-	3.730	0.14685	20.00	52.00	4.00	130
8608377	●	-	-	-	3.770	0.14843	22.00	54.00	4.00	130
9599038	●	-	-	-	3.800	0.14961	22.00	54.00	4.00	130
8608386	●	-	-	-	3.860	0.15197	22.00	54.00	4.00	130
9599039	●	-	-	-	3.900	0.15354	22.00	54.00	4.00	130
8608391	●	-	-	-	3.910	0.15394	22.00	54.00	4.00	130
8608397	●	-	-	-	3.970	0.15630	22.00	54.00	4.00	130
8608399	●	-	-	-	3.990	0.15709	22.00	54.00	4.00	130
9599040	●	-	-	-	4.000	0.15748	22.00	54.00	4.00	130
8608404	●	-	-	-	4.040	0.15906	22.00	66.00	6.00	130
8608409	●	-	-	-	4.090	0.16102	22.00	66.00	6.00	130
9599041	●	-	-	-	4.100	0.16142	22.00	66.00	6.00	130
8608415	●	-	-	-	4.150	0.16339	22.00	66.00	6.00	130
9599042	●	-	-	-	4.200	0.16535	22.00	66.00	6.00	130
8608422	●	-	-	-	4.220	0.16614	22.00	66.00	6.00	130
8608427	●	-	-	-	4.270	0.16811	24.00	68.00	6.00	130
9599043	●	-	-	-	4.300	0.16929	24.00	68.00	6.00	130
8608431	●	-	-	-	4.310	0.16969	24.00	68.00	6.00	130
8608437	●	11/64	-	-	4.370	0.17188	24.00	68.00	6.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	◎		○	○	◎	○	○	◎	○	◎	◎	○	

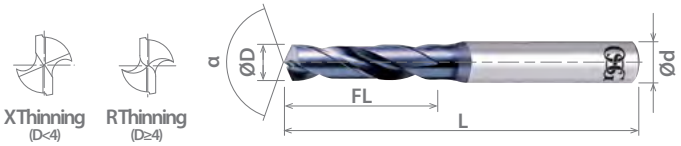
○ Good ◎ Best

List 1900 (Continued)

V-SERIES-VPH-GDS

SPEED FEED 342-343 | XPM | V | 2 FLUTE | STUB | 30° | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8608439	●	-	-	-	4.390	0.17283	24.00	68.00	6.00	130
9599044	●	-	-	-	4.400	0.17323	24.00	68.00	6.00	130
8608445	●	-	-	-	4.450	0.17520	24.00	68.00	6.00	130
9599045	●	-	-	-	4.500	0.17717	24.00	68.00	6.00	130
8608457	●	-	-	-	4.570	0.17992	24.00	68.00	6.00	130
9599046	●	-	-	-	4.600	0.18110	24.00	68.00	6.00	130
8608462	●	-	-	-	4.620	0.18189	24.00	68.00	6.00	130
8608466	●	-	-	-	4.660	0.18346	24.00	68.00	6.00	130
9599047	●	-	-	-	4.700	0.18504	24.00	68.00	6.00	130
8608476	●	-	-	-	4.760	0.18740	26.00	70.00	6.00	130
8608479	●	-	-	-	4.790	0.18858	26.00	70.00	6.00	130
9599048	●	-	-	-	4.800	0.18898	26.00	70.00	6.00	130
8608485	●	-	-	-	4.850	0.19094	26.00	70.00	6.00	130
9599049	●	-	-	-	4.900	0.19291	26.00	70.00	6.00	130
8608491	●	-	-	-	4.910	0.19331	26.00	70.00	6.00	130
8608498	●	-	-	-	4.980	0.19606	26.00	70.00	6.00	130
9599050	●	-	-	-	5.000	0.19685	26.00	70.00	6.00	130
8608505	●	-	-	-	5.050	0.19882	26.00	70.00	6.00	130
9599051	●	-	-	-	5.100	0.20079	26.00	70.00	6.00	130
8608511	●	-	-	-	5.110	0.20118	26.00	70.00	6.00	130
8608515	●	-	-	-	5.150	0.20276	26.00	70.00	6.00	130
8608516	●	-	-	-	5.160	0.20315	26.00	70.00	6.00	130
8608518	●	-	-	-	5.180	0.20394	26.00	70.00	6.00	130
9599052	●	-	-	-	5.200	0.20472	26.00	70.00	6.00	130
8608522	●	-	-	-	5.220	0.20551	26.00	70.00	6.00	130
8608526	●	-	-	-	5.260	0.20709	26.00	70.00	6.00	130
9599053	●	-	-	-	5.300	0.20866	26.00	70.00	6.00	130
8608531	●	-	-	-	5.310	0.20906	28.00	70.00	6.00	130
9599054	●	-	-	-	5.400	0.21260	28.00	70.00	6.00	130
8608541	●	-	-	-	5.410	0.21299	28.00	72.00	6.00	130
8608546	●	-	-	-	5.460	0.21496	28.00	72.00	6.00	130
9599055	●	-	-	-	5.500	0.21654	28.00	72.00	6.00	130
8608556	●	-	-	-	5.560	0.21890	28.00	72.00	6.00	130
9599056	●	-	-	-	5.600	0.22047	28.00	72.00	6.00	130
8608561	●	-	-	-	5.610	0.22087	28.00	72.00	6.00	130
9599057	●	-	-	-	5.700	0.22441	28.00	72.00	6.00	130
8608579	●	-	-	-	5.790	0.22795	28.00	70.00	6.00	130
9599058	●	-	-	-	5.800	0.22835	28.00	72.00	6.00	130
9599059	●	-	-	-	5.900	0.23228	28.00	72.00	6.00	130
8608595	●	15/64	-	-	5.953	0.23438	28.00	72.00	6.00	130
9599060	●	-	-	-	6.000	0.23622	28.00	72.00	6.00	130
9599061	●	-	-	-	6.100	0.24016	31.00	75.00	8.00	130
9598615	●	-	-	-	6.150	0.24213	31.00	75.00	8.00	130
9599062	●	-	-	-	6.200	0.24409	31.00	75.00	8.00	130
9599063	●	-	-	-	6.300	0.24803	31.00	75.00	8.00	130
8608635	●	1/4	-	E	6.350	0.25000	31.00	75.00	8.00	130
9599064	●	-	-	-	6.400	0.25197	31.00	75.00	8.00	130
9599065	●	-	-	-	6.500	0.25591	31.00	75.00	8.00	130
9599066	●	-	-	-	6.600	0.25984	31.00	75.00	8.00	130
9598665	●	-	-	-	6.650	0.26181	31.00	75.00	8.00	130
9599067	●	-	-	-	6.700	0.26378	31.00	75.00	8.00	130
8608675	●	17/64	-	-	6.747	0.26563	34.00	78.00	8.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1900 (Continued)

V-SERIES-VPH-GDS

SPEED FEED 342-343 | XPM | V | 2 FLUTE | STUB | 30° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
9599068	●	-	-	-	6.800	0.26772	34.00	78.00	8.00	130
9598686	●	-	-	-	6.860	0.27008	34.00	78.00	8.00	130
9599069	●	-	-	-	6.900	0.27165	34.00	78.00	8.00	130
9599070	●	-	-	-	7.000	0.27559	34.00	78.00	8.00	130
9598704	●	-	-	-	7.040	0.27717	34.00	78.00	8.00	130
9599071	●	-	-	-	7.100	0.27953	34.00	78.00	8.00	130
8608714	●	9/32	-	-	7.144	0.28125	34.00	78.00	8.00	130
9599072	●	-	-	-	7.200	0.28346	34.00	78.00	8.00	130
9599073	●	-	-	-	7.300	0.28740	34.00	78.00	8.00	130
9599074	●	-	-	-	7.400	0.29134	34.00	78.00	8.00	130
9599075	●	-	-	-	7.500	0.29528	34.00	78.00	8.00	130
8608754	●	19/64	-	-	7.541	0.29688	34.00	78.00	8.00	130
9599076	●	-	-	-	7.600	0.29921	37.00	81.00	8.00	130
9599077	●	-	-	-	7.700	0.30315	37.00	81.00	8.00	130
9599078	●	-	-	-	7.800	0.30709	37.00	81.00	8.00	130
9599079	●	-	-	-	7.900	0.31102	37.00	81.00	8.00	130
8608794	●	5/16	-	-	7.938	0.31250	37.00	81.00	8.00	130
9599080	●	-	-	-	8.000	0.31496	37.00	81.00	8.00	130
9599081	●	-	-	-	8.100	0.31890	37.00	87.00	10.00	130
9598815	●	-	-	-	8.150	0.32087	37.00	87.00	10.00	130
9599082	●	-	-	-	8.200	0.32283	37.00	87.00	10.00	130
9599083	●	-	-	-	8.300	0.32677	37.00	87.00	10.00	130
8608833	●	21/64	-	-	8.334	0.32813	37.00	87.00	10.00	130
9599084	●	-	-	-	8.400	0.33071	37.00	87.00	10.00	130
9599085	●	-	-	-	8.500	0.33465	37.00	87.00	10.00	130
9598856	●	-	-	-	8.560	0.33701	40.00	90.00	10.00	130
9599086	●	-	-	-	8.600	0.33858	40.00	90.00	10.00	130
9598868	●	-	-	-	8.680	0.34173	40.00	90.00	10.00	130
9599087	●	-	-	-	8.700	0.34252	40.00	90.00	10.00	130
8608873	●	11/32	-	-	8.731	0.34375	40.00	90.00	10.00	130
9599088	●	-	-	-	8.800	0.34646	40.00	90.00	10.00	130
9598886	●	-	-	-	8.860	0.34882	40.00	90.00	10.00	130
9599089	●	-	-	-	8.900	0.35039	40.00	90.00	10.00	130
9599090	●	-	-	-	9.000	0.35433	40.00	90.00	10.00	130
9599091	●	-	-	-	9.100	0.35827	40.00	90.00	10.00	130
8608913	●	23/64	-	-	9.128	0.35938	40.00	90.00	10.00	130
9599092	●	-	-	-	9.200	0.36220	40.00	90.00	10.00	130
9599093	●	-	-	-	9.300	0.36614	40.00	90.00	10.00	130
9599094	●	-	-	-	9.400	0.37008	40.00	90.00	10.00	130
9599095	●	-	-	-	9.500	0.37402	40.00	90.00	10.00	130
8608952	●	3/8	-	-	9.525	0.37500	40.00	90.00	10.00	130
9598955	●	-	-	-	9.550	0.37598	43.00	93.00	10.00	130
9599096	●	-	-	-	9.600	0.37795	43.00	93.00	10.00	130
9599097	●	-	-	-	9.700	0.38189	43.00	93.00	10.00	130
9599098	●	-	-	-	9.800	0.38583	43.00	93.00	10.00	130
9599099	●	-	-	-	9.900	0.38976	43.00	93.00	10.00	130
8608992	●	25/64	-	-	9.922	0.39063	43.00	93.00	10.00	130
9599100	●	-	-	-	10.000	0.39370	43.00	93.00	10.00	130
9599101	●	-	-	-	10.100	0.39764	43.00	100.00	12.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	◎		○	○	◎	○	○	◎	○	◎	◎	○	

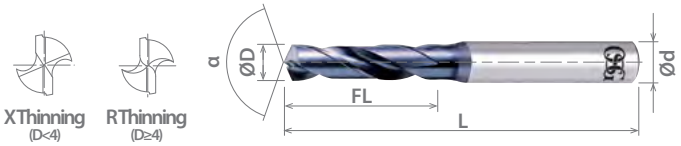
○ Good ◎ Best

List 1900 (Continued)

V-SERIES-VPH-GDS

SPEED FEED 342-343 | XPM | V | 2 FLUTE | STUB | 30° | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
9599102	●	-	-	-	10.200	0.40157	43.00	100.00	12.00	130
9599103	●	-	-	-	10.300	0.40551	43.00	100.00	12.00	130
8609032	●	13/32	-	-	10.319	0.40625	43.00	100.00	12.00	130
9599104	●	-	-	-	10.400	0.40945	43.00	100.00	12.00	130
9599144	●	-	-	-	10.440	0.41102	43.00	100.00	12.00	130
9599105	●	-	-	-	10.500	0.41339	43.00	100.00	12.00	130
9599106	●	-	-	-	10.600	0.41732	43.00	100.00	12.00	130
9599107	●	-	-	-	10.700	0.42126	47.00	104.00	12.00	130
8609072	●	27/64	-	-	10.716	0.42188	47.00	104.00	12.00	130
9599108	●	-	-	-	10.800	0.42520	47.00	104.00	12.00	130
9599186	●	-	-	-	10.860	0.42756	47.00	104.00	12.00	130
9599109	●	-	-	-	10.900	0.42913	47.00	104.00	12.00	130
9599110	●	-	-	-	11.000	0.43307	47.00	104.00	12.00	130
9599111	●	-	-	-	11.100	0.43701	47.00	104.00	12.00	130
8609111	●	7/16	-	-	11.113	0.43750	47.00	104.00	12.00	130
9599112	●	-	-	-	11.200	0.44094	47.00	104.00	12.00	130
9599113	●	-	-	-	11.300	0.44488	47.00	104.00	12.00	130
9599114	●	-	-	-	11.400	0.44882	47.00	104.00	12.00	130
9599115	●	-	-	-	11.500	0.45276	47.00	104.00	12.00	130
8609151	●	29/64	-	-	11.509	0.45313	47.00	104.00	12.00	130
9599116	●	-	-	-	11.600	0.45669	47.00	104.00	12.00	130
9599117	●	-	-	-	11.700	0.46063	47.00	104.00	12.00	130
9599118	●	-	-	-	11.800	0.46457	47.00	104.00	12.00	130
9599119	●	-	-	-	11.900	0.46850	47.00	104.00	12.00	130
8609191	●	15/32	-	-	11.906	0.46875	47.00	104.00	12.00	130
9599120	●	-	-	-	12.000	0.47244	51.00	108.00	12.00	130
9599121	●	-	-	-	12.100	0.47638	51.00	108.00	12.00	130
9599122	●	-	-	-	12.200	0.48031	51.00	108.00	12.00	130
9599123	●	-	-	-	12.300	0.48425	51.00	108.00	12.00	130
9599124	●	-	-	-	12.400	0.48819	51.00	108.00	12.00	130
9599245	●	-	-	-	12.450	0.49016	51.00	108.00	12.00	130
9599125	●	-	-	-	12.500	0.49213	51.00	108.00	12.00	130
9599126	●	-	-	-	12.600	0.49606	51.00	108.00	12.00	130
9599268	●	-	-	-	12.680	0.49921	51.00	108.00	12.00	130
9599127	●	1/2	-	-	12.700	0.50000	51.00	108.00	12.00	130
9599128	●	-	-	-	12.800	0.50394	51.00	108.00	12.00	130
9599129	●	-	-	-	12.900	0.50787	51.00	108.00	12.00	130
9599130	●	-	-	-	13.000	0.51181	51.00	108.00	12.00	130
9599308	●	-	-	-	13.080	0.51496	51.00	111.00	16.00	120
8609349	●	17/32	-	-	13.494	0.53125	54.00	114.00	16.00	120
8599135	●	-	-	-	13.500	0.53150	54.00	114.00	16.00	120
8599136	●	-	-	-	13.600	0.53543	54.00	114.00	16.00	120
8608954	●	-	-	-	13.790	0.54291	54.00	114.00	16.00	120
9599387	●	-	-	-	13.870	0.54606	54.00	114.00	16.00	120
8599140	●	-	-	-	14.000	0.55118	54.00	114.00	16.00	120
8599142	●	-	-	-	14.200	0.55906	56.00	116.00	16.00	120
8609429	●	9/16	-	-	14.288	0.56250	56.00	116.00	16.00	120
8599145	●	-	-	-	14.500	0.57087	56.00	116.00	16.00	120
8599146	●	-	-	-	14.600	0.57480	56.00	116.00	16.00	120
8608956	●	-	-	-	14.610	0.57520	56.00	116.00	16.00	120
9599468	●	-	-	-	14.680	0.57795	56.00	116.00	16.00	120
8599150	●	-	-	-	15.000	0.59055	56.00	116.00	16.00	120

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1900 (Continued)

V-SERIES-VPH-GDS

SPEED FEED 342-343 | XPM | V | 2 FLUTE | STUB | 30° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8599155	●	-	-	-	15.500	0.61024	58.00	118.00	16.00	120
8599157	●	-	-	-	15.700	0.61811	58.00	118.00	16.00	120
8609588	●	5/8	-	-	15.875	0.62500	58.00	118.00	16.00	120
8599160	●	-	-	-	16.000	0.62992	58.00	118.00	16.00	120
8599165	●	-	-	-	16.500	0.64961	60.00	126.00	20.00	120
8609667	●	21/32	-	-	16.669	0.65625	60.00	126.00	20.00	120
8608958	●	-	-	-	16.760	0.65984	60.00	126.00	20.00	120
9599684	●	-	-	-	16.840	0.66299	60.00	126.00	20.00	120
8599170	●	-	-	-	17.000	0.66929	60.00	126.00	20.00	120
8599175	●	-	-	-	17.500	0.68898	62.00	128.00	20.00	120
8608960	●	-	-	-	17.630	0.69409	62.00	128.00	20.00	120
8608962	●	-	-	-	17.680	0.69606	62.00	128.00	20.00	120
8599177	●	-	-	-	17.700	0.69685	62.00	128.00	20.00	120
8599180	●	-	-	-	18.000	0.70866	62.00	128.00	20.00	120
8599185	●	-	-	-	18.500	0.72835	64.00	130.00	20.00	120
8608964	●	-	-	-	18.640	0.73386	64.00	130.00	20.00	120
8599190	●	-	-	-	19.000	0.74803	64.00	130.00	20.00	120
8609905	●	3/4	-	-	19.050	0.75000	66.00	132.00	20.00	120
8599195	●	-	-	-	19.500	0.76772	66.00	132.00	20.00	120
8608966	●	-	-	-	19.660	0.77402	66.00	132.00	20.00	120
8608968	●	-	-	-	19.740	0.77717	66.00	132.00	20.00	120
9599976	●	-	-	-	19.760	0.77795	66.00	132.00	20.00	120
8599200	●	-	-	-	20.000	0.78740	66.00	132.00	20.00	120

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	◎		○	○	◎	○	○	◎	○	◎	◎	○	

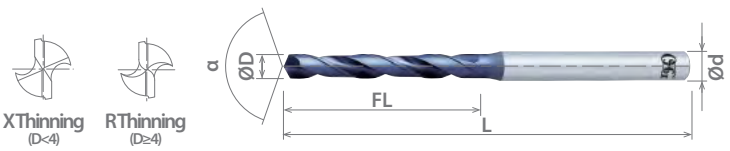
○ Good ◎ Best

List 1950

V-SERIES VPH-GDR

SPEED FEED	XPM	V	2 FLUTE	JOBBER	30°	PACKED
342-343						1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1.99 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 17.463	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8612199	●	-	47	-	1.994	0.07850	24.00	56.00	3.00	130
8612206	●	-	46	-	2.057	0.08100	24.00	56.00	3.00	130
8612208	●	-	45	-	2.083	0.08200	24.00	56.00	3.00	130
8612218	●	-	44	-	2.184	0.08600	27.00	59.00	3.00	130
8612226	●	-	43	-	2.261	0.08900	27.00	59.00	3.00	130
8612237	●	-	42	-	2.375	0.09350	30.00	62.00	3.00	130
8612238	●	3/32	-	-	2.381	0.09375	30.00	62.00	3.00	130
8612244	●	-	41	-	2.438	0.09600	30.00	62.00	3.00	130
8612249	●	-	40	-	2.489	0.09800	30.00	62.00	3.00	130
8612253	●	-	39	-	2.527	0.09950	30.00	62.00	3.00	130
8612258	●	-	38	-	2.578	0.10150	30.00	62.00	3.00	130
8612264	●	-	37	-	2.642	0.10400	30.00	62.00	3.00	130
8612271	●	-	36	-	2.705	0.10650	33.00	65.00	3.00	130
8612278	●	7/64	-	-	2.778	0.10938	33.00	65.00	3.00	130
8612279	●	-	35	-	2.794	0.11000	33.00	65.00	3.00	130
8612282	●	-	34	-	2.819	0.11100	33.00	65.00	3.00	130
8612287	●	-	33	-	2.870	0.11300	33.00	65.00	3.00	130
8612295	●	-	32	-	2.946	0.11600	33.00	65.00	3.00	130
8612305	●	-	31	-	3.048	0.12000	36.00	68.00	4.00	130
8612317	●	1/8	-	-	3.175	0.12500	36.00	68.00	4.00	130
8612326	●	-	30	-	3.264	0.12850	36.00	68.00	4.00	130
8612345	●	-	29	-	3.454	0.13600	39.00	71.00	4.00	130
8612357	●	9/64	-	-	3.572	0.14063	39.00	71.00	4.00	130
8612366	●	-	27	-	3.658	0.14400	39.00	71.00	4.00	130
8612373	●	-	26	-	3.734	0.14700	39.00	71.00	4.00	130
8612380	●	-	25	-	3.797	0.14950	43.00	75.00	4.00	130
8612386	●	-	24	-	3.861	0.15200	43.00	75.00	4.00	130
8612391	●	-	23	-	3.912	0.15400	43.00	75.00	4.00	130
8612397	●	5/32	-	-	3.969	0.15625	43.00	75.00	4.00	130
8612399	●	-	22	-	3.988	0.15700	43.00	75.00	4.00	130
8612404	●	-	21	-	4.039	0.15900	43.00	87.00	6.00	130
8612409	●	-	20	-	4.089	0.16100	43.00	87.00	6.00	130
8612422	●	-	19	-	4.216	0.16600	43.00	87.00	6.00	130
8612430	●	-	-	-	4.300	0.16929	47.00	91.00	6.00	130
8612437	●	11/64	-	-	4.366	0.17188	47.00	91.00	6.00	130
8612439	●	-	17	-	4.394	0.17300	47.00	91.00	6.00	130
8612450	●	-	16	-	4.496	0.17700	47.00	91.00	6.00	130
8612457	●	-	15	-	4.572	0.18000	47.00	91.00	6.00	130
8612462	●	-	14	-	4.623	0.18200	47.00	91.00	6.00	130
8612470	●	-	13	-	4.699	0.18500	47.00	91.00	6.00	130
8612476	●	3/16	-	-	4.763	0.18750	52.00	96.00	6.00	130
8612480	●	-	12	-	4.801	0.18900	52.00	96.00	6.00	130
8612485	●	-	11	-	4.851	0.19100	52.00	96.00	6.00	130
8612491	●	-	-	-	4.910	0.19331	52.00	96.00	6.00	130
8612498	●	-	9	-	4.978	0.19600	52.00	96.00	6.00	130
8612505	●	-	8	-	5.055	0.19900	52.00	96.00	6.00	130
8612511	●	-	7	-	5.105	0.20100	52.00	96.00	6.00	130
8612516	●	13/64	-	-	5.159	0.20313	52.00	96.00	6.00	130
8612518	●	-	6	-	5.182	0.20400	52.00	96.00	6.00	130
8612522	●	-	5	-	5.220	0.20550	52.00	96.00	6.00	130
8612531	●	-	4	-	5.309	0.20900	57.00	101.00	6.00	130
8612541	●	-	3	-	5.410	0.21300	57.00	101.00	6.00	130
8612556	●	7/32	-	-	5.556	0.21875	57.00	101.00	6.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1950 (Continued)

V-SERIES VPH-GDR

SPEED FEED 342-343 | XPM | V | 2 FLUTE | JOBBER | 30° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8612561	●	-	2	-	5.613	0.22100	57.00	101.00	6.00	130
8612579	●	-	1	-	5.791	0.22800	57.00	101.00	6.00	130
8612594	●	-	-	A	5.944	0.23400	57.00	101.00	6.00	130
8612595	●	15/64	-	-	5.953	0.23438	57.00	101.00	6.00	130
8612604	●	-	-	-	6.040	0.23780	63.00	107.00	8.00	130
8612615	●	-	-	C	6.147	0.24200	63.00	107.00	8.00	130
8612625	●	-	-	D	6.248	0.24600	63.00	107.00	8.00	130
8612635	●	1/4	-	E	6.350	0.25000	63.00	107.00	8.00	130
8612653	●	-	-	F	6.528	0.25700	63.00	107.00	8.00	130
8612663	●	-	-	G	6.629	0.26100	63.00	107.00	8.00	130
8612675	●	17/64	-	-	6.747	0.26563	69.00	113.00	8.00	130
8612690	●	-	-	I	6.909	0.27200	69.00	113.00	8.00	130
8612703	●	-	-	J	7.036	0.27700	69.00	113.00	8.00	130
8612714	●	9/32	-	-	7.144	0.28125	69.00	113.00	8.00	130
8612737	●	-	-	L	7.366	0.29000	69.00	113.00	8.00	130
8612749	●	-	-	M	7.493	0.29500	69.00	113.00	8.00	130
8612754	●	19/64	-	-	7.541	0.29688	75.00	119.00	8.00	130
8612767	●	-	-	N	7.671	0.30200	75.00	119.00	8.00	130
8612794	●	5/16	-	-	7.938	0.31250	75.00	119.00	8.00	130
8612803	●	-	-	O	8.026	0.31600	75.00	125.00	10.00	130
8612820	●	-	-	P	8.204	0.32300	75.00	125.00	10.00	130
8612833	●	21/64	-	-	8.334	0.32813	75.00	125.00	10.00	130
8612843	●	-	-	Q	8.433	0.33200	75.00	125.00	10.00	130
8612861	●	-	-	R	8.611	0.33900	81.00	131.00	10.00	130
8612873	●	11/32	-	-	8.731	0.34375	81.00	131.00	10.00	130
8612884	●	-	-	S	8.839	0.34800	81.00	131.00	10.00	130
8612909	●	-	-	T	9.093	0.35800	81.00	131.00	10.00	130
8612913	●	23/64	-	-	9.128	0.35938	81.00	131.00	10.00	130
8612934	●	-	-	-	9.340	0.36772	81.00	131.00	10.00	130
8612952	●	3/8	-	-	9.525	0.37500	87.00	137.00	10.00	130
8612957	●	-	-	V	9.576	0.37700	87.00	137.00	10.00	130
8612980	●	-	-	W	9.804	0.38600	87.00	137.00	10.00	130
8612992	●	25/64	-	-	9.922	0.39063	87.00	137.00	10.00	130
8613008	●	-	-	X	10.084	0.39700	87.00	144.00	12.00	130
8613026	●	-	-	Y	10.262	0.40400	87.00	144.00	12.00	130
8613032	●	13/32	-	-	10.319	0.40625	87.00	144.00	12.00	130
8613049	●	-	-	Z	10.490	0.41300	87.00	144.00	12.00	130
8613072	●	27/64	-	-	10.716	0.42188	94.00	151.00	12.00	130
8613111	●	7/16	-	-	11.113	0.43750	94.00	151.00	12.00	130
8613151	●	29/64	-	-	11.509	0.45313	94.00	151.00	12.00	130
8613191	●	15/32	-	-	11.906	0.46875	101.00	158.00	12.00	130
8613230	●	31/64	-	-	12.303	0.48438	101.00	158.00	12.00	130
8613270	●	1/2	-	-	12.700	0.50000	101.00	158.00	12.00	130
8613349	●	17/32	-	-	13.494	0.53125	106.00	166.00	16.00	120
8613429	●	9/16	-	-	14.288	0.56250	109.00	169.00	16.00	120
8613588	●	5/8	-	-	15.875	0.62500	115.00	175.00	16.00	120
8613667	●	21/32	-	-	16.669	0.65625	115.00	181.00	20.00	120
8613746	●	11/16	-	-	17.463	0.68750	118.00	184.00	20.00	120

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	◎		○	○	◎	○	○	◎	○	◎	◎	○	

○ Good ◎ Best

List 2000

V-SERIES VP-GDR, Parabolic

SPEED FEED	XPM	V	2 FLUTE	JOBBER	40°	PACKED
344-345						1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
8593020	●	-	-	-	2.000	0.07874	24.00	56.00	3.00
8593021	●	-	-	-	2.100	0.08268	24.00	56.00	3.00
8593022	●	-	-	-	2.200	0.08661	27.00	59.00	3.00
8593023	●	-	-	-	2.300	0.09055	27.00	59.00	3.00
8593024	●	-	-	-	2.400	0.09449	30.00	62.00	3.00
8593025	●	-	-	-	2.500	0.09843	30.00	62.00	3.00
8593026	●	-	-	-	2.600	0.10236	30.00	62.00	3.00
8593027	●	-	-	-	2.700	0.10630	33.00	65.00	3.00
8593028	●	-	-	-	2.800	0.11024	33.00	65.00	3.00
8593029	●	-	-	-	2.900	0.11417	33.00	65.00	3.00
8593030	●	-	-	-	3.000	0.11811	33.00	65.00	3.00
8593031	●	-	-	-	3.100	0.12205	36.00	68.00	4.00
8593032	●	-	-	-	3.200	0.12598	36.00	68.00	4.00
8593033	●	-	-	-	3.300	0.12992	36.00	68.00	4.00
8593034	●	-	-	-	3.400	0.13386	39.00	71.00	4.00
8593035	●	-	-	-	3.500	0.13780	39.00	71.00	4.00
8593036	●	-	-	-	3.600	0.14173	39.00	71.00	4.00
8593037	●	-	-	-	3.700	0.14567	39.00	71.00	4.00
8593038	●	-	-	-	3.800	0.14961	43.00	75.00	4.00
8593039	●	-	-	-	3.900	0.15354	43.00	75.00	4.00
8593040	●	-	-	-	4.000	0.15748	43.00	75.00	4.00
8593041	●	-	-	-	4.100	0.16142	43.00	87.00	6.00
8593042	●	-	-	-	4.200	0.16535	43.00	87.00	6.00
8593043	●	-	-	-	4.300	0.16929	47.00	91.00	6.00
8593044	●	-	-	-	4.400	0.17323	47.00	91.00	6.00
8593045	●	-	-	-	4.500	0.17717	47.00	91.00	6.00
8593046	●	-	-	-	4.600	0.18110	47.00	91.00	6.00
8593047	●	-	-	-	4.700	0.18504	47.00	91.00	6.00
8593048	●	-	-	-	4.800	0.18898	52.00	96.00	6.00
8593049	●	-	-	-	4.900	0.19291	52.00	96.00	6.00
8593050	●	-	-	-	5.000	0.19685	52.00	96.00	6.00
8593051	●	-	-	-	5.100	0.20079	52.00	96.00	6.00
8593052	●	-	-	-	5.200	0.20472	52.00	96.00	6.00
8593053	●	-	-	-	5.300	0.20866	52.00	96.00	6.00
8593054	●	-	-	-	5.400	0.21260	57.00	101.00	6.00
8593055	●	-	-	-	5.500	0.21654	57.00	101.00	6.00
8593056	●	-	-	-	5.600	0.22047	57.00	101.00	6.00
8593057	●	-	-	-	5.700	0.22441	57.00	101.00	6.00
8593058	●	-	-	-	5.800	0.22835	57.00	101.00	6.00
8593059	●	-	-	-	5.900	0.23228	57.00	101.00	6.00
8593060	●	-	-	-	6.000	0.23622	57.00	101.00	6.00
8593061	●	-	-	-	6.100	0.24016	63.00	107.00	8.00
8593062	●	-	-	-	6.200	0.24409	63.00	107.00	8.00
8593063	●	-	-	-	6.300	0.24803	63.00	107.00	8.00
8593064	●	-	-	-	6.400	0.25197	63.00	107.00	8.00
8593065	●	-	-	-	6.500	0.25591	63.00	107.00	8.00
8593066	●	-	-	-	6.600	0.25984	63.00	107.00	8.00
8593067	●	-	-	-	6.700	0.26378	63.00	107.00	8.00
8593068	●	-	-	-	6.800	0.26772	69.00	113.00	8.00
8593069	●	-	-	-	6.900	0.27165	69.00	113.00	8.00
8593070	●	-	-	-	7.000	0.27559	69.00	113.00	8.00
8593071	●	-	-	-	7.100	0.27953	69.00	113.00	8.00
8593072	●	-	-	-	7.200	0.28346	69.00	113.00	8.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 2000 (Continued)

V-SERIES VP-GDR, Parabolic

SPEED FEED 344-345 | XPM | V | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
8593073	●	-	-	-	7.300	0.28740	69.00	113.00	8.00
8593074	●	-	-	-	7.400	0.29134	69.00	113.00	8.00
8593075	●	-	-	-	7.500	0.29528	69.00	113.00	8.00
8593076	●	-	-	-	7.600	0.29921	75.00	119.00	8.00
8593077	●	-	-	-	7.700	0.30315	75.00	119.00	8.00
8593078	●	-	-	-	7.800	0.30709	75.00	119.00	8.00
8593079	●	-	-	-	7.900	0.31102	75.00	119.00	8.00
8593080	●	-	-	-	8.000	0.31496	75.00	119.00	8.00
8593081	●	-	-	-	8.100	0.31890	75.00	125.00	10.00
8593082	●	-	-	-	8.200	0.32283	75.00	125.00	10.00
8593083	●	-	-	-	8.300	0.32677	75.00	125.00	10.00
8593084	●	-	-	-	8.400	0.33071	75.00	125.00	10.00
8593085	●	-	-	-	8.500	0.33465	75.00	125.00	10.00
8593086	●	-	-	-	8.600	0.33858	81.00	131.00	10.00
8593087	●	-	-	-	8.700	0.34252	81.00	131.00	10.00
8593088	●	-	-	-	8.800	0.34646	81.00	131.00	10.00
8593089	●	-	-	-	8.900	0.35039	81.00	131.00	10.00
8593090	●	-	-	-	9.000	0.35433	81.00	131.00	10.00
8593091	●	-	-	-	9.100	0.35827	81.00	131.00	10.00
8593092	●	-	-	-	9.200	0.36220	81.00	131.00	10.00
8593093	●	-	-	-	9.300	0.36614	81.00	131.00	10.00
8593094	●	-	-	-	9.400	0.37008	81.00	131.00	10.00
8593095	●	-	-	-	9.500	0.37402	81.00	131.00	10.00
8593096	●	-	-	-	9.600	0.37795	87.00	137.00	10.00
8593097	●	-	-	-	9.700	0.38189	87.00	137.00	10.00
8593098	●	-	-	-	9.800	0.38583	87.00	137.00	10.00
8593099	●	-	-	-	9.900	0.38976	87.00	137.00	10.00
8593100	●	-	-	-	10.000	0.39370	87.00	137.00	10.00
8593101	●	-	-	-	10.100	0.39764	87.00	144.00	12.00
8593102	●	-	-	-	10.200	0.40157	87.00	144.00	12.00
8593103	●	-	-	-	10.300	0.40551	87.00	144.00	12.00
8593104	●	-	-	-	10.400	0.40945	87.00	144.00	12.00
8593105	●	-	-	-	10.500	0.41339	87.00	144.00	12.00
8593106	●	-	-	-	10.600	0.41732	87.00	144.00	12.00
8593107	●	-	-	-	10.700	0.42126	94.00	151.00	12.00
8593108	●	-	-	-	10.800	0.42520	94.00	151.00	12.00
8593109	●	-	-	-	10.900	0.42913	94.00	151.00	12.00
8593110	●	-	-	-	11.000	0.43307	94.00	151.00	12.00
8593111	●	-	-	-	11.100	0.43701	94.00	151.00	12.00
8593112	●	-	-	-	11.200	0.44094	94.00	151.00	12.00
8593113	●	-	-	-	11.300	0.44488	94.00	151.00	12.00
8593114	●	-	-	-	11.400	0.44882	94.00	151.00	12.00
8593115	●	-	-	-	11.500	0.45276	94.00	151.00	12.00
8593116	●	-	-	-	11.600	0.45669	94.00	151.00	12.00
8593117	●	-	-	-	11.700	0.46063	94.00	151.00	12.00
8593118	●	-	-	-	11.800	0.46457	94.00	151.00	12.00
8593119	●	-	-	-	11.900	0.46850	101.00	158.00	12.00
8593120	●	-	-	-	12.000	0.47244	101.00	158.00	12.00
8593121	●	-	-	-	12.100	0.47638	101.00	158.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	◎				◎	○	○	○		◎	○		

○ Good ◎ Best

List 2000 (Continued)

V-SERIES VP-GDR, Parabolic

SPEED FEED	XPM	V	2 FLUTE	JOBBER	40°	PACKED
344-345						1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
8593122	●	-	-	-	12.200	0.48031	101.00	158.00	12.00
8593123	●	-	-	-	12.300	0.48425	101.00	158.00	12.00
8593124	●	-	-	-	12.400	0.48819	101.00	158.00	12.00
8593125	●	-	-	-	12.500	0.49213	101.00	158.00	12.00
8593126	●	-	-	-	12.600	0.49606	101.00	158.00	12.00
8593127	●	1/2	-	-	12.700	0.50000	101.00	158.00	12.00
8593128	●	-	-	-	12.800	0.50394	101.00	158.00	12.00
8593129	●	-	-	-	12.900	0.50787	101.00	158.00	12.00
8593130	●	-	-	-	13.000	0.51181	101.00	158.00	12.00
8593135	●	-	-	-	13.500	0.53150	106.00	166.00	16.00
8593140	●	-	-	-	14.000	0.55118	106.00	166.00	16.00
8593145	●	-	-	-	14.500	0.57087	109.00	169.00	16.00
8593150	●	-	-	-	15.000	0.59055	109.00	169.00	16.00
8593155	●	-	-	-	15.500	0.61024	112.00	172.00	16.00
8593160	●	-	-	-	16.000	0.62992	112.00	172.00	16.00
8593165	●	-	-	-	16.500	0.64961	115.00	181.00	20.00
8593170	●	-	-	-	17.000	0.66929	115.00	181.00	20.00
8593175	●	-	-	-	17.500	0.68898	118.00	184.00	20.00
8593180	●	-	-	-	18.000	0.70866	118.00	184.00	20.00
8593185	●	-	-	-	18.500	0.72835	122.00	188.00	20.00
8593190	●	-	-	-	19.000	0.74803	122.00	188.00	20.00
8593195	●	-	-	-	19.500	0.76772	125.00	191.00	20.00
8593200	●	-	-	-	20.000	0.78740	125.00	191.00	20.00
8593205	●	-	-	-	20.500	0.80709	128.00	204.00	25.00
8593210	●	-	-	-	21.000	0.82677	128.00	204.00	25.00
8593215	●	-	-	-	21.500	0.84646	132.00	208.00	25.00
8593220	●	-	-	-	22.000	0.86614	132.00	208.00	25.00
8593225	●	-	-	-	22.500	0.88583	136.00	212.00	25.00
8593230	●	-	-	-	23.000	0.90551	136.00	212.00	25.00
8593235	●	-	-	-	23.500	0.92520	136.00	212.00	25.00
8593240	●	-	-	-	24.000	0.94488	140.00	216.00	25.00
8593245	●	-	-	-	24.500	0.96457	140.00	216.00	25.00
8593250	●	-	-	-	25.000	0.98425	140.00	216.00	25.00
8593255	●	-	-	-	25.500	1.00394	145.00	225.00	32.00
8593260	●	-	-	-	26.000	1.02362	145.00	225.00	32.00
8593265	●	-	-	-	26.500	1.04331	145.00	225.00	32.00
8593270	●	-	-	-	27.000	1.06299	150.00	230.00	32.00
8593280	●	-	-	-	28.000	1.10236	150.00	230.00	32.00
8593290	●	-	-	-	29.000	1.14173	155.00	235.00	32.00
8593300	●	-	-	-	30.000	1.18110	155.00	235.00	32.00
8593310	●	-	-	-	31.000	1.22047	160.00	240.00	32.00
8593320	●	-	-	-	32.000	1.25984	165.00	240.00	32.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	◎	◎	◎				◎	○	○	○		◎	○		

○ Good ◎ Best

List 1700

V-SERIES V-HO-GDR

SPEED FEED 346-347 | HSS-Co | V | 2 FLUTE | JOBBER | 30° | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
5.953 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 31.75	+0 / -0.039	+0 / -0.0015



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
17234408	●	15/64	-	-	5.953	0.23438	66.00	112.00	0.234	-
17236208	●	-	-	-	6.000	0.23622	69.00	115.00	-	6.00
17250008	●	1/4	-	E	6.350	0.25000	69.00	115.00	0.250	-
17257008	●	-	-	F	6.528	0.25700	73.00	119.00	-	6.53
17265608	●	17/64	-	-	6.747	0.26563	73.00	119.00	0.266	-
17272008	●	-	-	I	6.909	0.27200	73.00	119.00	-	6.91
17281208	●	9/32	-	-	7.144	0.28125	74.00	120.00	0.281	-
17296908	●	19/64	-	-	7.541	0.29688	77.00	123.00	0.297	-
17312508	●	5/16	-	-	7.938	0.31250	80.00	127.00	0.313	-
17315008	●	-	-	-	8.000	0.31496	80.00	127.00	-	8.00
17328108	●	21/64	-	-	8.334	0.32813	84.00	130.00	0.656	-
17343808	●	11/32	-	-	8.731	0.34375	87.00	133.00	0.344	-
17359408	●	23/64	-	-	9.128	0.35938	88.00	134.00	0.359	-
17375008	●	3/8	-	-	9.525	0.37500	92.00	138.00	0.375	-
17377008	●	-	-	V	9.576	0.37700	92.00	145.00	-	9.58
17390608	●	25/64	-	-	9.922	0.39063	95.00	148.00	0.391	-
17393708	●	-	-	-	10.000	0.39370	95.00	148.00	-	10.00
17406208	●	13/32	-	-	10.319	0.40625	98.00	151.00	0.406	-
17421908	●	27/64	-	-	10.716	0.42188	100.00	153.00	0.422	-
17437508	●	7/16	-	-	11.113	0.43750	103.00	156.00	0.438	-
17453108	●	29/64	-	-	11.509	0.45313	106.00	159.00	0.453	-
17468808	●	15/32	-	-	11.906	0.46875	109.00	162.00	0.469	-
17484408	●	31/64	-	-	12.303	0.48438	111.00	164.00	0.484	-
17500008	●	1/2	-	-	12.700	0.50000	114.00	167.00	0.500	-
17531208	●	17/32	-	-	13.494	0.53125	122.00	182.00	0.625	-
17562508	●	9/16	-	-	14.288	0.56250	122.00	182.00	0.625	-
17578108	●	37/64	-	-	14.684	0.57813	122.00	182.00	0.625	-
17593808	●	19/32	-	-	15.081	0.59375	131.00	192.00	0.625	-
17625008	●	5/8	-	-	15.875	0.62500	131.00	192.00	0.625	-
17656208	●	21/32	-	-	16.669	0.65625	131.00	199.00	0.750	-
17687508	●	11/16	-	-	17.463	0.68750	142.00	210.00	0.750	-
17718808	●	23/32	-	-	18.256	0.71875	142.00	210.00	0.750	-
17750008	●	3/4	-	-	19.050	0.75000	149.00	219.00	0.750	-
17781308	●	25/32	-	-	19.844	0.78125	152.00	219.00	0.875	-
17812508	●	13/16	-	-	20.638	0.81250	155.00	223.00	0.875	-
17843808	●	27/32	-	-	21.431	0.84375	155.00	223.00	0.875	-
17875008	●	7/8	-	-	22.225	0.87500	155.00	223.00	0.875	-
17906208	●	29/32	-	-	23.019	0.90625	155.00	233.00	1.000	-
17937508	●	15/16	-	-	23.813	0.93750	155.00	233.00	1.000	-
17968808	●	31/32	-	-	24.606	0.96875	161.00	239.00	1.000	-
18000008	●	1	-	-	25.400	1.00000	161.00	239.00	1.000	-
18031208	●	1- 1/32	-	-	26.194	1.03125	165.00	242.00	1.250	-
18062508	●	1- 1/16	-	-	26.988	1.06250	168.00	246.00	1.250	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

OHD

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	○	◎	◎	○	○	○	○		○	○	○		

○ Good ◎ Best

List 1700 (Continued)

V-SERIES V-HO-GDR

SPEED FEED 346-347 | HSS-Co | V | 2 FLUTE | JOBBER | 30° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
5.953 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 31.75	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
18093808	●	1- 3/32	-	-	27.781	1.09375	174.00	252.00	1.250	-
18125008	●	1- 1/8	-	-	28.575	1.12500	180.00	258.00	1.250	-
18218808	●	1- 7/32	-	-	30.956	1.21875	190.00	268.00	1.250	-
18250008	●	1- 1/4	-	-	31.750	1.25000	200.00	277.00	1.250	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

OHD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	○	◎	◎	○	○	○	○		○	○	○		

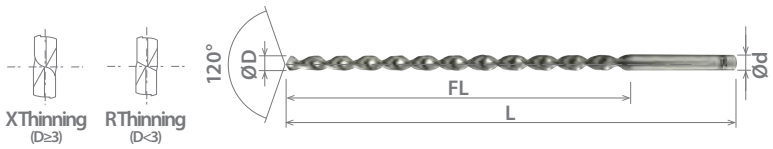
○ Good ◎ Best

List 1750

V-SERIES HELIOS-10D

SPEED FEED 348 | HSS-Co | WXL | 2 FLUTE | TAPER | 40° | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1.6 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 17.859	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)	Shank Diameter d (mm)
8622816	●	-	-	-	1.600	0.06299	26.00	75.00	-	1.60
8622818	●	-	-	-	1.800	0.07087	26.00	75.00	-	1.80
17542411	●	5/64	-	-	1.984	0.07813	26.00	75.00	0.078	-
8622820	●	-	-	-	2.000	0.07874	26.00	75.00	-	2.00
8622821	●	-	-	-	2.100	0.08268	33.00	75.00	-	2.10
8622822	●	-	-	-	2.200	0.08661	33.00	75.00	-	2.20
8622823	●	-	-	-	2.300	0.09055	33.00	75.00	-	2.30
17543111	●	3/32	-	-	2.381	0.09375	33.00	75.00	0.094	-
8622824	●	-	-	-	2.400	0.09449	33.00	75.00	-	2.40
8622825	●	-	-	-	2.500	0.09843	33.00	75.00	-	2.50
8622826	●	-	-	-	2.600	0.10236	40.00	90.00	-	2.60
8622827	●	-	-	-	2.700	0.10630	40.00	90.00	-	2.70
17543811	●	7/64	-	-	2.778	0.10938	40.00	90.00	0.109	-
8622828	●	-	-	-	2.800	0.11024	40.00	90.00	-	2.80
8622829	●	-	-	-	2.900	0.11417	40.00	90.00	-	2.90
8622830	●	-	-	-	3.000	0.11811	40.00	90.00	-	3.00
8622831	●	-	-	-	3.100	0.12205	45.00	100.00	-	3.10
17544411	●	1/8	-	-	3.175	0.12500	45.00	100.00	0.125	-
8622832	●	-	-	-	3.200	0.12598	45.00	100.00	-	3.20
8622833	●	-	-	-	3.300	0.12992	45.00	100.00	-	3.30
8622834	●	-	-	-	3.400	0.13386	50.00	100.00	-	3.40
8622835	●	-	-	-	3.500	0.13780	50.00	100.00	-	3.50
17544711	●	9/64	-	-	3.572	0.14063	50.00	100.00	0.141	-
8622836	●	-	-	-	3.600	0.14173	50.00	100.00	-	3.60
8622837	●	-	-	-	3.700	0.14567	50.00	100.00	-	3.70
8622838	●	-	-	-	3.800	0.14961	50.00	100.00	-	3.80
8622839	●	-	-	-	3.900	0.15354	50.00	100.00	-	3.90
17545311	●	5/32	-	-	3.969	0.15625	50.00	100.00	0.156	-
8622840	●	-	-	-	4.000	0.15748	50.00	100.00	-	4.00
8622841	●	-	-	-	4.100	0.16142	55.00	115.00	-	4.10
8622842	●	-	-	-	4.200	0.16535	55.00	115.00	-	4.20
8622843	●	-	-	-	4.300	0.16929	60.00	115.00	-	4.30
17545911	●	11/64	-	-	4.366	0.17188	60.00	115.00	0.172	-
8622844	●	-	-	-	4.400	0.17323	60.00	115.00	-	4.40
8622845	●	-	-	-	4.500	0.17717	60.00	115.00	-	4.50
8622846	●	-	-	-	4.600	0.18110	60.00	115.00	-	4.60
8622847	●	-	-	-	4.700	0.18504	60.00	115.00	-	4.70
17546511	●	3/16	-	-	4.763	0.18750	65.00	115.00	0.188	-
8622848	●	-	-	-	4.800	0.18898	65.00	115.00	-	4.80
8622849	●	-	-	-	4.900	0.19291	65.00	115.00	-	4.90
8622850	●	-	-	-	5.000	0.19685	65.00	115.00	-	5.00
8622851	●	-	-	-	5.100	0.20079	70.00	128.00	-	5.10
17547211	●	13/64	-	-	5.159	0.20313	70.00	128.00	0.203	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○		○	◎	○		

○ Good ◎ Best

List 1750 (Continued)

V-SERIES HELIOS-10D

SPEED FEED 348 | HSS-Co | WXL | 2 FLUTE | TAPER | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1.6 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 17.859	+0 / -0.027	+0 / -0.0011

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8622852	●	-	-	-	5.200	0.20472	70.00	128.00	-	5.20
8622853	●	-	-	-	5.300	0.20866	70.00	128.00	-	5.30
8622854	●	-	-	-	5.400	0.21260	78.00	128.00	-	5.40
8622855	●	-	-	-	5.500	0.21654	78.00	128.00	-	5.50
17547711	●	7/32	-	-	5.556	0.21875	78.00	128.00	0.219	-
8622856	●	-	-	-	5.600	0.22047	78.00	128.00	-	5.60
8622857	●	-	-	-	5.700	0.22441	78.00	128.00	-	5.70
8622858	●	-	-	-	5.800	0.22835	78.00	128.00	-	5.80
8622859	●	-	-	-	5.900	0.23228	78.00	128.00	-	5.90
17548111	●	15/64	-	-	5.953	0.23438	78.00	128.00	0.234	-
8622860	●	-	-	-	6.000	0.23622	78.00	128.00	-	6.00
8622861	●	-	-	-	6.100	0.24016	87.00	140.00	-	6.10
8622862	●	-	-	-	6.200	0.24409	87.00	140.00	-	6.20
8622863	●	-	-	-	6.300	0.24803	87.00	140.00	-	6.30
17548511	●	1/4	-	E	6.350	0.25000	87.00	140.00	0.250	-
8622864	●	-	-	-	6.400	0.25197	87.00	140.00	-	6.40
8622865	●	-	-	-	6.500	0.25591	87.00	140.00	-	6.50
8622866	●	-	-	-	6.600	0.25984	87.00	140.00	-	6.60
8622867	●	-	-	-	6.700	0.26378	87.00	140.00	-	6.70
17548811	●	17/64	-	-	6.747	0.26563	90.00	140.00	0.266	-
8622868	●	-	-	-	6.800	0.26772	90.00	140.00	-	6.80
8622869	●	-	-	-	6.900	0.27165	90.00	140.00	-	6.90
8622870	●	-	-	-	7.000	0.27559	90.00	140.00	-	7.00
8622871	●	-	-	-	7.100	0.27953	100.00	155.00	-	7.10
17549111	●	9/32	-	-	7.144	0.28125	100.00	155.00	0.281	-
8622872	●	-	-	-	7.200	0.28346	100.00	155.00	-	7.20
8622873	●	-	-	-	7.300	0.28740	100.00	155.00	-	7.30
8622874	●	-	-	-	7.400	0.29134	100.00	155.00	-	7.40
8622875	●	-	-	-	7.500	0.29528	100.00	155.00	-	7.50
17549411	●	19/64	-	-	7.541	0.29688	105.00	155.00	0.297	-
8622876	●	-	-	-	7.600	0.29921	105.00	155.00	-	7.60
8622877	●	-	-	-	7.700	0.30315	105.00	155.00	-	7.70
8622878	●	-	-	-	7.800	0.30709	105.00	155.00	-	7.80
8622879	●	-	-	-	7.900	0.31102	105.00	155.00	-	7.90
17549611	●	5/16	-	-	7.938	0.31250	105.00	155.00	0.313	-
8622880	●	-	-	-	8.000	0.31496	105.00	155.00	-	8.00
8622881	●	-	-	-	8.100	0.31890	110.00	165.00	-	8.10
8622882	●	-	-	-	8.200	0.32284	110.00	165.00	-	8.20
8622883	●	-	-	-	8.300	0.32677	110.00	165.00	-	8.30
17549911	●	21/64	-	-	8.334	0.32813	110.00	165.00	0.656	-
8622884	●	-	-	-	8.400	0.33071	110.00	165.00	-	8.40
8622885	●	-	-	-	8.500	0.33465	110.00	165.00	-	8.50
8622886	●	-	-	-	8.600	0.33858	115.00	165.00	-	8.60
8622887	●	-	-	-	8.700	0.34252	115.00	165.00	-	8.70
17550211	●	11/32	-	-	8.731	0.34375	115.00	165.00	0.344	-
8622888	●	-	-	-	8.800	0.34646	115.00	165.00	-	8.80
8622889	●	-	-	-	8.900	0.35039	115.00	165.00	-	8.90
8622890	●	-	-	-	9.000	0.35433	115.00	165.00	-	9.00
8622891	●	-	-	-	9.100	0.35827	125.00	190.00	-	9.10
17550511	●	23/64	-	-	9.128	0.35938	125.00	190.00	0.359	-
8622892	●	-	-	-	9.200	0.36220	125.00	190.00	-	9.20
8622893	●	-	-	-	9.300	0.36614	125.00	190.00	-	9.30
8622894	●	-	-	-	9.400	0.37008	125.00	190.00	-	9.40

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1750 (Continued)

V-SERIES HELIOS-10D

SPEED FEED 348 | HSS-Co | WXL | 2 FLUTE | TAPER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8622895	●	-	-	-	9.500	0.37402	125.00	190.00	-	9.50
17550711	●	3/8	-	-	9.525	0.37500	130.00	190.00	0.375	-
8622896	●	-	-	-	9.600	0.37795	130.00	190.00	-	9.60
8622897	●	-	-	-	9.700	0.38189	130.00	190.00	-	9.70
8622898	●	-	-	-	9.800	0.38583	130.00	190.00	-	9.80
8622899	●	-	-	-	9.900	0.38976	130.00	190.00	-	9.90
17551011	●	25/64	-	-	9.922	0.39063	130.00	190.00	0.391	-
8622900	●	-	-	-	10.000	0.39370	130.00	190.00	-	10.00
8622901	●	-	-	-	10.100	0.39764	140.00	205.00	-	10.10
8622902	●	-	-	-	10.200	0.40157	140.00	205.00	-	10.20
8622903	●	-	-	-	10.300	0.40551	140.00	205.00	-	10.30
17551311	●	13/32	-	-	10.319	0.40625	140.00	205.00	0.406	-
8622904	●	-	-	-	10.400	0.40945	140.00	205.00	-	10.40
8622905	●	-	-	-	10.500	0.41339	140.00	205.00	-	10.50
8622906	●	-	-	-	10.600	0.41732	145.00	205.00	-	10.60
8622907	●	-	-	-	10.700	0.42126	145.00	205.00	-	10.70
17551511	●	27/64	-	-	10.716	0.42188	145.00	205.00	0.422	-
8622908	●	-	-	-	10.800	0.42520	145.00	205.00	-	10.80
8622909	●	-	-	-	10.900	0.42913	145.00	205.00	-	10.90
8622910	●	-	-	-	11.000	0.43307	145.00	205.00	-	11.00
8622911	●	-	-	-	11.100	0.43701	155.00	215.00	-	11.10
17551611	●	7/16	-	-	11.113	0.43750	155.00	215.00	0.438	-
8622912	●	-	-	-	11.200	0.44094	155.00	215.00	-	11.20
8622913	●	-	-	-	11.300	0.44488	155.00	215.00	-	11.30
8622914	●	-	-	-	11.400	0.44882	155.00	215.00	-	11.40
8622915	●	-	-	-	11.500	0.45276	155.00	215.00	-	11.50
17551711	●	29/64	-	-	11.509	0.45313	155.00	215.00	0.453	-
8622916	●	-	-	-	11.600	0.45669	155.00	215.00	-	11.60
8622917	●	-	-	-	11.700	0.46063	155.00	215.00	-	11.70
8622918	●	-	-	-	11.800	0.46457	155.00	215.00	-	11.80
8622919	●	-	-	-	11.900	0.46850	155.00	215.00	-	11.90
17551811	●	15/32	-	-	11.906	0.46875	155.00	215.00	0.469	-
8622920	●	-	-	-	12.000	0.47244	155.00	215.00	-	12.00
17552011	●	1/2	-	-	12.700	0.50000	160.00	220.00	0.500	-
17525111	●	17/32	-	-	13.494	0.53125	175.00	225.00	0.531	-
17525311	●	9/16	-	-	14.288	0.56250	186.00	236.00	0.563	-
17525511	●	45/64	-	-	17.859	0.70313	233.00	283.00	0.703	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎	○	○		○	◎	○		

○ Good ◎ Best

List 1760

V-SERIES HELIOS-15D

SPEED FEED 348 | HSS-Co | WXL | 2 FLUTE | TAPER | 40° | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1.6 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 17.859	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8623016	●	-	-	-	1.600	0.06299	30.00	70.00	-	1.60
8623018	●	-	-	-	1.800	0.07087	34.00	75.00	-	1.80
17502411	●	5/64	-	-	1.984	0.07813	36.00	80.00	0.078	-
8623020	●	-	-	-	2.000	0.07874	36.00	80.00	-	2.00
8623021	●	-	-	-	2.100	0.08268	38.00	80.00	-	2.10
8623022	●	-	-	-	2.200	0.08661	40.00	80.00	-	2.20
8623023	●	-	-	-	2.300	0.09055	42.00	85.00	-	2.30
17503111	●	3/32	-	-	2.381	0.09375	44.00	85.00	0.094	-
8623024	●	-	-	-	2.400	0.09449	44.00	85.00	-	2.40
8623025	●	-	-	-	2.500	0.09843	46.00	85.00	-	2.50
8623026	●	-	-	-	2.600	0.10236	48.00	100.00	-	2.60
8623027	●	-	-	-	2.700	0.10630	50.00	100.00	-	2.70
17503811	●	7/64	-	-	2.778	0.10938	50.00	100.00	0.109	-
8623028	●	-	-	-	2.800	0.11024	50.00	100.00	-	2.80
8623029	●	-	-	-	2.900	0.11417	54.00	105.00	-	2.90
8623030	●	-	-	-	3.000	0.11811	54.00	105.00	-	3.00
8623031	●	-	-	-	3.100	0.12205	56.00	110.00	-	3.10
17504411	●	1/8	-	-	3.175	0.12500	58.00	110.00	0.125	-
8623032	●	-	-	-	3.200	0.12598	58.00	110.00	-	3.20
8623033	●	-	-	-	3.300	0.12992	60.00	110.00	-	3.30
8623034	●	-	-	-	3.400	0.13386	62.00	115.00	-	3.40
8623035	●	-	-	-	3.500	0.13780	64.00	115.00	-	3.50
17504711	●	9/64	-	-	3.572	0.14063	64.00	115.00	0.141	-
8623036	●	-	-	-	3.600	0.14173	66.00	115.00	-	3.60
8623037	●	-	-	-	3.700	0.14567	68.00	120.00	-	3.70
8623038	●	-	-	-	3.800	0.14961	70.00	120.00	-	3.80
8623039	●	-	-	-	3.900	0.15354	70.00	120.00	-	3.90
17505311	●	5/32	-	-	3.969	0.15625	72.00	120.00	0.156	-
8623040	●	-	-	-	4.000	0.15748	72.00	120.00	-	4.00
8623041	●	-	-	-	4.100	0.16142	74.00	135.00	-	4.10
8623042	●	-	-	-	4.200	0.16535	76.00	135.00	-	4.20
8623043	●	-	-	-	4.300	0.16929	78.00	140.00	-	4.30
17505911	●	11/64	-	-	4.366	0.17188	78.00	140.00	0.172	-
8623044	●	-	-	-	4.400	0.17323	80.00	140.00	-	4.40
8623045	●	-	-	-	4.500	0.17717	82.00	140.00	-	4.50
8623046	●	-	-	-	4.600	0.18110	84.00	145.00	-	4.60
8623047	●	-	-	-	4.700	0.18504	86.00	145.00	-	4.70
17506511	●	3/16	-	-	4.763	0.18750	86.00	145.00	0.188	-
8623048	●	-	-	-	4.800	0.18898	86.00	145.00	-	4.80
8623049	●	-	-	-	4.900	0.19291	88.00	150.00	-	4.90
8623050	●	-	-	-	5.000	0.19685	90.00	150.00	-	5.00
8623051	●	-	-	-	5.100	0.20079	92.00	150.00	-	5.10
17507211	●	13/64	-	-	5.159	0.20313	92.00	150.00	0.203	-
8623052	●	-	-	-	5.200	0.20472	94.00	155.00	-	5.20
8623053	●	-	-	-	5.300	0.20866	96.00	155.00	-	5.30
8623054	●	-	-	-	5.400	0.21260	98.00	155.00	-	5.40
8623055	●	-	-	-	5.500	0.21654	100.00	155.00	-	5.50
17507711	●	7/32	-	-	5.556	0.21875	100.00	155.00	0.219	-
8623056	●	-	-	-	5.600	0.22047	102.00	160.00	-	5.60
8623057	●	-	-	-	5.700	0.22441	104.00	165.00	-	5.70
8623058	●	-	-	-	5.800	0.22835	106.00	165.00	-	5.80
17508111	●	15/64	-	-	5.950	0.23438	108.00	170.00	0.234	-
8623060	●	-	-	-	6.000	0.23622	108.00	170.00	-	6.00
8623062	●	-	-	-	6.200	0.24409	112.00	170.00	-	6.20
8623063	●	-	-	-	6.300	0.24803	114.00	175.00	-	6.30
17508511	●	1/4	-	E	6.350	0.25000	114.00	175.00	0.250	-
8623065	●	-	-	-	6.500	0.25591	118.00	200.00	-	6.50

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1760 (Continued)

V-SERIES HELIOS-15D

SPEED FEED 348 | HSS-Co | WXL | 2 FLUTE | TAPER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8623066	●	-	-	-	6.600	0.25984	120.00	200.00	-	6.60
17508811	●	17/64	-	-	6.747	0.26563	120.00	200.00	0.266	-
8623068	●	-	-	-	6.800	0.26772	120.00	200.00	-	6.80
8623069	●	-	-	-	6.900	0.27165	124.00	200.00	-	6.90
8623070	●	-	-	-	7.000	0.27559	126.00	200.00	-	7.00
8623071	●	-	-	-	7.100	0.27953	126.00	200.00	-	7.10
17509111	●	9/32	-	-	7.144	0.28125	130.00	205.00	0.281	-
8623075	●	-	-	-	7.500	0.29528	136.00	205.00	-	7.50
17509411	●	19/64	-	-	7.541	0.29688	136.00	205.00	0.297	-
17509611	●	5/16	-	-	7.938	0.31250	144.00	215.00	0.313	-
8623080	●	-	-	-	8.000	0.31496	144.00	215.00	-	8.00
8623081	●	-	-	-	8.100	0.31890	146.00	215.00	-	8.10
8623082	●	-	-	-	8.200	0.32283	148.00	220.00	-	8.20
17509911	●	21/64	-	-	8.334	0.32813	150.00	220.00	0.656	-
8623085	●	-	-	-	8.500	0.33465	154.00	225.00	-	8.50
8623086	●	-	-	-	8.600	0.33858	156.00	225.00	-	8.60
17510211	●	11/32	-	-	8.731	0.34375	160.00	230.00	0.344	-
8623088	●	-	-	-	8.800	0.34646	160.00	230.00	-	8.80
8623090	●	-	-	-	9.000	0.35433	162.00	230.00	-	9.00
17510511	●	23/64	-	-	9.128	0.35938	165.00	235.00	0.359	-
8623093	●	-	-	-	9.300	0.36614	168.00	240.00	-	9.30
8623095	●	-	-	-	9.500	0.37402	172.00	240.00	-	9.50
17510711	●	3/8	-	-	9.525	0.37500	172.00	240.00	0.375	-
8623097	●	-	-	-	9.700	0.38189	176.00	245.00	-	9.70
8623098	●	-	-	-	9.800	0.38583	178.00	245.00	-	9.80
17511011	●	25/64	-	-	9.922	0.39063	180.00	250.00	0.391	-
8623100	●	-	-	-	10.000	0.39370	180.00	250.00	-	10.00
17511311	●	13/32	-	-	10.319	0.40625	185.00	260.00	0.406	-
8623105	●	-	-	-	10.500	0.41339	190.00	270.00	-	10.50
17511511	●	27/64	-	-	10.716	0.42188	195.00	275.00	0.422	-
8623110	●	-	-	-	11.000	0.43307	200.00	280.00	-	11.00
17511611	●	7/16	-	-	11.113	0.43750	200.00	280.00	0.438	-
8623115	●	-	-	-	11.500	0.45276	208.00	290.00	-	11.50
17511711	●	29/64	-	-	11.509	0.45313	210.00	290.00	0.453	-
8623118	●	-	-	-	11.800	0.46457	214.00	295.00	-	11.80
17511811	●	15/32	-	-	11.906	0.46875	215.00	295.00	0.469	-
8623120	●	-	-	-	12.000	0.47244	216.00	300.00	-	12.00
17512011	●	1/2	-	-	12.700	0.50000	230.00	310.00	0.500	-
17525711	●	17/32	-	-	13.494	0.53125	243.00	293.00	0.531	-
17525911	●	9/16	-	-	14.288	0.56250	257.00	307.00	0.563	-
17526111	●	45/64	-	-	17.859	0.70313	322.00	372.00	0.703	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○		○	◎	○		

○ Good ◎ Best

List 1770

V-SERIES HELIOS-20D

SPEED FEED 348 | HSS-Co | WXL | 2 FLUTE | TAPER | 40° | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1.6 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 14.288	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8623216	●	-	-	-	1.600	0.06299	38.00	85.00	-	1.60
8623218	●	-	-	-	1.800	0.07087	42.00	85.00	-	1.80
17515311	●	5/64	-	-	1.984	0.07813	46.00	85.00	0.078	-
8623220	●	-	-	-	2.000	0.07874	46.00	85.00	-	2.00
8623221	●	-	-	-	2.100	0.08268	50.00	90.00	-	2.10
8623222	●	-	-	-	2.200	0.08661	52.00	90.00	-	2.20
8623223	●	-	-	-	2.300	0.09055	54.00	95.00	-	2.30
17516011	●	3/32	-	-	2.381	0.09375	56.00	95.00	0.094	-
8623224	●	-	-	-	2.400	0.09449	56.00	95.00	-	2.40
8623225	●	-	-	-	2.500	0.09843	58.00	100.00	-	2.50
8623226	●	-	-	-	2.600	0.10236	60.00	110.00	-	2.60
8623227	●	-	-	-	2.700	0.10630	64.00	115.00	-	2.70
17516711	●	7/64	-	-	2.778	0.10938	66.00	115.00	0.109	-
8623228	●	-	-	-	2.800	0.11024	66.00	115.00	-	2.80
8623229	●	-	-	-	2.900	0.11417	68.00	120.00	-	2.90
8623230	●	-	-	-	3.000	0.11811	70.00	120.00	-	3.00
8623231	●	-	-	-	3.100	0.12205	72.00	125.00	-	3.10
17517311	●	1/8	-	-	3.175	0.12500	74.00	125.00	0.125	-
8623232	●	-	-	-	3.200	0.12598	74.00	125.00	-	3.20
8623233	●	-	-	-	3.300	0.12992	76.00	125.00	-	3.30
8623234	●	-	-	-	3.400	0.13386	80.00	130.00	-	3.40
8623235	●	-	-	-	3.500	0.13780	82.00	130.00	-	3.50
17517611	●	9/64	-	-	3.572	0.14063	82.00	130.00	0.141	-
8623237	●	-	-	-	3.700	0.14567	86.00	135.00	-	3.70
8623238	●	-	-	-	3.800	0.14961	88.00	140.00	-	3.80
17518211	●	5/32	-	-	3.969	0.15625	92.00	140.00	0.156	-
8623240	●	-	-	-	4.000	0.15748	92.00	140.00	-	4.00
8623241	●	-	-	-	4.100	0.16142	96.00	155.00	-	4.10
8623242	●	-	-	-	4.200	0.16535	98.00	155.00	-	4.20
8623243	●	-	-	-	4.300	0.16929	100.00	160.00	-	4.30
17518811	●	11/64	-	-	4.366	0.17188	100.00	160.00	0.172	-
8623245	●	-	-	-	4.500	0.17717	104.00	165.00	-	4.50
8623246	●	-	-	-	4.600	0.18110	106.00	165.00	-	4.60
17519411	●	3/16	-	-	4.763	0.18750	110.00	170.00	0.188	-
8623248	●	-	-	-	4.800	0.18898	112.00	170.00	-	4.80
8623250	●	-	-	-	5.000	0.19685	116.00	175.00	-	5.00
8623251	●	-	-	-	5.100	0.20079	118.00	180.00	-	5.10
17520111	●	13/64	-	-	5.159	0.20313	120.00	180.00	0.203	-
8623252	●	-	-	-	5.200	0.20472	120.00	180.00	-	5.20
8623255	●	-	-	-	5.500	0.21654	128.00	185.00	-	5.50
17520611	●	7/32	-	-	5.556	0.21875	128.00	185.00	0.219	-
8623257	●	-	-	-	5.700	0.22441	132.00	190.00	-	5.70
8623258	●	-	-	-	5.800	0.22835	134.00	200.00	-	5.80
17521011	●	15/64	-	-	5.953	0.23438	138.00	200.00	0.234	-
8623260	●	-	-	-	6.000	0.23622	138.00	200.00	-	6.00
17521411	●	1/4	-	E	6.350	0.25000	146.00	200.00	0.250	-
8623265	●	-	-	-	6.500	0.25591	150.00	225.00	-	6.50
17521711	●	17/64	-	-	6.747	0.26563	156.00	225.00	0.266	-
8623270	●	-	-	-	7.000	0.27559	162.00	230.00	-	7.00
17522011	●	9/32	-	-	7.144	0.28125	164.00	235.00	0.281	-
8623275	●	-	-	-	7.500	0.29528	174.00	245.00	-	7.50
17522311	●	19/64	-	-	7.541	0.29688	174.00	245.00	0.297	-
17522511	●	5/16	-	-	7.938	0.31250	184.00	255.00	0.313	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1770 (Continued)

V-SERIES HELIOS-20D

SPEED FEED 348 | HSS-Co | WXL | 2 FLUTE | TAPER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)	d (mm)
8623280	●	-	-	-	8.000	0.31496	184.00	255.00	-	8.00
8623281	●	-	-	-	8.100	0.31890	188.00	255.00	-	8.10
8623282	●	-	-	-	8.200	0.32283	190.00	260.00	-	8.20
17522811	●	21/64	-	-	8.334	0.32813	192.00	260.00	0.656	-
8623285	●	-	-	-	8.500	0.33465	196.00	265.00	-	8.50
17523111	●	11/32	-	-	8.731	0.34375	200.00	270.00	0.344	-
8623290	●	-	-	-	9.000	0.35433	208.00	275.00	-	9.00
17523411	●	23/64	-	-	9.128	0.35938	210.00	275.00	0.359	-
17523611	●	3/8	-	-	9.525	0.37500	220.00	290.00	0.375	-
17523911	●	25/64	-	-	9.922	0.39063	230.00	300.00	0.391	-
8623300	●	-	-	-	10.000	0.39370	230.00	300.00	-	10.00
17524211	●	13/32	-	-	10.319	0.40625	238.00	300.00	0.406	-
17524411	●	27/64	-	-	10.716	0.42188	246.00	340.00	0.422	-
8623310	●	-	-	-	11.000	0.43307	254.00	350.00	-	11.00
17524511	●	7/16	-	-	11.113	0.43750	255.00	350.00	0.438	-
17524611	●	29/64	-	-	11.509	0.45313	265.00	350.00	0.453	-
17524711	●	15/32	-	-	11.906	0.46875	274.00	350.00	0.469	-
8623320	●	-	-	-	12.000	0.47244	276.00	350.00	-	12.00
17524911	●	1/2	-	-	12.700	0.50000	292.00	360.00	0.500	-
17526311	●	17/32	-	-	13.494	0.53125	310.00	360.00	0.531	-
17526511	●	9/16	-	-	14.288	0.56250	328.00	378.00	0.563	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○		○	◎	○		

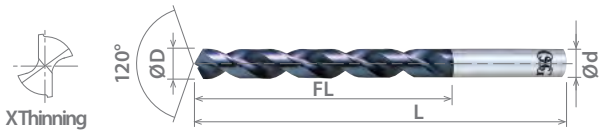
○ Good ◎ Best

List 1800

V-SELECT V-SDR

SPEED FEED	HSSE	V	2 FLUTE	JOBBER	35°	PACKED
349						1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 13	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
8594020	●	-	-	-	2.000	0.07874	24.00	49.00	2.00
8594021	●	-	-	-	2.100	0.08268	24.00	49.00	2.10
8594022	●	-	-	-	2.200	0.08661	27.00	53.00	2.20
8594023	●	-	-	-	2.300	0.09055	27.00	53.00	2.30
8594024	●	-	-	-	2.400	0.09449	30.00	57.00	2.40
8594025	●	-	-	-	2.500	0.09843	30.00	57.00	2.50
8594026	●	-	-	-	2.600	0.10236	30.00	57.00	2.60
8594027	●	-	-	-	2.700	0.10630	33.00	61.00	2.70
8594028	●	-	-	-	2.800	0.11024	33.00	61.00	2.80
8594029	●	-	-	-	2.900	0.11417	33.00	61.00	2.90
8594030	●	-	-	-	3.000	0.11811	33.00	61.00	3.00
8594031	●	-	-	-	3.100	0.12205	36.00	65.00	3.10
8594032	●	-	-	-	3.200	0.12598	36.00	65.00	3.20
8594033	●	-	-	-	3.300	0.12992	36.00	65.00	3.30
8594034	●	-	-	-	3.400	0.13386	39.00	70.00	3.40
8594035	●	-	-	-	3.500	0.13780	39.00	70.00	3.50
8594036	●	-	-	-	3.600	0.14173	39.00	70.00	3.60
8594037	●	-	-	-	3.700	0.14567	39.00	70.00	3.70
8594038	●	-	-	-	3.800	0.14961	43.00	75.00	3.80
8594039	●	-	-	-	3.900	0.15354	43.00	75.00	3.90
8594040	●	-	-	-	4.000	0.15748	43.00	75.00	4.00
8594041	●	-	-	-	4.100	0.16142	43.00	75.00	4.10
8594042	●	-	-	-	4.200	0.16535	43.00	75.00	4.20
8594043	●	-	-	-	4.300	0.16929	47.00	80.00	4.30
8594044	●	-	-	-	4.400	0.17323	47.00	80.00	4.40
8594045	●	-	-	-	4.500	0.17717	47.00	80.00	4.50
8594046	●	-	-	-	4.600	0.18110	47.00	80.00	4.60
8594047	●	-	-	-	4.700	0.18504	47.00	80.00	4.70
8594048	●	-	-	-	4.800	0.18898	52.00	86.00	4.80
8594049	●	-	-	-	4.900	0.19291	52.00	86.00	4.90
8594050	●	-	-	-	5.000	0.19685	52.00	86.00	5.00
8594051	●	-	-	-	5.100	0.20079	52.00	86.00	5.10
8594052	●	-	-	-	5.200	0.20472	52.00	86.00	5.20
8594053	●	-	-	-	5.300	0.20866	52.00	86.00	5.30
8594054	●	-	-	-	5.400	0.21260	57.00	93.00	5.40
8594055	●	-	-	-	5.500	0.21654	57.00	93.00	5.50
8594056	●	-	-	-	5.600	0.22047	57.00	93.00	5.60
8594057	●	-	-	-	5.700	0.22441	57.00	93.00	5.70
8594058	●	-	-	-	5.800	0.22835	57.00	93.00	5.80
8594059	●	-	-	-	5.900	0.23228	57.00	93.00	5.90
8594060	●	-	-	-	6.000	0.23622	57.00	93.00	6.00
8594061	●	-	-	-	6.100	0.24016	63.00	101.00	6.10
8594062	●	-	-	-	6.200	0.24409	63.00	101.00	6.20
8594063	●	-	-	-	6.300	0.24803	63.00	101.00	6.30
8594064	●	-	-	-	6.400	0.25197	63.00	101.00	6.40
8594065	●	-	-	-	6.500	0.25591	63.00	101.00	6.50
8594066	●	-	-	-	6.600	0.25984	63.00	101.00	6.60
8594067	●	-	-	-	6.700	0.26378	63.00	101.00	6.70
8594068	●	-	-	-	6.800	0.26772	69.00	109.00	6.80
8594069	●	-	-	-	6.900	0.27165	69.00	109.00	6.90
8594070	●	-	-	-	7.000	0.27559	69.00	109.00	7.00
8594071	●	-	-	-	7.100	0.27953	69.00	109.00	7.10
8594072	●	-	-	-	7.200	0.28346	69.00	109.00	7.20

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1800 (Continued)

V-SELECT V-SDR

SPEED FEED 349 | HSSE | V | 2 FLUTE | JOBBER | 35° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
8594073	●	-	-	-	7.300	0.28740	69.00	109.00	7.30
8594074	●	-	-	-	7.400	0.29134	69.00	109.00	7.40
8594075	●	-	-	-	7.500	0.29528	69.00	109.00	7.50
8594076	●	-	-	-	7.600	0.29921	75.00	117.00	7.60
8594077	●	-	-	-	7.700	0.30315	75.00	117.00	7.70
8594078	●	-	-	-	7.800	0.30709	75.00	117.00	7.80
8594079	●	-	-	-	7.900	0.31102	75.00	117.00	7.90
8594080	●	-	-	-	8.000	0.31496	75.00	117.00	8.00
8594081	●	-	-	-	8.100	0.31890	75.00	117.00	8.10
8594082	●	-	-	-	8.200	0.32283	75.00	117.00	8.20
8594083	●	-	-	-	8.300	0.32677	75.00	117.00	8.30
8594084	●	-	-	-	8.400	0.33071	75.00	117.00	8.40
8594085	●	-	-	-	8.500	0.33465	75.00	117.00	8.50
8594086	●	-	-	-	8.600	0.33858	81.00	125.00	8.60
8594087	●	-	-	-	8.700	0.34252	81.00	125.00	8.70
8594088	●	-	-	-	8.800	0.34646	81.00	125.00	8.80
8594089	●	-	-	-	8.900	0.35039	81.00	125.00	8.90
8594090	●	-	-	-	9.000	0.35433	81.00	125.00	9.00
8594091	●	-	-	-	9.100	0.35827	81.00	125.00	9.10
8594092	●	-	-	-	9.200	0.36220	81.00	125.00	9.20
8594093	●	-	-	-	9.300	0.36614	81.00	125.00	9.30
8594094	●	-	-	-	9.400	0.37008	81.00	125.00	9.40
8594095	●	-	-	-	9.500	0.37402	81.00	125.00	9.50
8594096	●	-	-	-	9.600	0.37795	87.00	133.00	9.60
8594097	●	-	-	-	9.700	0.38189	87.00	133.00	9.70
8594098	●	-	-	-	9.800	0.38583	87.00	133.00	9.80
8594099	●	-	-	-	9.900	0.38976	87.00	133.00	9.90
8594100	●	-	-	-	10.000	0.39370	87.00	133.00	10.00
8594101	●	-	-	-	10.100	0.39764	87.00	133.00	10.10
8594102	●	-	-	-	10.200	0.40157	87.00	133.00	10.20
8594103	●	-	-	-	10.300	0.40551	87.00	133.00	10.30
8594104	●	-	-	-	10.400	0.40945	87.00	133.00	10.40
8594105	●	-	-	-	10.500	0.41339	87.00	133.00	10.50
8594106	●	-	-	-	10.600	0.41732	87.00	133.00	10.60
8594107	●	-	-	-	10.700	0.42126	94.00	142.00	10.70
8594108	●	-	-	-	10.800	0.42520	94.00	142.00	10.80
8594109	●	-	-	-	10.900	0.42913	94.00	142.00	10.90
8594110	●	-	-	-	11.000	0.43307	94.00	142.00	11.00
8594111	●	-	-	-	11.100	0.43701	94.00	142.00	11.10
8594112	●	-	-	-	11.200	0.44094	94.00	142.00	11.20
8594113	●	-	-	-	11.300	0.44488	94.00	142.00	11.30
8594114	●	-	-	-	11.400	0.44882	94.00	142.00	11.40
8594115	●	-	-	-	11.500	0.45276	94.00	142.00	11.50
8594116	●	-	-	-	11.600	0.45669	94.00	142.00	11.60
8594117	●	-	-	-	11.700	0.46063	94.00	142.00	11.70
8594118	●	-	-	-	11.800	0.46457	94.00	142.00	11.80
8594119	●	-	-	-	11.900	0.46850	101.00	151.00	11.90
8594120	●	-	-	-	12.000	0.47244	101.00	151.00	12.00
8594121	●	-	-	-	12.100	0.47638	101.00	151.00	12.10

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

CONTINUED ›

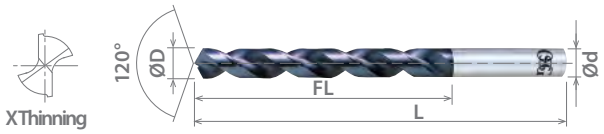
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○			○	○	○	○						

○ Good ◎ Best

List 1800 (Continued)

SPEED FEED 349 | HSSE | V | 2 FLUTE | JOBBER | 35° | PACKED 1 PIECE

V-SELECT V-SDR



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 13	+0 / -0.027	+0 / -0.0011

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
8594122	●	-	-	-	12.200	0.48031	101.00	151.00	12.20
8594123	●	-	-	-	12.300	0.48425	101.00	151.00	12.30
8594124	●	-	-	-	12.400	0.48819	101.00	151.00	12.40
8594125	●	-	-	-	12.500	0.49213	101.00	151.00	12.50
8594126	●	-	-	-	12.600	0.49606	101.00	151.00	12.60
8594127	●	1/2	-	-	12.700	0.50000	101.00	151.00	12.70
8594128	●	-	-	-	12.800	0.50394	101.00	151.00	12.80
8594129	●	-	-	-	12.900	0.50787	101.00	151.00	12.90
8594130	●	-	-	-	13.000	0.51181	101.00	151.00	13.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○			○	○	○	○						

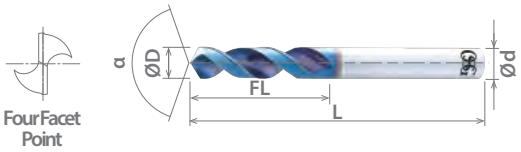
○ Good ◎ Best

List 1150

NEXUS-GDS

SPEED FEED	HSSE	WD1	2 FLUTE	STUB	40°	PACKED
350-351						1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Point Angle α
8650100	●	-	-	-	1.000	0.03937	6.00	38.00	3.00	140
11507615	●	-	-	-	1.250	0.04921	8.00	40.00	3.00	140
11509115	●	-	54	-	1.397	0.05500	9.00	41.00	3.00	140
8650150	●	-	-	-	1.500	0.05906	9.00	41.00	3.00	140
11511115	●	-	-	-	1.600	0.06299	10.00	42.00	3.00	140
11511615	●	-	-	-	1.650	0.06496	10.00	42.00	3.00	140
11512915	●	-	50	-	1.778	0.07000	11.00	43.00	3.00	140
8650180	●	-	-	-	1.800	0.07087	11.00	43.00	3.00	140
8650181	●	-	-	-	1.810	0.07126	11.00	43.00	3.00	140
8650183	●	-	-	-	1.830	0.07205	11.00	43.00	3.00	140
11513615	●	-	49	-	1.854	0.07300	11.00	43.00	3.00	140
11514915	●	5/64	-	-	1.984	0.07813	12.00	44.00	3.00	140
8650200	●	-	-	-	2.000	0.07874	12.00	44.00	3.00	130
11515915	●	-	45	-	2.083	0.08200	12.00	44.00	3.00	130
8650211	●	-	-	-	2.110	0.08307	12.00	44.00	3.00	130
8650213	●	-	-	-	2.130	0.08386	13.00	45.00	3.00	130
11516915	●	-	44	-	2.184	0.08600	13.00	45.00	3.00	130
11517715	●	-	43	-	2.261	0.08900	13.00	45.00	3.00	130
8650228	●	-	-	-	2.280	0.08976	13.00	45.00	3.00	130
8650230	●	-	-	-	2.300	0.09055	13.00	45.00	3.00	130
11518815	●	-	42	-	2.375	0.09350	14.00	46.00	3.00	130
8650238	●	-	-	-	2.380	0.09370	14.00	46.00	3.00	130
8650240	●	-	-	-	2.400	0.09449	14.00	46.00	3.00	130
8650250	●	-	-	-	2.500	0.09843	14.00	46.00	3.00	130
11520415	●	-	39	-	2.527	0.09950	14.00	46.00	3.00	130
11520915	●	-	38	-	2.578	0.10150	14.00	46.00	3.00	130
8650260	●	-	-	-	2.600	0.10236	14.00	46.00	3.00	130
11521515	●	-	37	-	2.642	0.10400	14.00	46.00	3.00	130
11522215	●	-	36	-	2.705	0.10650	16.00	48.00	3.00	130
8650276	●	-	-	-	2.760	0.10866	16.00	48.00	3.00	130
8650278	●	-	-	-	2.780	0.10945	16.00	48.00	3.00	130
8650280	●	-	-	-	2.800	0.11024	16.00	48.00	3.00	130
11523815	●	-	33	-	2.870	0.11300	16.00	48.00	3.00	130
11524115	●	-	-	-	2.900	0.11417	16.00	48.00	3.00	130
8650300	●	-	-	-	3.000	0.11811	16.00	48.00	3.00	130
11526115	●	-	-	-	3.100	0.12205	18.00	50.00	4.00	130
11526915	●	1/8	-	-	3.175	0.12500	18.00	50.00	4.00	130
8650320	●	-	-	-	3.200	0.12598	18.00	50.00	4.00	130
8650325	●	-	-	-	3.250	0.12795	18.00	50.00	4.00	130
8650330	●	-	-	-	3.300	0.12992	18.00	50.00	4.00	130
8650340	●	-	-	-	3.400	0.13386	20.00	52.00	4.00	130
11529615	●	-	29	-	3.454	0.13600	20.00	52.00	4.00	130
8650350	●	-	-	-	3.500	0.13780	20.00	52.00	4.00	130

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	◎	◎	○	○	○	○	◎	◎	○	○	○			

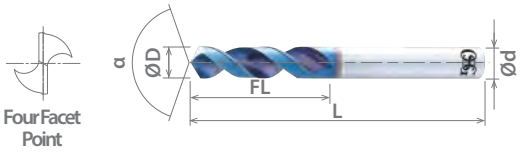
○ Good ◎ Best

List 1150 (Continued)

NEXUS-GDS

SPEED FEED	HSSE	WD1	2 FLUTE	STUB	40°	PACKED
350-351						1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
11530815	●	9/64	-	-	3.572	0.14063	20.00	52.00	4.00	130
8650365	●	-	-	-	3.650	0.14370	20.00	52.00	4.00	130
8650367	●	-	-	-	3.670	0.14449	20.00	52.00	4.00	130
11533115	●	-	25	-	3.797	0.14950	22.00	54.00	4.00	130
8650390	●	-	-	-	3.900	0.15354	22.00	54.00	4.00	130
11534815	●	5/32	-	-	3.969	0.15625	22.00	54.00	4.00	130
8650400	●	-	-	-	4.000	0.15748	22.00	54.00	4.00	130
11535515	●	-	21	-	4.039	0.15900	22.00	66.00	6.00	120
8650410	●	-	-	-	4.100	0.16142	22.00	66.00	6.00	120
8650420	●	-	-	-	4.200	0.16535	22.00	66.00	6.00	120
8650430	●	-	-	-	4.300	0.16929	24.00	68.00	6.00	120
11538815	●	11/64	-	-	4.366	0.17188	24.00	68.00	6.00	120
8650450	●	-	-	-	4.500	0.17717	24.00	68.00	6.00	120
8650459	●	-	-	-	4.590	0.18071	24.00	68.00	6.00	120
11541315	●	-	14	-	4.623	0.18200	24.00	68.00	6.00	120
8650463	●	-	-	-	4.630	0.18228	24.00	68.00	6.00	120
11542715	●	3/16	-	-	4.763	0.18750	26.00	70.00	6.00	120
8650500	●	-	-	-	5.000	0.19685	26.00	70.00	6.00	120
11545615	●	-	8	-	5.055	0.19900	26.00	70.00	6.00	120
8650510	●	-	-	-	5.100	0.20079	26.00	70.00	6.00	120
11546215	●	-	7	-	5.105	0.20100	26.00	70.00	6.00	120
11546715	●	13/64	-	-	5.159	0.20313	26.00	70.00	6.00	120
8650520	●	-	-	-	5.200	0.20472	26.00	70.00	6.00	120
11549215	●	-	3	-	5.410	0.21300	28.00	72.00	6.00	120
8650548	●	-	-	-	5.480	0.21575	28.00	72.00	6.00	120
8650550	●	-	-	-	5.500	0.21654	28.00	72.00	6.00	120
11550715	●	7/32	-	-	5.556	0.21875	28.00	72.00	6.00	120
11551115	●	-	-	-	5.600	0.22047	28.00	72.00	6.00	120
11553015	●	-	1	-	5.791	0.22800	28.00	72.00	6.00	120
11554615	●	15/64	-	-	5.953	0.23438	28.00	72.00	6.00	120
8650600	●	-	-	-	6.000	0.23622	28.00	72.00	6.00	120
11555815	●	1/4	-	E	6.350	0.25000	31.00	75.00	8.00	120
11556115	●	-	-	-	6.500	0.25591	31.00	75.00	8.00	120
11556215	●	-	-	-	6.520	0.25669	31.00	75.00	8.00	120
8650680	●	-	-	-	6.800	0.26772	34.00	78.00	8.00	120
8650690	●	-	-	-	6.900	0.27165	34.00	78.00	8.00	120
8650700	●	-	-	-	7.000	0.27559	34.00	78.00	8.00	120
11557815	●	-	-	-	7.300	0.28740	34.00	78.00	8.00	120
8650734	●	-	-	-	7.340	0.28898	34.00	78.00	8.00	120
8650738	●	-	-	-	7.380	0.29055	34.00	78.00	8.00	120
11558315	●	-	-	-	7.450	0.29331	34.00	78.00	8.00	120
11559315	●	5/16	-	-	7.938	0.31250	37.00	81.00	8.00	120
8650800	●	-	-	-	8.000	0.31496	37.00	81.00	8.00	120
8650810	●	-	-	-	8.100	0.31890	37.00	87.00	10.00	120
11559915	●	-	-	P	8.204	0.32300	37.00	87.00	10.00	120
11560415	●	-	-	-	8.430	0.33189	37.00	87.00	10.00	120
8650850	●	-	-	-	8.500	0.33465	37.00	87.00	10.00	120
8650860	●	-	-	-	8.600	0.33858	40.00	90.00	10.00	120
8650880	●	-	-	-	8.800	0.34646	40.00	90.00	10.00	120
11561315	●	-	-	-	8.830	0.34764	40.00	90.00	10.00	120
8650900	●	-	-	-	9.000	0.35433	40.00	90.00	10.00	120
11561815	●	-	-	-	9.050	0.35630	40.00	90.00	10.00	120
8650918	●	-	-	-	9.180	0.36142	40.00	90.00	10.00	120

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1150 (Continued)

NEXUS-GDS

SPEED FEED 350-351 | HSSE | WD1 | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8650920	●	-	-	-	9.200	0.36220	40.00	90.00	10.00	120
8650924	●	-	-	-	9.240	0.36378	40.00	90.00	10.00	120
8650934	●	-	-	-	9.340	0.36772	40.00	90.00	10.00	120
8650936	●	-	-	-	9.360	0.36850	40.00	90.00	10.00	120
11563215	●	3/8	-	-	9.525	0.37500	40.00	90.00	10.00	120
11564115	●	25/64	-	-	9.922	0.39063	43.00	93.00	10.00	120
8651000	●	-	-	-	10.000	0.39370	43.00	93.00	10.00	120
11564715	●	-	-	-	10.200	0.40157	43.00	100.00	12.00	120
8651030	●	-	-	-	10.300	0.40551	43.00	100.00	12.00	120
11565015	●	13/32	-	-	10.319	0.40625	43.00	100.00	12.00	120
8651040	●	-	-	-	10.400	0.40945	43.00	100.00	12.00	120
8651050	●	-	-	-	10.500	0.41339	43.00	100.00	12.00	120
11565915	●	27/64	-	-	10.716	0.42188	47.00	104.00	12.00	120
8651100	●	-	-	-	11.000	0.43307	47.00	104.00	12.00	120
11566815	●	7/16	-	-	11.113	0.43750	47.00	104.00	12.00	120
11567715	●	29/64	-	-	11.509	0.45313	47.00	104.00	12.00	120
11568415	●	-	-	-	11.850	0.46654	51.00	108.00	12.00	120
8651200	●	-	-	-	12.000	0.47244	51.00	108.00	12.00	120
11568815	●	-	-	-	12.100	0.47638	51.00	108.00	12.00	120
11569415	●	1/2	-	-	12.700	0.50000	51.00	108.00	12.00	120

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	◎	◎	○	○	○	○	◎	◎	○	○	○			

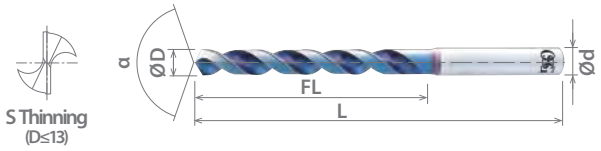
○ Good ◎ Best

List 1650

NEXUS-GDR

SPEED FEED 350-351 | HSSE | WD1 | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
8655200	●	-	-	-	2.000	0.07874	24.00	56.00	3.00	130
16502715	●	-	43	-	2.261	0.08900	27.00	59.00	3.00	130
8655230	●	-	-	-	2.300	0.09055	27.00	59.00	3.00	130
16503915	●	3/32	-	-	2.381	0.09375	30.00	62.00	3.00	130
8655250	●	-	-	-	2.500	0.09843	30.00	62.00	3.00	130
16505915	●	-	38	-	2.578	0.10150	30.00	62.00	3.00	130
8655260	●	-	-	-	2.600	0.10236	30.00	62.00	3.00	130
8655280	●	-	-	-	2.800	0.11024	33.00	65.00	3.00	130
16508815	●	-	33	-	2.870	0.11300	33.00	65.00	3.00	130
8655300	●	-	-	-	3.000	0.11811	33.00	65.00	3.00	130
16511915	●	1/8	-	-	3.175	0.12500	36.00	68.00	4.00	130
8655330	●	-	-	-	3.300	0.12992	36.00	68.00	4.00	130
8655340	●	-	-	-	3.400	0.13386	39.00	71.00	4.00	130
16514615	●	-	29	-	3.454	0.13600	39.00	71.00	4.00	130
8655350	●	-	-	-	3.500	0.13780	39.00	71.00	4.00	130
16515815	●	9/64	-	-	3.572	0.14063	39.00	71.00	4.00	130
16518115	●	-	25	-	3.797	0.14950	43.00	75.00	4.00	130
16519815	●	5/32	-	-	3.969	0.15625	43.00	75.00	4.00	130
8655400	●	-	-	-	4.000	0.15748	43.00	75.00	4.00	130
16520515	●	-	21	-	4.039	0.15900	43.00	87.00	6.00	120
8655420	●	-	-	-	4.200	0.16535	43.00	87.00	6.00	120
8655430	●	-	-	-	4.300	0.16929	47.00	91.00	6.00	120
8655450	●	-	-	-	4.500	0.17717	47.00	91.00	6.00	120
16527715	●	3/16	-	-	4.763	0.18750	52.00	96.00	6.00	120
8655500	●	-	-	-	5.000	0.19685	52.00	96.00	6.00	120
8655510	●	-	-	-	5.100	0.20079	52.00	96.00	6.00	120
16531215	●	-	7	-	5.105	0.20100	52.00	96.00	6.00	120
16531715	●	13/64	-	-	5.159	0.20313	52.00	96.00	6.00	120
8655520	●	-	-	-	5.200	0.20472	52.00	96.00	6.00	120
16534215	●	-	3	-	5.410	0.21300	57.00	101.00	6.00	120
8655550	●	-	-	-	5.500	0.21654	57.00	101.00	6.00	120
16535715	●	7/32	-	-	5.556	0.21875	57.00	101.00	6.00	120
8655600	●	-	-	-	6.000	0.23622	57.00	101.00	6.00	120
16540815	●	1/4	-	E	6.350	0.25000	63.00	107.00	8.00	120
8655680	●	-	-	-	6.800	0.26772	69.00	113.00	8.00	120
8655690	●	-	-	-	6.900	0.27165	69.00	113.00	8.00	120
8655700	●	-	-	-	7.000	0.27559	69.00	113.00	8.00	120
16544015	●	5/16	-	-	7.938	0.31250	75.00	119.00	8.00	120
8655800	●	-	-	-	8.000	0.31496	75.00	119.00	8.00	120
8655850	●	-	-	-	8.500	0.33465	75.00	125.00	10.00	120
8655860	●	-	-	-	8.600	0.33858	81.00	131.00	10.00	120
8655880	●	-	-	-	8.800	0.34646	81.00	131.00	10.00	120
8655900	●	-	-	-	9.000	0.35433	81.00	131.00	10.00	120
16547315	●	3/8	-	-	9.525	0.37500	81.00	131.00	10.00	120
8656000	●	-	-	-	10.000	0.39370	87.00	137.00	10.00	120
8656030	●	-	-	-	10.300	0.40551	87.00	144.00	12.00	120
8656040	●	-	-	-	10.400	0.40945	87.00	144.00	12.00	120
8656050	●	-	-	-	10.500	0.41339	87.00	144.00	12.00	120
8656100	●	-	-	-	11.000	0.43307	94.00	151.00	12.00	120

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1650 (Continued)

NEXUS-GDR

SPEED FEED 350-351 | HSSE | WD1 | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α
16550615	●	7/16	-	-	11.113	0.43750	94.00	151.00	12.00	120
8656200	●	-	-	-	12.000	0.47244	101.00	158.00	12.00	120
16553115	●	1/2	-	-	12.700	0.50000	101.00	158.00	12.00	120

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	◎	◎	○	○	○	○	◎	◎	○	○	○			

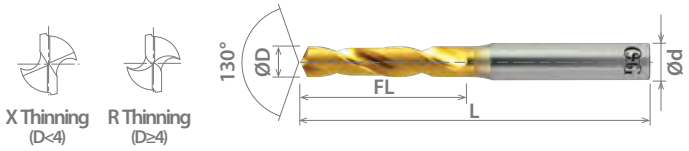
○ Good ◎ Best

List 1000

EX-GOLD EX-GDS

SPEED FEED	HSS-Co	TiN	2 FLUTE	STUB	25°	PACKED
352						1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1.99 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)
10078505	●	-	47	-	1.994	0.07850	17.00	33.00	0.125
10081005	●	-	46	-	2.057	0.08100	19.00	50.00	0.125
10082005	●	-	45	-	2.083	0.08200	19.00	50.00	0.125
10086005	●	-	44	-	2.184	0.08600	19.00	50.00	0.125
10089005	●	-	43	-	2.261	0.08900	19.00	50.00	0.125
10093505	●	-	42	-	2.375	0.09350	19.00	50.00	0.125
10093805	●	3/32	-	-	2.381	0.09375	19.00	50.00	0.125
10096005	●	-	41	-	2.438	0.09600	20.00	52.00	0.125
10098005	●	-	40	-	2.489	0.09800	20.00	52.00	0.125
10099505	●	-	39	-	2.527	0.09950	20.00	57.00	0.188
10101505	●	-	38	-	2.578	0.10150	20.00	57.00	0.188
10104005	●	-	37	-	2.642	0.10400	20.00	57.00	0.188
10106505	●	-	36	-	2.705	0.10650	20.00	57.00	0.188
10109405	●	7/64	-	-	2.778	0.10938	20.00	57.00	0.188
10110005	●	-	35	-	2.794	0.11000	22.00	58.00	0.188
10111005	●	-	34	-	2.819	0.11100	22.00	58.00	0.188
10113005	●	-	33	-	2.870	0.11300	22.00	58.00	0.188
10116005	●	-	32	-	2.946	0.11600	22.00	58.00	0.188
10120005	●	-	31	-	3.048	0.12000	22.00	58.00	0.188
10125005	●	1/8	-	-	3.175	0.12500	22.00	58.00	0.188
10128505	●	-	30	-	3.264	0.12850	23.00	60.00	0.188
10136005	●	-	29	-	3.454	0.13600	23.00	60.00	0.188
10140505	●	-	28	-	3.569	0.14050	23.00	60.00	0.188
10140605	●	9/64	-	-	3.572	0.14063	23.00	60.00	0.188
10144005	●	-	27	-	3.658	0.14400	25.00	61.00	0.188
10147005	●	-	26	-	3.734	0.14700	25.00	61.00	0.188
10149505	●	-	25	-	3.797	0.14950	25.00	61.00	0.188
10152005	●	-	24	-	3.861	0.15200	25.00	61.00	0.188
10154005	●	-	23	-	3.912	0.15400	25.00	61.00	0.188
10156205	●	5/32	-	-	3.969	0.15625	25.00	61.00	0.188
10157005	●	-	22	-	3.988	0.15700	26.00	63.00	0.188
10159005	●	-	21	-	4.039	0.15900	26.00	63.00	0.188
10161005	●	-	20	-	4.089	0.16100	26.00	63.00	0.188
10166005	●	-	19	-	4.216	0.16600	26.00	63.00	0.188
10169505	●	-	18	-	4.305	0.16950	26.00	63.00	0.188
10171905	●	11/64	-	-	4.366	0.17188	26.00	63.00	0.188
10173005	●	-	17	-	4.394	0.17300	28.00	65.00	0.188
10177005	●	-	16	-	4.496	0.17700	28.00	65.00	0.188
10180005	●	-	15	-	4.572	0.18000	28.00	65.00	0.188
10182005	●	-	14	-	4.623	0.18200	28.00	65.00	0.188
10185005	●	-	13	-	4.699	0.18500	28.00	65.00	0.188
10187505	●	3/16	-	-	4.763	0.18750	28.00	65.00	0.188
10189005	●	-	12	-	4.801	0.18900	30.00	76.00	0.250
10191005	●	-	11	-	4.851	0.19100	30.00	76.00	0.250
10193505	●	-	10	-	4.915	0.19350	30.00	76.00	0.250
10196005	●	-	9	-	4.978	0.19600	30.00	76.00	0.250
10199005	●	-	8	-	5.055	0.19900	30.00	76.00	0.250
10201005	●	-	7	-	5.105	0.20100	30.00	76.00	0.250
10203105	●	13/64	-	-	5.159	0.20313	30.00	76.00	0.250
10204005	●	-	6	-	5.182	0.20400	31.00	77.00	0.250
10205505	●	-	5	-	5.220	0.20550	31.00	77.00	0.250
10209005	●	-	4	-	5.309	0.20900	31.00	77.00	0.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1000 (Continued)

EX-GOLD EX-GDS

SPEED FEED 352 | HSS-Co | TiN | 2 FLUTE | STUB | 25° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)
10213005	●	-	3	-	5.410	0.21300	31.00	77.00	0.250
10218805	●	7/32	-	-	5.556	0.21875	31.00	77.00	0.250
10221005	●	-	2	-	5.613	0.22100	33.00	79.00	0.250
10228005	●	-	1	-	5.791	0.22800	33.00	79.00	0.250
10234005	●	-	-	A	5.944	0.23400	33.00	79.00	0.250
10234405	●	15/64	-	-	5.953	0.23438	33.00	79.00	0.250
10238005	●	-	-	B	6.045	0.23800	34.00	80.00	0.250
10242005	●	-	-	C	6.147	0.24200	34.00	80.00	0.250
10246005	●	-	-	D	6.248	0.24600	34.00	80.00	0.250
10250005	●	1/4	-	E	6.350	0.25000	34.00	80.00	0.250
10257005	●	-	-	F	6.528	0.25700	36.00	82.00	0.375
10261005	●	-	-	G	6.629	0.26100	36.00	82.00	0.375
10265605	●	17/64	-	-	6.747	0.26563	36.00	82.00	0.375
10272005	●	-	-	I	6.909	0.27200	38.00	84.00	0.375
10277005	●	-	-	J	7.036	0.27700	38.00	84.00	0.375
10281205	●	9/32	-	-	7.144	0.28125	38.00	84.00	0.375
10290005	●	-	-	L	7.366	0.29000	39.00	85.00	0.375
10295005	●	-	-	M	7.493	0.29500	39.00	85.00	0.375
10296905	●	19/64	-	-	7.541	0.29688	39.00	85.00	0.375
10302005	●	-	-	N	7.671	0.30200	41.00	87.00	0.375
10312505	●	5/16	-	-	7.938	0.31250	41.00	87.00	0.375
10316005	●	-	-	O	8.026	0.31600	42.00	88.00	0.375
10323005	●	-	-	P	8.204	0.32300	42.00	88.00	0.375
10328105	●	21/64	-	-	8.334	0.32813	42.00	88.00	0.375
10332005	●	-	-	Q	8.433	0.33200	42.00	88.00	0.375
10339005	●	-	-	R	8.611	0.33900	42.00	88.00	0.375
10343805	●	11/32	-	-	8.731	0.34375	42.00	88.00	0.375
10348005	●	-	-	S	8.839	0.34800	44.00	90.00	0.375
10358005	●	-	-	T	9.093	0.35800	44.00	90.00	0.375
10359405	●	23/64	-	-	9.128	0.35938	44.00	90.00	0.375
10368005	●	-	-	U	9.347	0.36800	46.00	92.00	0.375
10375005	●	3/8	-	-	9.525	0.37500	46.00	92.00	0.375
10377005	●	-	-	V	9.576	0.37700	47.00	100.00	0.500
10386005	●	-	-	W	9.804	0.38600	47.00	100.00	0.500
10390605	●	25/64	-	-	9.922	0.39063	47.00	100.00	0.500
10397005	●	-	-	X	10.084	0.39700	49.00	102.00	0.500
10404005	●	-	-	Y	10.262	0.40400	49.00	102.00	0.500
10406205	●	13/32	-	-	10.319	0.40625	49.00	102.00	0.500
10413005	●	-	-	Z	10.490	0.41300	50.00	103.00	0.500
10421905	●	27/64	-	-	10.716	0.42188	50.00	103.00	0.500
10437505	●	7/16	-	-	11.113	0.43750	52.00	105.00	0.500
10453105	●	29/64	-	-	11.509	0.45313	53.00	107.00	0.500
10468805	●	15/32	-	-	11.906	0.46875	53.00	107.00	0.500
10484405	●	31/64	-	-	12.303	0.48438	55.00	108.00	0.500
10500005	●	1/2	-	-	12.700	0.50000	57.00	110.00	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	◎	◎	○	○	○	○	◎	◎	○	○	○			

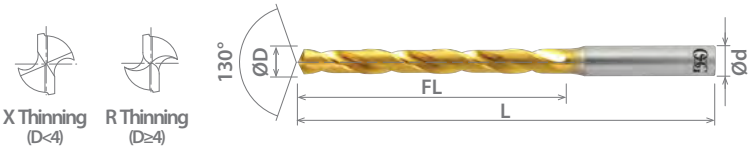
○ Good ◎ Best

List 1500

EX-GOLD EX-GDR

SPEED FEED	HSS-Co	TiN	2 FLUTE	JOBBER	30°	PACKED
352						1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
1.994 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 19.05	+0 / -0.033	+0 / -0.0013



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (in)
15078505	●	-	47	-	1.994	0.07850	25.00	57.00	0.125
15081005	●	-	46	-	2.057	0.08100	28.00	60.00	0.125
15082005	●	-	45	-	2.083	0.08200	28.00	60.00	0.125
15086005	●	-	44	-	2.184	0.08600	28.00	60.00	0.125
15089005	●	-	43	-	2.261	0.08900	31.00	63.00	0.125
15093505	●	-	42	-	2.375	0.09350	31.00	63.00	0.125
15093805	●	3/32	-	-	2.381	0.09375	31.00	63.00	0.125
15096005	●	-	41	-	2.438	0.09600	34.00	66.00	0.125
15098005	●	-	40	-	2.489	0.09800	34.00	66.00	0.125
15099505	●	-	39	-	2.527	0.09950	34.00	71.00	0.188
15101505	●	-	38	-	2.578	0.10150	36.00	73.00	0.188
15104005	●	-	37	-	2.642	0.10400	36.00	73.00	0.188
15106505	●	-	36	-	2.705	0.10650	36.00	73.00	0.188
15109405	●	7/64	-	-	2.778	0.10938	38.00	74.00	0.188
15110005	●	-	35	-	2.794	0.11000	38.00	74.00	0.188
15111005	●	-	34	-	2.819	0.11100	38.00	74.00	0.188
15113005	●	-	33	-	2.870	0.11300	38.00	74.00	0.188
15116005	●	-	32	-	2.946	0.11600	41.00	77.00	0.188
15120005	●	-	31	-	3.048	0.12000	41.00	77.00	0.188
15125005	●	1/8	-	-	3.175	0.12500	41.00	77.00	0.188
15128505	●	-	30	-	3.264	0.12850	41.00	77.00	0.188
15136005	●	-	29	-	3.454	0.13600	44.00	80.00	0.188
15140505	●	-	28	-	3.569	0.14050	44.00	80.00	0.188
15140605	●	9/64	-	-	3.572	0.14063	44.00	80.00	0.188
15144005	●	-	27	-	3.658	0.14400	47.00	84.00	0.188
15147005	●	-	26	-	3.734	0.14700	47.00	84.00	0.188
15149505	●	-	25	-	3.797	0.14950	47.00	84.00	0.188
15152005	●	-	24	-	3.861	0.15200	50.00	87.00	0.188
15154005	●	-	23	-	3.912	0.15400	50.00	87.00	0.188
15156205	●	5/32	-	-	3.969	0.15625	50.00	87.00	0.188
15157005	●	-	22	-	3.988	0.15700	50.00	87.00	0.188
15159005	●	-	21	-	4.039	0.15900	53.00	90.00	0.188
15161005	●	-	20	-	4.089	0.16100	53.00	90.00	0.188
15166005	●	-	19	-	4.216	0.16600	53.00	90.00	0.188
15169505	●	-	18	-	4.305	0.16950	53.00	90.00	0.188
15171905	●	11/64	-	-	4.366	0.17188	53.00	90.00	0.188
15173005	●	-	17	-	4.394	0.17300	55.00	92.00	0.188
15177005	●	-	16	-	4.496	0.17700	55.00	92.00	0.188
15180005	●	-	15	-	4.572	0.18000	55.00	92.00	0.188
15182005	●	-	14	-	4.623	0.18200	55.00	92.00	0.188
15185005	●	-	13	-	4.699	0.18500	58.00	95.00	0.188
15187505	●	3/16	-	-	4.763	0.18750	58.00	95.00	0.188
15189005	●	-	12	-	4.801	0.18900	58.00	104.00	0.250
15191005	●	-	11	-	4.851	0.19100	58.00	104.00	0.250
15193505	●	-	10	-	4.915	0.19350	61.00	107.00	0.250
15196005	●	-	9	-	4.978	0.19600	61.00	107.00	0.250
15199005	●	-	8	-	5.055	0.19900	61.00	107.00	0.250
15201005	●	-	7	-	5.105	0.20100	61.00	107.00	0.250
15203105	●	13/64	-	-	5.159	0.20313	61.00	107.00	0.250
15204005	●	-	6	-	5.182	0.20400	61.00	107.00	0.250
15205505	●	-	5	-	5.220	0.20550	63.00	109.00	0.250
15209005	●	-	4	-	5.309	0.20900	63.00	109.00	0.250
15213005	●	-	3	-	5.410	0.21300	63.00	109.00	0.250
15218805	●	7/32	-	-	5.556	0.21875	63.00	109.00	0.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

List 1500 (Continued)

EX-GOLD EX-GDR

SPEED FEED	HSS-Co	TiN	2 FLUTE	JOBBER	30°	PACKED
352						1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (in)
15221005	●	-	2	-	5.613	0.22100	66.00	112.00	0.250
15228005	●	-	1	-	5.791	0.22800	66.00	112.00	0.250
15234005	●	-	-	A	5.944	0.23400	66.00	112.00	0.250
15234405	●	15/64	-	-	5.953	0.23438	66.00	112.00	0.250
15238005	●	-	-	B	6.045	0.23800	69.00	115.00	0.250
15242005	●	-	-	C	6.147	0.24200	69.00	115.00	0.250
15246005	●	-	-	D	6.248	0.24600	69.00	115.00	0.250
15250005	●	1/4	-	E	6.350	0.25000	69.00	115.00	0.250
15257005	●	-	-	F	6.528	0.25700	73.00	119.00	0.375
15261005	●	-	-	G	6.629	0.26100	73.00	119.00	0.375
15265605	●	17/64	-	-	6.747	0.26563	73.00	119.00	0.375
15272005	●	-	-	I	6.909	0.27200	73.00	119.00	0.375
15277005	●	-	-	J	7.036	0.27700	73.00	119.00	0.375
15281205	●	9/32	-	-	7.144	0.28125	74.00	120.00	0.375
15290005	●	-	-	L	7.366	0.29000	74.00	120.00	0.375
15295005	●	-	-	M	7.493	0.29500	77.00	123.00	0.375
15296905	●	19/64	-	-	7.541	0.29688	77.00	123.00	0.375
15302005	●	-	-	N	7.671	0.30200	77.00	123.00	0.375
15312505	●	5/16	-	-	7.938	0.31250	80.00	127.00	0.375
15316005	●	-	-	O	8.026	0.31600	80.00	127.00	0.375
15323005	●	-	-	P	8.204	0.32300	84.00	130.00	0.375
15328105	●	21/64	-	-	8.334	0.32813	84.00	130.00	0.375
15332005	●	-	-	Q	8.433	0.33200	87.00	133.00	0.375
15339005	●	-	-	R	8.611	0.33900	87.00	133.00	0.375
15343805	●	11/32	-	-	8.731	0.34375	87.00	133.00	0.375
15348005	●	-	-	S	8.839	0.34800	88.00	134.00	0.375
15358005	●	-	-	T	9.093	0.35800	88.00	134.00	0.375
15359405	●	23/64	-	-	9.128	0.35938	88.00	134.00	0.375
15368005	●	-	-	U	9.347	0.36800	92.00	138.00	0.375
15375005	●	3/8	-	-	9.525	0.37500	92.00	138.00	0.375
15377005	●	-	-	V	9.576	0.37700	92.00	145.00	0.500
15386005	●	-	-	W	9.804	0.38600	95.00	148.00	0.500
15390605	●	25/64	-	-	9.922	0.39063	95.00	148.00	0.500
15397005	●	-	-	X	10.084	0.39700	95.00	148.00	0.500
15404005	●	-	-	Y	10.262	0.40400	98.00	151.00	0.500
15406205	●	13/32	-	-	10.319	0.40625	98.00	151.00	0.500
15413005	●	-	-	Z	10.490	0.41300	98.00	151.00	0.500
15421905	●	27/64	-	-	10.716	0.42188	100.00	153.00	0.500
15437505	●	7/16	-	-	11.113	0.43750	103.00	156.00	0.500
15453105	●	29/64	-	-	11.509	0.45313	106.00	159.00	0.500
15468805	●	15/32	-	-	11.906	0.46875	109.00	162.00	0.500
15484405	●	31/64	-	-	12.303	0.48438	111.00	164.00	0.500
15500005	●	1/2	-	-	12.700	0.50000	114.00	167.00	0.500
15531205	●	17/32	-	-	13.494	0.53125	122.00	182.00	0.625
15562505	●	9/16	-	-	14.288	0.56250	122.00	182.00	0.625
15578105	●	37/64	-	-	14.684	0.57813	122.00	182.00	0.625
15593805	●	19/32	-	-	15.081	0.59375	131.00	199.00	0.750
15625005	●	5/8	-	-	15.875	0.62500	131.00	199.00	0.750
15656205	●	21/32	-	-	16.669	0.65625	131.00	199.00	0.750
15687505	●	11/16	-	-	17.463	0.68750	142.00	210.00	0.750
15718805	●	23/32	-	-	18.256	0.71875	142.00	235.00	0.875
15750005	●	3/4	-	-	19.050	0.75000	149.00	216.00	0.875

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD

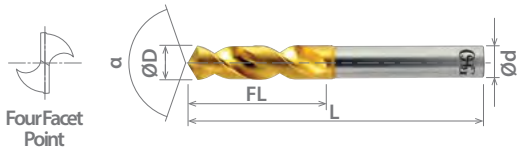
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	◎	◎			○	○		○			○			

○ Good ◎ Best

List 1100

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
6150511	●	-	-	-	0.500	0.01969	3.00	38.00	3.00	150	TiAlN
61505	●	-	-	-	0.500	0.01969	3.00	38.00	3.00	150	TiN
859505111	●	-	-	-	0.510	0.02008	3.00	38.00	3.00	150	TiAlN
8595051	●	-	-	-	0.510	0.02008	3.00	38.00	3.00	150	TiN
8595052	●	-	-	-	0.520	0.02047	3.00	38.00	3.00	150	TiN
8595053	●	-	-	-	0.530	0.02087	3.00	38.00	3.00	150	TiN
8595054	●	-	-	-	0.540	0.02126	3.50	38.00	3.00	150	TiN
8595055	●	-	-	-	0.550	0.02165	3.50	38.00	3.00	150	TiN
8595056	●	-	-	-	0.560	0.02205	3.50	38.00	3.00	150	TiN
859505711	●	-	-	-	0.570	0.02244	3.50	38.00	3.00	150	TiAlN
8595057	●	-	-	-	0.570	0.02244	3.50	38.00	3.00	150	TiN
8595058	●	-	-	-	0.580	0.02283	3.50	38.00	3.00	150	TiN
8595059	●	-	-	-	0.590	0.02323	3.50	38.00	3.00	150	TiN
6150611	●	-	-	-	0.600	0.02362	3.50	38.00	3.00	150	TiAlN
61506	●	-	-	-	0.600	0.02362	3.50	38.00	3.00	150	TiN
8595061	●	-	-	-	0.610	0.02402	4.00	38.00	3.00	150	TiN
8595062	●	-	-	-	0.620	0.02441	4.00	38.00	3.00	150	TiN
8595063	●	-	-	-	0.630	0.02480	4.00	38.00	3.00	150	TiN
859506411	●	-	-	-	0.640	0.02520	4.00	38.00	3.00	150	TiAlN
8595064	●	-	-	-	0.640	0.02520	4.00	38.00	3.00	150	TiN
859506511	●	-	-	-	0.650	0.02559	4.00	38.00	3.00	150	TiAlN
8595065	●	-	-	-	0.650	0.02559	4.00	38.00	3.00	150	TiN
8595066	●	-	-	-	0.660	0.02598	4.00	38.00	3.00	150	TiN
8595067	●	-	-	-	0.670	0.02638	4.00	38.00	3.00	150	TiN
8595068	●	-	-	-	0.680	0.02677	4.50	38.00	3.00	150	TiN
8595069	●	-	-	-	0.690	0.02717	4.50	38.00	3.00	150	TiN
6150711	●	-	-	-	0.700	0.02756	4.50	38.00	3.00	150	TiAlN
61507	●	-	-	-	0.700	0.02756	4.50	38.00	3.00	150	TiN
859507111	●	-	-	-	0.710	0.02795	4.50	38.00	3.00	150	TiAlN
8595071	●	-	-	-	0.710	0.02795	4.50	38.00	3.00	150	TiN
8595072	●	-	-	-	0.720	0.02835	4.50	38.00	3.00	150	TiN
8595073	●	-	-	-	0.730	0.02874	4.50	38.00	3.00	150	TiN
8595074	●	-	-	-	0.740	0.02913	4.50	38.00	3.00	150	TiN
8595075	●	-	-	-	0.750	0.02953	4.50	38.00	3.00	150	TiN
8595076	●	-	-	-	0.760	0.02992	5.00	38.00	3.00	150	TiN
8595077	●	-	-	-	0.770	0.03031	5.00	38.00	3.00	150	TiN
8595078	●	-	-	-	0.780	0.03071	5.00	38.00	3.00	150	TiN
859507911	●	-	-	-	0.790	0.03110	5.00	38.00	3.00	150	TiAlN
8595079	●	-	-	-	0.790	0.03110	5.00	38.00	3.00	150	TiN
61508	●	-	-	-	0.800	0.03150	5.00	38.00	3.00	150	TiN
859508111	●	-	-	-	0.810	0.03189	5.00	38.00	3.00	150	TiAlN
8595081	●	-	-	-	0.810	0.03189	5.00	38.00	3.00	150	TiN
8595082	●	-	-	-	0.820	0.03228	5.00	38.00	3.00	150	TiN
8595083	●	-	-	-	0.830	0.03268	5.00	38.00	3.00	150	TiN
859508411	●	-	-	-	0.840	0.03307	5.00	38.00	3.00	150	TiAlN
8595084	●	-	-	-	0.840	0.03307	5.00	38.00	3.00	150	TiN
8595085	●	-	-	-	0.850	0.03346	5.00	38.00	3.00	150	TiN
8595086	●	-	-	-	0.860	0.03386	5.50	38.00	3.00	150	TiN
8595087	●	-	-	-	0.870	0.03425	5.50	38.00	3.00	150	TiN
8595088	●	-	-	-	0.880	0.03465	5.50	38.00	3.00	150	TiN
8595089	●	-	-	-	0.890	0.03504	5.50	38.00	3.00	150	TiN
61509	●	-	-	-	0.900	0.03543	5.50	38.00	3.00	150	TiN
859509111	●	-	-	-	0.910	0.03583	5.50	38.00	3.00	150	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595091	●	-	-	-	0.910	0.03583	5.50	38.00	3.00	150	TiN
8595092	●	-	-	-	0.920	0.03622	5.50	38.00	3.00	150	TiN
8595093	●	-	-	-	0.930	0.03661	5.50	38.00	3.00	150	TiN
8595094	●	-	-	-	0.940	0.03701	5.50	38.00	3.00	150	TiN
8595095	●	-	-	-	0.950	0.03740	5.50	38.00	3.00	150	TiN
8595096	●	-	-	-	0.960	0.03780	6.00	38.00	3.00	150	TiN
8595097	●	-	-	-	0.970	0.03819	6.00	38.00	3.00	150	TiN
8595098	●	-	-	-	0.980	0.03858	6.00	38.00	3.00	150	TiN
8595099	●	-	-	-	0.990	0.03898	6.00	38.00	3.00	150	TiN
6151011	●	-	-	-	1.000	0.03937	6.00	38.00	3.00	140	TiAlN
61510	●	-	-	-	1.000	0.03937	6.00	38.00	3.00	140	TiN
8595101	●	-	-	-	1.010	0.03976	6.00	38.00	3.00	140	TiN
859510211	●	-	-	-	1.020	0.04016	6.00	38.00	3.00	140	TiAlN
8595102	●	-	-	-	1.020	0.04016	6.00	38.00	3.00	140	TiN
859510311	●	-	-	-	1.030	0.04055	6.00	38.00	3.00	140	TiAlN
8595103	●	-	-	-	1.030	0.04055	6.00	38.00	3.00	140	TiN
8595104	●	-	-	-	1.040	0.04094	6.00	38.00	3.00	140	TiN
8595105	●	-	-	-	1.050	0.04134	6.00	38.00	3.00	140	TiN
8595106	●	-	-	-	1.060	0.04173	6.00	38.00	3.00	140	TiN
8595107	●	-	-	-	1.070	0.04213	7.00	39.00	3.00	140	TiN
8595108	●	-	-	-	1.080	0.04252	7.00	39.00	3.00	140	TiN
859510911	●	-	-	-	1.090	0.04291	7.00	39.00	3.00	140	TiAlN
8595109	●	-	-	-	1.090	0.04291	7.00	39.00	3.00	140	TiN
6151111	●	-	-	-	1.100	0.04331	7.00	39.00	3.00	140	TiAlN
61511	●	-	-	-	1.100	0.04331	7.00	39.00	3.00	140	TiN
8595111	●	-	-	-	1.110	0.04370	7.00	39.00	3.00	140	TiN
8595112	●	-	-	-	1.120	0.04409	7.00	39.00	3.00	140	TiN
8595113	●	-	-	-	1.130	0.04449	7.00	39.00	3.00	140	TiN
859511411	●	-	-	-	1.140	0.04488	7.00	39.00	3.00	140	TiAlN
8595114	●	-	-	-	1.140	0.04488	7.00	39.00	3.00	140	TiN
8595115	●	-	-	-	1.150	0.04528	7.00	39.00	3.00	140	TiN
8595116	●	-	-	-	1.160	0.04567	7.00	39.00	3.00	140	TiN
8595117	●	-	-	-	1.170	0.04606	7.00	39.00	3.00	140	TiN
859511811	●	-	-	-	1.180	0.04646	7.00	39.00	3.00	140	TiAlN
8595118	●	-	-	-	1.180	0.04646	7.00	39.00	3.00	140	TiN
859511911	●	-	-	-	1.190	0.04685	8.00	40.00	3.00	140	TiAlN
8595119	●	-	-	-	1.190	0.04685	8.00	40.00	3.00	140	TiN
6151211	●	-	-	-	1.200	0.04724	8.00	40.00	3.00	140	TiAlN
61512	●	-	-	-	1.200	0.04724	8.00	40.00	3.00	140	TiN
8595121	●	-	-	-	1.210	0.04764	8.00	40.00	3.00	140	TiN
859512211	●	-	-	-	1.220	0.04803	8.00	40.00	3.00	140	TiAlN
8595122	●	-	-	-	1.220	0.04803	8.00	40.00	3.00	140	TiN
8595123	●	-	-	-	1.230	0.04843	8.00	40.00	3.00	140	TiN
8595124	●	-	-	-	1.240	0.04882	8.00	40.00	3.00	140	TiN
859512511	●	-	-	-	1.250	0.04921	8.00	40.00	3.00	140	TiAlN
8595125	●	-	-	-	1.250	0.04921	8.00	40.00	3.00	140	TiN
8595126	●	-	-	-	1.260	0.04961	8.00	40.00	3.00	140	TiN
859512711	●	-	-	-	1.270	0.05000	8.00	40.00	3.00	140	TiAlN
8595127	●	-	-	-	1.270	0.05000	8.00	40.00	3.00	140	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED ›

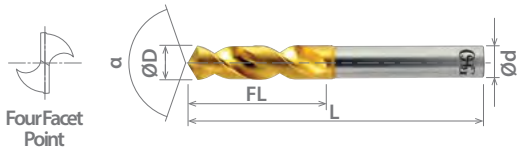
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595128	●	-	-	-	1.280	0.05039	8.00	40.00	3.00	140	TiN
8595129	●	-	-	-	1.290	0.05079	8.00	40.00	3.00	140	TiN
61513	●	-	-	-	1.300	0.05118	8.00	40.00	3.00	140	TiN
8595131	●	-	-	-	1.310	0.05157	8.00	40.00	3.00	140	TiN
859513211	●	-	-	-	1.320	0.05197	8.00	40.00	3.00	140	TiAlN
8595132	●	-	-	-	1.320	0.05197	8.00	40.00	3.00	140	TiN
8595133	●	-	-	-	1.330	0.05236	9.00	41.00	3.00	140	TiN
8595134	●	-	-	-	1.340	0.05276	9.00	41.00	3.00	140	TiN
859513511	●	-	-	-	1.350	0.05315	9.00	41.00	3.00	140	TiAlN
8595135	●	-	-	-	1.350	0.05315	9.00	41.00	3.00	140	TiN
8595136	●	-	-	-	1.360	0.05354	9.00	41.00	3.00	140	TiN
8595137	●	-	-	-	1.370	0.05394	9.00	41.00	3.00	140	TiN
8595138	●	-	-	-	1.380	0.05433	9.00	41.00	3.00	140	TiN
8595139	●	-	-	-	1.390	0.05472	9.00	41.00	3.00	140	TiN
6151411	●	-	-	-	1.400	0.05512	9.00	41.00	3.00	140	TiAlN
61514	●	-	-	-	1.400	0.05512	9.00	41.00	3.00	140	TiN
859514111	●	-	-	-	1.410	0.05551	9.00	41.00	3.00	140	TiAlN
8595141	●	-	-	-	1.410	0.05551	9.00	41.00	3.00	140	TiN
8595142	●	-	-	-	1.420	0.05591	9.00	41.00	3.00	140	TiN
8595143	●	-	-	-	1.430	0.05630	9.00	41.00	3.00	140	TiN
859514411	●	-	-	-	1.440	0.05669	9.00	41.00	3.00	140	TiAlN
8595144	●	-	-	-	1.440	0.05669	9.00	41.00	3.00	140	TiN
859514511	●	-	-	-	1.450	0.05709	9.00	41.00	3.00	140	TiAlN
8595145	●	-	-	-	1.450	0.05709	9.00	41.00	3.00	140	TiN
8595146	●	-	-	-	1.460	0.05748	9.00	41.00	3.00	140	TiN
8595147	●	-	-	-	1.470	0.05787	9.00	41.00	3.00	140	TiN
8595148	●	-	-	-	1.480	0.05827	9.00	41.00	3.00	140	TiN
8595149	●	-	-	-	1.490	0.05866	9.00	41.00	3.00	140	TiN
6151511	●	-	-	-	1.500	0.05906	9.00	41.00	3.00	140	TiAlN
61515	●	-	-	-	1.500	0.05906	9.00	41.00	3.00	140	TiN
859515111	●	-	-	-	1.510	0.05945	10.00	42.00	3.00	140	TiAlN
8595151	●	-	-	-	1.510	0.05945	10.00	42.00	3.00	140	TiN
859515211	●	-	-	-	1.520	0.05984	10.00	42.00	3.00	140	TiAlN
8595152	●	-	-	-	1.520	0.05984	10.00	42.00	3.00	140	TiN
8595153	●	-	-	-	1.530	0.06024	10.00	42.00	3.00	140	TiN
8595154	●	-	-	-	1.540	0.06063	10.00	42.00	3.00	140	TiN
859515511	●	-	-	-	1.550	0.06102	10.00	42.00	3.00	140	TiAlN
8595155	●	-	-	-	1.550	0.06102	10.00	42.00	3.00	140	TiN
859515611	●	-	-	-	1.560	0.06142	10.00	42.00	3.00	140	TiAlN
8595156	●	-	-	-	1.560	0.06142	10.00	42.00	3.00	140	TiN
859515711	●	-	-	-	1.570	0.06181	10.00	42.00	3.00	140	TiAlN
8595157	●	-	-	-	1.570	0.06181	10.00	42.00	3.00	140	TiN
859515811	●	-	-	-	1.580	0.06220	10.00	42.00	3.00	140	TiAlN
8595158	●	-	-	-	1.580	0.06220	10.00	42.00	3.00	140	TiN
859515911	●	-	-	-	1.590	0.06260	10.00	42.00	3.00	140	TiAlN
8595159	●	-	-	-	1.590	0.06260	10.00	42.00	3.00	140	TiN
6151611	●	-	-	-	1.600	0.06299	10.00	42.00	3.00	140	TiAlN
61516	●	-	-	-	1.600	0.06299	10.00	42.00	3.00	140	TiN
859516111	●	-	-	-	1.610	0.06339	10.00	42.00	3.00	140	TiAlN
8595161	●	-	-	-	1.610	0.06339	10.00	42.00	3.00	140	TiN
859516211	●	-	-	-	1.620	0.06378	10.00	42.00	3.00	140	TiAlN
8595162	●	-	-	-	1.620	0.06378	10.00	42.00	3.00	140	TiN
8595163	●	-	-	-	1.630	0.06417	10.00	42.00	3.00	140	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595164	●	-	-	-	1.640	0.06457	10.00	42.00	3.00	140	TiN
859516511	●	-	-	-	1.650	0.06496	10.00	42.00	3.00	140	TiAlN
8595165	●	-	-	-	1.650	0.06496	10.00	42.00	3.00	140	TiN
8595166	●	-	-	-	1.660	0.06535	10.00	42.00	3.00	140	TiN
8595167	●	-	-	-	1.670	0.06575	10.00	42.00	3.00	140	TiN
8595168	●	-	-	-	1.680	0.06614	10.00	42.00	3.00	140	TiN
8595169	●	-	-	-	1.690	0.06654	10.00	42.00	3.00	140	TiN
6151711	●	-	-	-	1.700	0.06693	10.00	42.00	3.00	140	TiAlN
61517	●	-	-	-	1.700	0.06693	10.00	42.00	3.00	140	TiN
859517111	●	-	-	-	1.710	0.06732	11.00	43.00	3.00	140	TiAlN
8595171	●	-	-	-	1.710	0.06732	11.00	43.00	3.00	140	TiN
859517211	●	-	-	-	1.720	0.06772	11.00	43.00	3.00	140	TiAlN
8595172	●	-	-	-	1.720	0.06772	11.00	43.00	3.00	140	TiN
8595173	●	-	-	-	1.730	0.06811	11.00	43.00	3.00	140	TiN
859517411	●	-	-	-	1.740	0.06850	11.00	43.00	3.00	140	TiAlN
8595174	●	-	-	-	1.740	0.06850	11.00	43.00	3.00	140	TiN
859517511	●	-	-	-	1.750	0.06890	11.00	43.00	3.00	140	TiAlN
8595175	●	-	-	-	1.750	0.06890	11.00	43.00	3.00	140	TiN
859517611	●	-	-	-	1.760	0.06929	11.00	43.00	3.00	140	TiAlN
8595176	●	-	-	-	1.760	0.06929	11.00	43.00	3.00	140	TiN
859517711	●	-	-	-	1.770	0.06969	11.00	43.00	3.00	140	TiAlN
8595177	●	-	-	-	1.770	0.06969	11.00	43.00	3.00	140	TiN
859517811	●	-	-	-	1.780	0.07008	11.00	43.00	3.00	140	TiAlN
8595178	●	-	-	-	1.780	0.07008	11.00	43.00	3.00	140	TiN
8595179	●	-	-	-	1.790	0.07047	11.00	43.00	3.00	140	TiN
6151811	●	-	-	-	1.800	0.07087	11.00	43.00	3.00	140	TiAlN
61518	●	-	-	-	1.800	0.07087	11.00	43.00	3.00	140	TiN
8595181	●	-	-	-	1.810	0.07126	11.00	43.00	3.00	140	TiN
8595182	●	-	-	-	1.820	0.07165	11.00	43.00	3.00	140	TiN
8595183	●	-	-	-	1.830	0.07205	11.00	43.00	3.00	140	TiN
8595184	●	-	-	-	1.840	0.07244	11.00	43.00	3.00	140	TiN
859518511	●	-	-	-	1.850	0.07283	11.00	43.00	3.00	140	TiAlN
8595185	●	-	-	-	1.850	0.07283	11.00	43.00	3.00	140	TiN
8595186	●	-	-	-	1.860	0.07323	11.00	43.00	3.00	140	TiN
8595187	●	-	-	-	1.870	0.07362	11.00	43.00	3.00	140	TiN
8595188	●	-	-	-	1.880	0.07402	11.00	43.00	3.00	140	TiN
8595189	●	-	-	-	1.890	0.07441	11.00	43.00	3.00	140	TiN
6151911	●	-	-	-	1.900	0.07480	11.00	43.00	3.00	140	TiAlN
61519	●	-	-	-	1.900	0.07480	11.00	43.00	3.00	140	TiN
859519111	●	-	-	-	1.910	0.07520	12.00	44.00	3.00	140	TiAlN
8595191	●	-	-	-	1.910	0.07520	12.00	44.00	3.00	140	TiN
8595192	●	-	-	-	1.920	0.07559	12.00	44.00	3.00	140	TiN
8595193	●	-	-	-	1.930	0.07598	12.00	44.00	3.00	140	TiN
8595194	●	-	-	-	1.940	0.07638	12.00	44.00	3.00	140	TiN
859519511	●	-	-	-	1.950	0.07677	12.00	44.00	3.00	140	TiAlN
8595195	●	-	-	-	1.950	0.07677	12.00	44.00	3.00	140	TiN
8595196	●	-	-	-	1.960	0.07717	12.00	44.00	3.00	140	TiN
859519711	●	-	-	-	1.970	0.07756	12.00	44.00	3.00	140	TiAlN
8595197	●	-	-	-	1.970	0.07756	12.00	44.00	3.00	140	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED

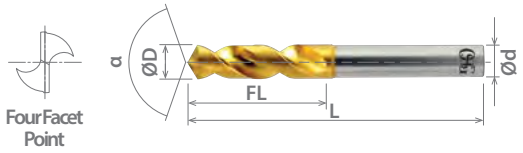
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
859519811	●	-	-	-	1.980	0.07795	12.00	44.00	3.00	140	TiAlN
8595198	●	-	-	-	1.980	0.07795	12.00	44.00	3.00	140	TiN
859519911	●	-	-	-	1.990	0.07835	12.00	44.00	3.00	140	TiAlN
8595199	●	-	-	-	1.990	0.07835	12.00	44.00	3.00	140	TiN
6152011	●	-	-	-	2.000	0.07874	12.00	44.00	3.00	130	TiAlN
61520	●	-	-	-	2.000	0.07874	12.00	44.00	3.00	130	TiN
8595201	●	-	-	-	2.010	0.07913	12.00	44.00	3.00	130	TiN
8595202	●	-	-	-	2.020	0.07953	12.00	44.00	3.00	130	TiN
8595203	●	-	-	-	2.030	0.07992	12.00	44.00	3.00	130	TiN
8595204	●	-	-	-	2.040	0.08031	12.00	44.00	3.00	130	TiN
859520511	●	-	-	-	2.050	0.08071	12.00	44.00	3.00	130	TiAlN
8595205	●	-	-	-	2.050	0.08071	12.00	44.00	3.00	130	TiN
8595206	●	-	-	-	2.060	0.08110	12.00	44.00	3.00	130	TiN
8595207	●	-	-	-	2.070	0.08150	12.00	44.00	3.00	130	TiN
859520811	●	-	-	-	2.080	0.08189	12.00	44.00	3.00	130	TiAlN
8595208	●	-	-	-	2.080	0.08189	12.00	44.00	3.00	130	TiN
8595209	●	-	-	-	2.090	0.08228	12.00	44.00	3.00	130	TiN
61521	●	-	-	-	2.100	0.08268	12.00	44.00	3.00	130	TiN
8595211	●	-	-	-	2.110	0.08307	12.00	44.00	3.00	130	TiN
8595212	●	-	-	-	2.120	0.08346	12.00	44.00	3.00	130	TiN
8595213	●	-	-	-	2.130	0.08386	13.00	45.00	3.00	130	TiN
8595214	●	-	-	-	2.140	0.08425	13.00	45.00	3.00	130	TiN
859521511	●	-	-	-	2.150	0.08465	13.00	45.00	3.00	130	TiAlN
8595215	●	-	-	-	2.150	0.08465	13.00	45.00	3.00	130	TiN
8595216	●	-	-	-	2.160	0.08504	13.00	45.00	3.00	130	TiN
8595217	●	-	-	-	2.170	0.08543	13.00	45.00	3.00	130	TiN
8595218	●	-	-	-	2.180	0.08583	13.00	45.00	3.00	130	TiN
859521911	●	-	-	-	2.190	0.08622	13.00	45.00	3.00	130	TiAlN
8595219	●	-	-	-	2.190	0.08622	13.00	45.00	3.00	130	TiN
6152211	●	-	-	-	2.200	0.08661	13.00	45.00	3.00	130	TiAlN
61522	●	-	-	-	2.200	0.08661	13.00	45.00	3.00	130	TiN
8595221	●	-	-	-	2.210	0.08701	13.00	45.00	3.00	130	TiN
8595222	●	-	-	-	2.220	0.08740	13.00	45.00	3.00	130	TiN
8595223	●	-	-	-	2.230	0.08780	13.00	45.00	3.00	130	TiN
8595224	●	-	-	-	2.240	0.08819	13.00	45.00	3.00	130	TiN
859522511	●	-	-	-	2.250	0.08858	13.00	45.00	3.00	130	TiAlN
8595225	●	-	-	-	2.250	0.08858	13.00	45.00	3.00	130	TiN
859522611	●	-	-	-	2.260	0.08898	13.00	45.00	3.00	130	TiAlN
8595226	●	-	-	-	2.260	0.08898	13.00	45.00	3.00	130	TiN
8595227	●	-	-	-	2.270	0.08937	13.00	45.00	3.00	130	TiN
8595228	●	-	-	-	2.280	0.08976	13.00	45.00	3.00	130	TiN
8595229	●	-	-	-	2.290	0.09016	13.00	45.00	3.00	130	TiN
6152311	●	-	-	-	2.300	0.09055	13.00	45.00	3.00	130	TiAlN
61523	●	-	-	-	2.300	0.09055	13.00	45.00	3.00	130	TiN
8595231	●	-	-	-	2.310	0.09094	13.00	45.00	3.00	130	TiN
8595232	●	-	-	-	2.320	0.09134	13.00	45.00	3.00	130	TiN
8595233	●	-	-	-	2.330	0.09173	13.00	45.00	3.00	130	TiN
8595234	●	-	-	-	2.340	0.09213	13.00	45.00	3.00	130	TiN
8595235	●	-	-	-	2.350	0.09252	13.00	45.00	3.00	130	TiN
8595236	●	-	-	-	2.360	0.09291	13.00	45.00	3.00	130	TiN
859523711	●	-	-	-	2.370	0.09331	14.00	46.00	3.00	130	TiAlN
8595237	●	-	-	-	2.370	0.09331	14.00	46.00	3.00	130	TiN
859523811	●	-	-	-	2.380	0.09370	14.00	46.00	3.00	130	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595238	●	-	-	-	2.380	0.09370	14.00	46.00	3.00	130	TiN
859523911	●	-	-	-	2.390	0.09409	14.00	46.00	3.00	130	TiAlN
8595239	●	-	-	-	2.390	0.09409	14.00	46.00	3.00	130	TiN
6152411	●	-	-	-	2.400	0.09449	14.00	46.00	3.00	130	TiAlN
61524	●	-	-	-	2.400	0.09449	14.00	46.00	3.00	130	TiN
859524111	●	-	-	-	2.410	0.09488	14.00	46.00	3.00	130	TiAlN
8595241	●	-	-	-	2.410	0.09488	14.00	46.00	3.00	130	TiN
859524211	●	-	-	-	2.420	0.09528	14.00	46.00	3.00	130	TiAlN
8595242	●	-	-	-	2.420	0.09528	14.00	46.00	3.00	130	TiN
8595243	●	-	-	-	2.430	0.09567	14.00	46.00	3.00	130	TiN
859524411	●	-	-	-	2.440	0.09606	14.00	46.00	3.00	130	TiAlN
8595244	●	-	-	-	2.440	0.09606	14.00	46.00	3.00	130	TiN
859524511	●	-	-	-	2.450	0.09646	14.00	46.00	3.00	130	TiAlN
8595245	●	-	-	-	2.450	0.09646	14.00	46.00	3.00	130	TiN
859524611	●	-	-	-	2.460	0.09685	14.00	46.00	3.00	130	TiAlN
8595246	●	-	-	-	2.460	0.09685	14.00	46.00	3.00	130	TiN
8595247	●	-	-	-	2.470	0.09724	14.00	46.00	3.00	130	TiN
8595248	●	-	-	-	2.480	0.09764	14.00	46.00	3.00	130	TiN
859524911	●	-	-	-	2.490	0.09803	14.00	46.00	3.00	130	TiAlN
8595249	●	-	-	-	2.490	0.09803	14.00	46.00	3.00	130	TiN
6152511	●	-	-	-	2.500	0.09843	14.00	46.00	3.00	130	TiAlN
61525	●	-	-	-	2.500	0.09843	14.00	46.00	3.00	130	TiN
8595251	●	-	-	-	2.510	0.09882	14.00	46.00	3.00	130	TiN
859525211	●	-	-	-	2.520	0.09921	14.00	46.00	3.00	130	TiAlN
8595252	●	-	-	-	2.520	0.09921	14.00	46.00	3.00	130	TiN
859525311	●	-	-	-	2.530	0.09961	14.00	46.00	3.00	130	TiAlN
8595253	●	-	-	-	2.530	0.09961	14.00	46.00	3.00	130	TiN
8595254	●	-	-	-	2.540	0.10000	14.00	46.00	3.00	130	TiN
859525511	●	-	-	-	2.550	0.10039	14.00	46.00	3.00	130	TiAlN
8595255	●	-	-	-	2.550	0.10039	14.00	46.00	3.00	130	TiN
8595256	●	-	-	-	2.560	0.10079	14.00	46.00	3.00	130	TiN
8595257	●	-	-	-	2.570	0.10118	14.00	46.00	3.00	130	TiN
859525811	●	-	-	-	2.580	0.10157	14.00	46.00	3.00	130	TiAlN
8595258	●	-	-	-	2.580	0.10157	14.00	46.00	3.00	130	TiN
8595259	●	-	-	-	2.590	0.10197	14.00	46.00	3.00	130	TiN
6152611	●	-	-	-	2.600	0.10236	14.00	46.00	3.00	130	TiAlN
61526	●	-	-	-	2.600	0.10236	14.00	46.00	3.00	130	TiN
8595261	●	-	-	-	2.610	0.10276	14.00	46.00	3.00	130	TiN
8595262	●	-	-	-	2.620	0.10315	14.00	46.00	3.00	130	TiN
8595263	●	-	-	-	2.630	0.10354	14.00	46.00	3.00	130	TiN
859526411	●	-	-	-	2.640	0.10394	14.00	46.00	3.00	130	TiAlN
8595264	●	-	-	-	2.640	0.10394	14.00	46.00	3.00	130	TiN
859526511	●	-	-	-	2.650	0.10433	14.00	46.00	3.00	130	TiAlN
8595265	●	-	-	-	2.650	0.10433	14.00	46.00	3.00	130	TiN
859526611	●	-	-	-	2.660	0.10472	16.00	48.00	3.00	130	TiAlN
8595266	●	-	-	-	2.660	0.10472	16.00	48.00	3.00	130	TiN
8595267	●	-	-	-	2.670	0.10512	16.00	48.00	3.00	130	TiN
8595268	●	-	-	-	2.680	0.10551	16.00	48.00	3.00	130	TiN
8595269	●	-	-	-	2.690	0.10591	16.00	48.00	3.00	130	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED ›

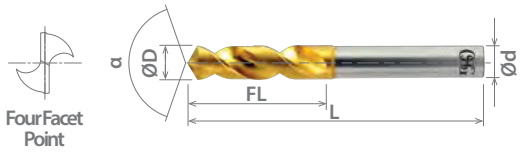
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EX-SUS-GOLD EX-SUS-GDS



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
6152711	●	-	-	-	2.700	0.10630	16.00	48.00	3.00	130	TiAlN
61527	●	-	-	-	2.700	0.10630	16.00	48.00	3.00	130	TiN
859527111	●	-	-	-	2.710	0.10669	16.00	48.00	3.00	130	TiAlN
8595271	●	-	-	-	2.710	0.10669	16.00	48.00	3.00	130	TiN
8595272	●	-	-	-	2.720	0.10709	16.00	48.00	3.00	130	TiN
8595273	●	-	-	-	2.730	0.10748	16.00	48.00	3.00	130	TiN
8595274	●	-	-	-	2.740	0.10787	16.00	48.00	3.00	130	TiN
8595275	●	-	-	-	2.750	0.10827	16.00	48.00	3.00	130	TiN
8595276	●	-	-	-	2.760	0.10866	16.00	48.00	3.00	130	TiN
8595277	●	-	-	-	2.770	0.10906	16.00	48.00	3.00	130	TiN
859527811	●	-	-	-	2.780	0.10945	16.00	48.00	3.00	130	TiAlN
8595278	●	-	-	-	2.780	0.10945	16.00	48.00	3.00	130	TiN
859527911	●	-	-	-	2.790	0.10984	16.00	48.00	3.00	130	TiAlN
8595279	●	-	-	-	2.790	0.10984	16.00	48.00	3.00	130	TiN
6152811	●	-	-	-	2.800	0.11024	16.00	48.00	3.00	130	TiAlN
61528	●	-	-	-	2.800	0.11024	16.00	48.00	3.00	130	TiN
8595281	●	-	-	-	2.810	0.11063	16.00	48.00	3.00	130	TiN
859528211	●	-	-	-	2.820	0.11102	16.00	48.00	3.00	130	TiAlN
8595282	●	-	-	-	2.820	0.11102	16.00	48.00	3.00	130	TiN
859528311	●	-	-	-	2.830	0.11142	16.00	48.00	3.00	130	TiAlN
8595283	●	-	-	-	2.830	0.11142	16.00	48.00	3.00	130	TiN
8595284	●	-	-	-	2.840	0.11181	16.00	48.00	3.00	130	TiN
859528511	●	-	-	-	2.850	0.11220	16.00	48.00	3.00	130	TiAlN
8595285	●	-	-	-	2.850	0.11220	16.00	48.00	3.00	130	TiN
859528611	●	-	-	-	2.860	0.11260	16.00	48.00	3.00	130	TiAlN
8595286	●	-	-	-	2.860	0.11260	16.00	48.00	3.00	130	TiN
8595287	●	-	-	-	2.870	0.11299	16.00	48.00	3.00	130	TiN
8595288	●	-	-	-	2.880	0.11339	16.00	48.00	3.00	130	TiN
8595289	●	-	-	-	2.890	0.11378	16.00	48.00	3.00	130	TiN
6152911	●	-	-	-	2.900	0.11417	16.00	48.00	3.00	130	TiAlN
61529	●	-	-	-	2.900	0.11417	16.00	48.00	3.00	130	TiN
8595291	●	-	-	-	2.910	0.11457	16.00	48.00	3.00	130	TiN
8595292	●	-	-	-	2.920	0.11496	16.00	48.00	3.00	130	TiN
8595293	●	-	-	-	2.930	0.11535	16.00	48.00	3.00	130	TiN
8595294	●	-	-	-	2.940	0.11575	16.00	48.00	3.00	130	TiN
859529511	●	-	-	-	2.950	0.11614	16.00	48.00	3.00	130	TiAlN
8595295	●	-	-	-	2.950	0.11614	16.00	48.00	3.00	130	TiN
8595296	●	-	-	-	2.960	0.11654	16.00	48.00	3.00	130	TiN
8595297	●	-	-	-	2.970	0.11693	16.00	48.00	3.00	130	TiN
8595298	●	-	-	-	2.980	0.11732	16.00	48.00	3.00	130	TiN
8595299	●	-	-	-	2.990	0.11772	16.00	48.00	3.00	130	TiN
6153011	●	-	-	-	3.000	0.11811	16.00	48.00	3.00	130	TiAlN
61530	●	-	-	-	3.000	0.11811	16.00	48.00	3.00	130	TiN
8595301	●	-	-	-	3.010	0.11850	18.00	50.00	4.00	130	TiN
8595302	●	-	-	-	3.020	0.11890	18.00	50.00	4.00	130	TiN
8595303	●	-	-	-	3.030	0.11929	18.00	50.00	4.00	130	TiN
8595304	●	-	-	-	3.040	0.11969	18.00	50.00	4.00	130	TiN
859530511	●	-	-	-	3.050	0.12008	18.00	50.00	4.00	130	TiAlN
8595305	●	-	-	-	3.050	0.12008	18.00	50.00	4.00	130	TiN
8595306	●	-	-	-	3.060	0.12047	18.00	50.00	4.00	130	TiN
8595307	●	-	-	-	3.070	0.12087	18.00	50.00	4.00	130	TiN
8595308	●	-	-	-	3.080	0.12126	18.00	50.00	4.00	130	TiN
8595309	●	-	-	-	3.090	0.12165	18.00	50.00	4.00	130	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
6153111	●	-	-	-	3.100	0.12205	18.00	50.00	4.00	130	TiAlN
61531	●	-	-	-	3.100	0.12205	18.00	50.00	4.00	130	TiN
8595311	●	-	-	-	3.110	0.12244	18.00	50.00	4.00	130	TiN
8595312	●	-	-	-	3.120	0.12283	18.00	50.00	4.00	130	TiN
8595313	●	-	-	-	3.130	0.12323	18.00	50.00	4.00	130	TiN
8595314	●	-	-	-	3.140	0.12362	18.00	50.00	4.00	130	TiN
859531511	●	-	-	-	3.150	0.12402	18.00	50.00	4.00	130	TiAlN
8595315	●	-	-	-	3.150	0.12402	18.00	50.00	4.00	130	TiN
8595316	●	-	-	-	3.160	0.12441	18.00	50.00	4.00	130	TiN
8595317	●	-	-	-	3.170	0.12480	18.00	50.00	4.00	130	TiN
859531811	●	-	-	-	3.180	0.12520	18.00	50.00	4.00	130	TiAlN
8595318	●	-	-	-	3.180	0.12520	18.00	50.00	4.00	130	TiN
8595319	●	-	-	-	3.190	0.12559	18.00	50.00	4.00	130	TiN
6153211	●	-	-	-	3.200	0.12598	18.00	50.00	4.00	130	TiAlN
61532	●	-	-	-	3.200	0.12598	18.00	50.00	4.00	130	TiN
8595321	●	-	-	-	3.210	0.12638	18.00	50.00	4.00	130	TiN
859532211	●	-	-	-	3.220	0.12677	18.00	50.00	4.00	130	TiAlN
8595322	●	-	-	-	3.220	0.12677	18.00	50.00	4.00	130	TiN
8595323	●	-	-	-	3.230	0.12717	18.00	50.00	4.00	130	TiN
8595324	●	-	-	-	3.240	0.12756	18.00	50.00	4.00	130	TiN
859532511	●	-	-	-	3.250	0.12795	18.00	50.00	4.00	130	TiAlN
8595325	●	-	-	-	3.250	0.12795	18.00	50.00	4.00	130	TiN
859532611	●	-	-	-	3.260	0.12835	18.00	50.00	4.00	130	TiAlN
8595326	●	-	-	-	3.260	0.12835	18.00	50.00	4.00	130	TiN
859532711	●	-	-	-	3.270	0.12874	18.00	50.00	4.00	130	TiAlN
8595327	●	-	-	-	3.270	0.12874	18.00	50.00	4.00	130	TiN
8595328	●	-	-	-	3.280	0.12913	18.00	50.00	4.00	130	TiN
859532911	●	-	-	-	3.290	0.12953	18.00	50.00	4.00	130	TiAlN
8595329	●	-	-	-	3.290	0.12953	18.00	50.00	4.00	130	TiN
6153311	●	-	-	-	3.300	0.12992	18.00	50.00	4.00	130	TiAlN
61533	●	-	-	-	3.300	0.12992	18.00	50.00	4.00	130	TiN
8595331	●	-	-	-	3.310	0.13031	18.00	50.00	4.00	130	TiN
8595332	●	-	-	-	3.320	0.13071	18.00	50.00	4.00	130	TiN
8595333	●	-	-	-	3.330	0.13110	18.00	50.00	4.00	130	TiN
8595334	●	-	-	-	3.340	0.13150	18.00	50.00	4.00	130	TiN
859533511	●	-	-	-	3.350	0.13189	18.00	50.00	4.00	130	TiAlN
8595335	●	-	-	-	3.350	0.13189	18.00	50.00	4.00	130	TiN
8595336	●	-	-	-	3.360	0.13228	20.00	52.00	4.00	130	TiN
8595337	●	-	-	-	3.370	0.13268	20.00	52.00	4.00	130	TiN
8595338	●	-	-	-	3.380	0.13307	20.00	52.00	4.00	130	TiN
8595339	●	-	-	-	3.390	0.13346	20.00	52.00	4.00	130	TiN
6153411	●	-	-	-	3.400	0.13386	20.00	52.00	4.00	130	TiAlN
61534	●	-	-	-	3.400	0.13386	20.00	52.00	4.00	130	TiN
8595341	●	-	-	-	3.410	0.13425	20.00	52.00	4.00	130	TiN
8595342	●	-	-	-	3.420	0.13465	20.00	52.00	4.00	130	TiN
8595343	●	-	-	-	3.430	0.13504	20.00	52.00	4.00	130	TiN
8595344	●	-	-	-	3.440	0.13543	20.00	52.00	4.00	130	TiN
859534511	●	-	-	-	3.450	0.13583	20.00	52.00	4.00	130	TiAlN
8595345	●	-	-	-	3.450	0.13583	20.00	52.00	4.00	130	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED

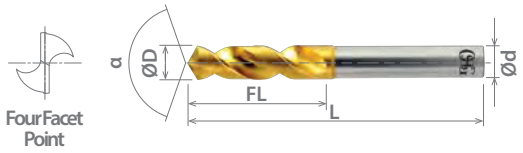
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
859534611	●	-	-	-	3.460	0.13622	20.00	52.00	4.00	130	TiAlN
8595346	●	-	-	-	3.460	0.13622	20.00	52.00	4.00	130	TiN
859534711	●	-	-	-	3.470	0.13661	20.00	52.00	4.00	130	TiAlN
8595347	●	-	-	-	3.470	0.13661	20.00	52.00	4.00	130	TiN
8595348	●	-	-	-	3.480	0.13701	20.00	52.00	4.00	130	TiN
8595349	●	-	-	-	3.490	0.13740	20.00	52.00	4.00	130	TiN
6153511	●	-	-	-	3.500	0.13780	20.00	52.00	4.00	130	TiAlN
61535	●	-	-	-	3.500	0.13780	20.00	52.00	4.00	130	TiN
8595351	●	-	-	-	3.510	0.13819	20.00	52.00	4.00	130	TiN
8595352	●	-	-	-	3.520	0.13858	20.00	52.00	4.00	130	TiN
8595353	●	-	-	-	3.530	0.13898	20.00	52.00	4.00	130	TiN
8595354	●	-	-	-	3.540	0.13937	20.00	52.00	4.00	130	TiN
8595355	●	-	-	-	3.550	0.13976	20.00	52.00	4.00	130	TiN
8595356	●	-	-	-	3.560	0.14016	20.00	52.00	4.00	130	TiN
859535711	●	-	-	-	3.570	0.14055	20.00	52.00	4.00	130	TiAlN
8595357	●	-	-	-	3.570	0.14055	20.00	52.00	4.00	130	TiN
8595358	●	-	-	-	3.580	0.14094	20.00	52.00	4.00	130	TiN
8595359	●	-	-	-	3.590	0.14134	20.00	52.00	4.00	130	TiN
61536	●	-	-	-	3.600	0.14173	20.00	52.00	4.00	130	TiN
8595361	●	-	-	-	3.610	0.14213	20.00	52.00	4.00	130	TiN
8595362	●	-	-	-	3.620	0.14252	20.00	52.00	4.00	130	TiN
8595363	●	-	-	-	3.630	0.14291	20.00	52.00	4.00	130	TiN
8595364	●	-	-	-	3.640	0.14331	20.00	52.00	4.00	130	TiN
8595365	●	-	-	-	3.650	0.14370	20.00	52.00	4.00	130	TiN
859536611	●	-	-	-	3.660	0.14409	20.00	52.00	4.00	130	TiAlN
8595366	●	-	-	-	3.660	0.14409	20.00	52.00	4.00	130	TiN
8595367	●	-	-	-	3.670	0.14449	20.00	52.00	4.00	130	TiN
8595368	●	-	-	-	3.680	0.14488	20.00	52.00	4.00	130	TiN
8595369	●	-	-	-	3.690	0.14528	20.00	52.00	4.00	130	TiN
6153711	●	-	-	-	3.700	0.14567	20.00	52.00	4.00	130	TiAlN
61537	●	-	-	-	3.700	0.14567	20.00	52.00	4.00	130	TiN
8595371	●	-	-	-	3.710	0.14606	20.00	52.00	4.00	130	TiN
8595372	●	-	-	-	3.720	0.14646	20.00	52.00	4.00	130	TiN
859537311	●	-	-	-	3.730	0.14685	20.00	52.00	4.00	130	TiAlN
8595373	●	-	-	-	3.730	0.14685	20.00	52.00	4.00	130	TiN
8595374	●	-	-	-	3.740	0.14724	20.00	52.00	4.00	130	TiN
859537511	●	-	-	-	3.750	0.14764	20.00	52.00	4.00	130	TiAlN
8595375	●	-	-	-	3.750	0.14764	20.00	52.00	4.00	130	TiN
8595376	●	-	-	-	3.760	0.14803	22.00	54.00	4.00	130	TiN
8595377	●	-	-	-	3.770	0.14843	22.00	54.00	4.00	130	TiN
8595378	●	-	-	-	3.780	0.14882	22.00	54.00	4.00	130	TiN
8595379	●	-	-	-	3.790	0.14921	22.00	54.00	4.00	130	TiN
6153811	●	-	-	-	3.800	0.14961	22.00	54.00	4.00	130	TiAlN
61538	●	-	-	-	3.800	0.14961	22.00	54.00	4.00	130	TiN
8595381	●	-	-	-	3.810	0.15000	22.00	54.00	4.00	130	TiN
8595382	●	-	-	-	3.820	0.15039	22.00	54.00	4.00	130	TiN
8595383	●	-	-	-	3.830	0.15079	22.00	54.00	4.00	130	TiN
8595384	●	-	-	-	3.840	0.15118	22.00	54.00	4.00	130	TiN
859538511	●	-	-	-	3.850	0.15157	22.00	54.00	4.00	130	TiAlN
8595385	●	-	-	-	3.850	0.15157	22.00	54.00	4.00	130	TiN
859538611	●	-	-	-	3.860	0.15197	22.00	54.00	4.00	130	TiAlN
8595386	●	-	-	-	3.860	0.15197	22.00	54.00	4.00	130	TiN
8595387	●	-	-	-	3.870	0.15236	22.00	54.00	4.00	130	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595388	●	-	-	-	3.880	0.15276	22.00	54.00	4.00	130	TiN
8595389	●	-	-	-	3.890	0.15315	22.00	54.00	4.00	130	TiN
61539	●	-	-	-	3.900	0.15354	22.00	54.00	4.00	130	TiN
859539111	●	-	-	-	3.910	0.15394	22.00	54.00	4.00	130	TiAlN
8595391	●	-	-	-	3.910	0.15394	22.00	54.00	4.00	130	TiN
8595392	●	-	-	-	3.920	0.15433	22.00	54.00	4.00	130	TiN
8595393	●	-	-	-	3.930	0.15472	22.00	54.00	4.00	130	TiN
8595394	●	-	-	-	3.940	0.15512	22.00	54.00	4.00	130	TiN
859539511	●	-	-	-	3.950	0.15551	22.00	54.00	4.00	130	TiAlN
8595395	●	-	-	-	3.950	0.15551	22.00	54.00	4.00	130	TiN
8595396	●	-	-	-	3.960	0.15591	22.00	54.00	4.00	130	TiN
859539711	●	-	-	-	3.970	0.15630	22.00	54.00	4.00	130	TiAlN
8595397	●	-	-	-	3.970	0.15630	22.00	54.00	4.00	130	TiN
8595398	●	-	-	-	3.980	0.15669	22.00	54.00	4.00	130	TiN
859539911	●	-	-	-	3.990	0.15709	22.00	54.00	4.00	130	TiAlN
8595399	●	-	-	-	3.990	0.15709	22.00	54.00	4.00	130	TiN
6154011	●	-	-	-	4.000	0.15748	22.00	54.00	4.00	130	TiAlN
61540	●	-	-	-	4.000	0.15748	22.00	54.00	4.00	130	TiN
8595401	●	-	-	-	4.010	0.15787	22.00	66.00	6.00	120	TiN
8595402	●	-	-	-	4.020	0.15827	22.00	66.00	6.00	120	TiN
8595403	●	-	-	-	4.030	0.15866	22.00	66.00	6.00	120	TiN
859540411	●	-	-	-	4.040	0.15906	22.00	66.00	6.00	120	TiAlN
8595404	●	-	-	-	4.040	0.15906	22.00	66.00	6.00	120	TiN
8595405	●	-	-	-	4.050	0.15945	22.00	66.00	6.00	120	TiN
8595406	●	-	-	-	4.060	0.15984	22.00	66.00	6.00	120	TiN
8595407	●	-	-	-	4.070	0.16024	22.00	66.00	6.00	120	TiN
8595408	●	-	-	-	4.080	0.16063	22.00	66.00	6.00	120	TiN
859540911	●	-	-	-	4.090	0.16102	22.00	66.00	6.00	120	TiAlN
8595409	●	-	-	-	4.090	0.16102	22.00	66.00	6.00	120	TiN
6154111	●	-	-	-	4.100	0.16142	22.00	66.00	6.00	120	TiAlN
61541	●	-	-	-	4.100	0.16142	22.00	66.00	6.00	120	TiN
8595411	●	-	-	-	4.110	0.16181	22.00	66.00	6.00	120	TiN
8595412	●	-	-	-	4.120	0.16220	22.00	66.00	6.00	120	TiN
8595413	●	-	-	-	4.130	0.16260	22.00	66.00	6.00	120	TiN
8595414	●	-	-	-	4.140	0.16299	22.00	66.00	6.00	120	TiN
859541511	●	-	-	-	4.150	0.16339	22.00	66.00	6.00	120	TiAlN
8595415	●	-	-	-	4.150	0.16339	22.00	66.00	6.00	120	TiN
8595416	●	-	-	-	4.160	0.16378	22.00	66.00	6.00	120	TiN
859541711	●	-	-	-	4.170	0.16417	22.00	66.00	6.00	120	TiAlN
8595417	●	-	-	-	4.170	0.16417	22.00	66.00	6.00	120	TiN
8595418	●	-	-	-	4.180	0.16457	22.00	66.00	6.00	120	TiN
8595419	●	-	-	-	4.190	0.16496	22.00	66.00	6.00	120	TiN
6154211	●	-	-	-	4.200	0.16535	22.00	66.00	6.00	120	TiAlN
61542	●	-	-	-	4.200	0.16535	22.00	66.00	6.00	120	TiN
8595421	●	-	-	-	4.210	0.16575	22.00	66.00	6.00	120	TiN
859542211	●	-	-	-	4.220	0.16614	22.00	66.00	6.00	120	TiAlN
8595422	●	-	-	-	4.220	0.16614	22.00	66.00	6.00	120	TiN
8595423	●	-	-	-	4.230	0.16654	22.00	66.00	6.00	120	TiN
8595424	●	-	-	-	4.240	0.16693	22.00	66.00	6.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED

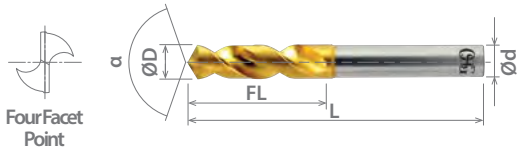
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595425	●	-	-	-	4.250	0.16732	22.00	66.00	6.00	120	TiN
8595426	●	-	-	-	4.260	0.16772	24.00	68.00	6.00	120	TiN
8595427	●	-	-	-	4.270	0.16811	24.00	68.00	6.00	120	TiN
8595428	●	-	-	-	4.280	0.16850	24.00	68.00	6.00	120	TiN
8595429	●	-	-	-	4.290	0.16890	24.00	68.00	6.00	120	TiN
6154311	●	-	-	-	4.300	0.16929	24.00	68.00	6.00	120	TiAlN
61543	●	-	-	-	4.300	0.16929	24.00	68.00	6.00	120	TiN
8595431	●	-	-	-	4.310	0.16969	24.00	68.00	6.00	120	TiN
8595432	●	-	-	-	4.320	0.17008	24.00	68.00	6.00	120	TiN
859543311	●	-	-	-	4.330	0.17047	24.00	68.00	6.00	120	TiAlN
8595433	●	-	-	-	4.330	0.17047	24.00	68.00	6.00	120	TiN
8595434	●	-	-	-	4.340	0.17087	24.00	68.00	6.00	120	TiN
8595435	●	-	-	-	4.350	0.17126	24.00	68.00	6.00	120	TiN
8595436	●	-	-	-	4.360	0.17165	24.00	68.00	6.00	120	TiN
859543711	●	-	-	-	4.370	0.17205	24.00	68.00	6.00	120	TiAlN
8595437	●	-	-	-	4.370	0.17205	24.00	68.00	6.00	120	TiN
8595438	●	-	-	-	4.380	0.17244	24.00	68.00	6.00	120	TiN
8595439	●	-	-	-	4.390	0.17283	24.00	68.00	6.00	120	TiN
6154411	●	-	-	-	4.400	0.17323	24.00	68.00	6.00	120	TiAlN
61544	●	-	-	-	4.400	0.17323	24.00	68.00	6.00	120	TiN
859544111	●	-	-	-	4.410	0.17362	24.00	68.00	6.00	120	TiAlN
8595441	●	-	-	-	4.410	0.17362	24.00	68.00	6.00	120	TiN
8595442	●	-	-	-	4.420	0.17402	24.00	68.00	6.00	120	TiN
8595443	●	-	-	-	4.430	0.17441	24.00	68.00	6.00	120	TiN
8595444	●	-	-	-	4.440	0.17480	24.00	68.00	6.00	120	TiN
859544511	●	-	-	-	4.450	0.17520	24.00	68.00	6.00	120	TiAlN
8595445	●	-	-	-	4.450	0.17520	24.00	68.00	6.00	120	TiN
8595446	●	-	-	-	4.460	0.17559	24.00	68.00	6.00	120	TiN
8595447	●	-	-	-	4.470	0.17598	24.00	68.00	6.00	120	TiN
8595448	●	-	-	-	4.480	0.17638	24.00	68.00	6.00	120	TiN
8595449	●	-	-	-	4.490	0.17677	24.00	68.00	6.00	120	TiN
6154511	●	-	-	-	4.500	0.17717	24.00	68.00	6.00	120	TiAlN
61545	●	-	-	-	4.500	0.17717	24.00	68.00	6.00	120	TiN
8595451	●	-	-	-	4.510	0.17756	24.00	68.00	6.00	120	TiN
8595452	●	-	-	-	4.520	0.17795	24.00	68.00	6.00	120	TiN
8595453	●	-	-	-	4.530	0.17835	24.00	68.00	6.00	120	TiN
8595454	●	-	-	-	4.540	0.17874	24.00	68.00	6.00	120	TiN
8595455	●	-	-	-	4.550	0.17913	24.00	68.00	6.00	120	TiN
8595456	●	-	-	-	4.560	0.17953	24.00	68.00	6.00	120	TiN
859545711	●	-	-	-	4.570	0.17992	24.00	68.00	6.00	120	TiAlN
8595457	●	-	-	-	4.570	0.17992	24.00	68.00	6.00	120	TiN
8595458	●	-	-	-	4.580	0.18031	24.00	68.00	6.00	120	TiN
8595459	●	-	-	-	4.590	0.18071	24.00	68.00	6.00	120	TiN
6154611	●	-	-	-	4.600	0.18110	24.00	68.00	6.00	120	TiAlN
61546	●	-	-	-	4.600	0.18110	24.00	68.00	6.00	120	TiN
8595461	●	-	-	-	4.610	0.18150	24.00	68.00	6.00	120	TiN
859546211	●	-	-	-	4.620	0.18189	24.00	68.00	6.00	120	TiAlN
8595462	●	-	-	-	4.620	0.18189	24.00	68.00	6.00	120	TiN
8595463	●	-	-	-	4.630	0.18228	24.00	68.00	6.00	120	TiN
8595464	●	-	-	-	4.640	0.18268	24.00	68.00	6.00	120	TiN
8595465	●	-	-	-	4.650	0.18307	24.00	68.00	6.00	120	TiN
8595466	●	-	-	-	4.660	0.18346	24.00	68.00	6.00	120	TiN
8595467	●	-	-	-	4.670	0.18386	24.00	68.00	6.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595468	●	-	-	-	4.680	0.18425	24.00	68.00	6.00	120	TiN
8595469	●	-	-	-	4.690	0.18465	24.00	68.00	6.00	120	TiN
6154711	●	-	-	-	4.700	0.18504	24.00	68.00	6.00	120	TiAlN
61547	●	-	-	-	4.700	0.18504	24.00	68.00	6.00	120	TiN
8595471	●	-	-	-	4.710	0.18543	24.00	68.00	6.00	120	TiN
8595472	●	-	-	-	4.720	0.18583	24.00	68.00	6.00	120	TiN
8595473	●	-	-	-	4.730	0.18622	24.00	68.00	6.00	120	TiN
8595474	●	-	-	-	4.740	0.18661	24.00	68.00	6.00	120	TiN
859547511	●	-	-	-	4.750	0.18701	24.00	68.00	6.00	120	TiAlN
8595475	●	-	-	-	4.750	0.18701	24.00	68.00	6.00	120	TiN
859547611	●	-	-	-	4.760	0.18740	26.00	70.00	6.00	120	TiAlN
8595476	●	-	-	-	4.760	0.18740	26.00	70.00	6.00	120	TiN
8595477	●	-	-	-	4.770	0.18780	26.00	70.00	6.00	120	TiN
8595478	●	-	-	-	4.780	0.18819	26.00	70.00	6.00	120	TiN
8595479	●	-	-	-	4.790	0.18858	26.00	70.00	6.00	120	TiN
6154811	●	-	-	-	4.800	0.18898	26.00	70.00	6.00	120	TiAlN
61548	●	-	-	-	4.800	0.18898	26.00	70.00	6.00	120	TiN
8595481	●	-	-	-	4.810	0.18937	26.00	70.00	6.00	120	TiN
8595482	●	-	-	-	4.820	0.18976	26.00	70.00	6.00	120	TiN
8595483	●	-	-	-	4.830	0.19016	26.00	70.00	6.00	120	TiN
8595484	●	-	-	-	4.840	0.19055	26.00	70.00	6.00	120	TiN
8595485	●	-	-	-	4.850	0.19094	26.00	70.00	6.00	120	TiN
859548611	●	-	-	-	4.860	0.19134	26.00	70.00	6.00	120	TiAlN
8595486	●	-	-	-	4.860	0.19134	26.00	70.00	6.00	120	TiN
859548711	●	-	-	-	4.870	0.19173	26.00	70.00	6.00	120	TiAlN
8595487	●	-	-	-	4.870	0.19173	26.00	70.00	6.00	120	TiN
859548811	●	-	-	-	4.880	0.19213	26.00	70.00	6.00	120	TiAlN
8595488	●	-	-	-	4.880	0.19213	26.00	70.00	6.00	120	TiN
8595489	●	-	-	-	4.890	0.19252	26.00	70.00	6.00	120	TiN
6154911	●	-	-	-	4.900	0.19291	26.00	70.00	6.00	120	TiAlN
61549	●	-	-	-	4.900	0.19291	26.00	70.00	6.00	120	TiN
8595491	●	-	-	-	4.910	0.19331	26.00	70.00	6.00	120	TiN
8595492	●	-	-	-	4.920	0.19370	26.00	70.00	6.00	120	TiN
8595493	●	-	-	-	4.930	0.19409	26.00	70.00	6.00	120	TiN
8595494	●	-	-	-	4.940	0.19449	26.00	70.00	6.00	120	TiN
8595495	●	-	-	-	4.950	0.19488	26.00	70.00	6.00	120	TiN
859549611	●	-	-	-	4.960	0.19528	26.00	70.00	6.00	120	TiAlN
8595496	●	-	-	-	4.960	0.19528	26.00	70.00	6.00	120	TiN
8595497	●	-	-	-	4.970	0.19567	26.00	70.00	6.00	120	TiN
859549811	●	-	-	-	4.980	0.19606	26.00	70.00	6.00	120	TiAlN
8595498	●	-	-	-	4.980	0.19606	26.00	70.00	6.00	120	TiN
8595499	●	-	-	-	4.990	0.19646	26.00	70.00	6.00	120	TiN
6155011	●	-	-	-	5.000	0.19685	26.00	70.00	6.00	120	TiAlN
61550	●	-	-	-	5.000	0.19685	26.00	70.00	6.00	120	TiN
8595501	●	-	-	-	5.010	0.19724	26.00	70.00	6.00	120	TiN
8595502	●	-	-	-	5.020	0.19764	26.00	70.00	6.00	120	TiN
8595503	●	-	-	-	5.030	0.19803	26.00	70.00	6.00	120	TiN
8595504	●	-	-	-	5.040	0.19843	26.00	70.00	6.00	120	TiN
859550511	●	-	-	-	5.050	0.19882	26.00	70.00	6.00	120	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED ›

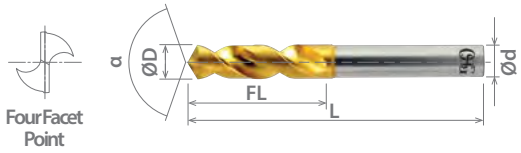
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595505	●	-	-	-	5.050	0.19882	26.00	70.00	6.00	120	TiN
8595506	●	-	-	-	5.060	0.19921	26.00	70.00	6.00	120	TiN
8595507	●	-	-	-	5.070	0.19961	26.00	70.00	6.00	120	TiN
8595508	●	-	-	-	5.080	0.20000	26.00	70.00	6.00	120	TiN
8595509	●	-	-	-	5.090	0.20039	26.00	70.00	6.00	120	TiN
6155111	●	-	-	-	5.100	0.20079	26.00	70.00	6.00	120	TiAlN
61551	●	-	-	-	5.100	0.20079	26.00	70.00	6.00	120	TiN
859551111	●	-	-	-	5.110	0.20118	26.00	70.00	6.00	120	TiAlN
8595511	●	-	-	-	5.110	0.20118	26.00	70.00	6.00	120	TiN
8595512	●	-	-	-	5.120	0.20157	26.00	70.00	6.00	120	TiN
8595513	●	-	-	-	5.130	0.20197	26.00	70.00	6.00	120	TiN
8595514	●	-	-	-	5.140	0.20236	26.00	70.00	6.00	120	TiN
8595515	●	-	-	-	5.150	0.20276	26.00	70.00	6.00	120	TiN
859551611	●	-	-	-	5.160	0.20315	26.00	70.00	6.00	120	TiAlN
8595516	●	-	-	-	5.160	0.20315	26.00	70.00	6.00	120	TiN
8595517	●	-	-	-	5.170	0.20354	26.00	70.00	6.00	120	TiN
859551811	●	-	-	-	5.180	0.20394	26.00	70.00	6.00	120	TiAlN
8595518	●	-	-	-	5.180	0.20394	26.00	70.00	6.00	120	TiN
8595519	●	-	-	-	5.190	0.20433	26.00	70.00	6.00	120	TiN
6155211	●	-	-	-	5.200	0.20472	26.00	70.00	6.00	120	TiAlN
61552	●	-	-	-	5.200	0.20472	26.00	70.00	6.00	120	TiN
8595521	●	-	-	-	5.210	0.20512	26.00	70.00	6.00	120	TiN
859552211	●	-	-	-	5.220	0.20551	26.00	70.00	6.00	120	TiAlN
8595522	●	-	-	-	5.220	0.20551	26.00	70.00	6.00	120	TiN
8595523	●	-	-	-	5.230	0.20591	26.00	70.00	6.00	120	TiN
8595524	●	-	-	-	5.240	0.20630	26.00	70.00	6.00	120	TiN
8595525	●	-	-	-	5.250	0.20669	26.00	70.00	6.00	120	TiN
8595526	●	-	-	-	5.260	0.20709	26.00	70.00	6.00	120	TiN
8595527	●	-	-	-	5.270	0.20748	26.00	70.00	6.00	120	TiN
8595528	●	-	-	-	5.280	0.20787	26.00	70.00	6.00	120	TiN
8595529	●	-	-	-	5.290	0.20827	26.00	70.00	6.00	120	TiN
6155311	●	-	-	-	5.300	0.20866	26.00	70.00	6.00	120	TiAlN
61553	●	-	-	-	5.300	0.20866	26.00	70.00	6.00	120	TiN
8595531	●	-	-	-	5.310	0.20906	28.00	72.00	6.00	120	TiN
8595532	●	-	-	-	5.320	0.20945	28.00	72.00	6.00	120	TiN
8595533	●	-	-	-	5.330	0.20984	28.00	72.00	6.00	120	TiN
8595534	●	-	-	-	5.340	0.21024	28.00	72.00	6.00	120	TiN
8595535	●	-	-	-	5.350	0.21063	28.00	72.00	6.00	120	TiN
8595536	●	-	-	-	5.360	0.21102	28.00	72.00	6.00	120	TiN
8595537	●	-	-	-	5.370	0.21142	28.00	72.00	6.00	120	TiN
8595538	●	-	-	-	5.380	0.21181	28.00	72.00	6.00	120	TiN
8595539	●	-	-	-	5.390	0.21220	28.00	72.00	6.00	120	TiN
61554	●	-	-	-	5.400	0.21260	28.00	72.00	6.00	120	TiN
8595541	●	-	-	-	5.410	0.21299	28.00	72.00	6.00	120	TiN
8595542	●	-	-	-	5.420	0.21339	28.00	72.00	6.00	120	TiN
8595543	●	-	-	-	5.430	0.21378	28.00	72.00	6.00	120	TiN
8595544	●	-	-	-	5.440	0.21417	28.00	72.00	6.00	120	TiN
859554511	●	-	-	-	5.450	0.21457	28.00	72.00	6.00	120	TiAlN
8595545	●	-	-	-	5.450	0.21457	28.00	72.00	6.00	120	TiN
8595546	●	-	-	-	5.460	0.21496	28.00	72.00	6.00	120	TiN
8595547	●	-	-	-	5.470	0.21535	28.00	72.00	6.00	120	TiN
859554811	●	-	-	-	5.480	0.21575	28.00	72.00	6.00	120	TiAlN
8595548	●	-	-	-	5.480	0.21575	28.00	72.00	6.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595549	●	-	-	-	5.490	0.21614	28.00	72.00	6.00	120	TiN
6155511	●	-	-	-	5.500	0.21654	28.00	72.00	6.00	120	TiAlN
61555	●	-	-	-	5.500	0.21654	28.00	72.00	6.00	120	TiN
8595551	●	-	-	-	5.510	0.21693	28.00	72.00	6.00	120	TiN
8595552	●	-	-	-	5.520	0.21732	28.00	72.00	6.00	120	TiN
8595553	●	-	-	-	5.530	0.21772	28.00	72.00	6.00	120	TiN
8595554	●	-	-	-	5.540	0.21811	28.00	72.00	6.00	120	TiN
8595555	●	-	-	-	5.550	0.21850	28.00	72.00	6.00	120	TiN
859555611	●	-	-	-	5.560	0.21890	28.00	72.00	6.00	120	TiAlN
8595556	●	-	-	-	5.560	0.21890	28.00	72.00	6.00	120	TiN
8595557	●	-	-	-	5.570	0.21929	28.00	72.00	6.00	120	TiN
8595558	●	-	-	-	5.580	0.21969	28.00	72.00	6.00	120	TiN
8595559	●	-	-	-	5.590	0.22008	28.00	72.00	6.00	120	TiN
6155611	●	-	-	-	5.600	0.22047	28.00	72.00	6.00	120	TiAlN
61556	●	-	-	-	5.600	0.22047	28.00	72.00	6.00	120	TiN
8595561	●	-	-	-	5.610	0.22087	28.00	72.00	6.00	120	TiN
8595562	●	-	-	-	5.620	0.22126	28.00	72.00	6.00	120	TiN
8595563	●	-	-	-	5.630	0.22165	28.00	72.00	6.00	120	TiN
8595564	●	-	-	-	5.640	0.22205	28.00	72.00	6.00	120	TiN
859556511	●	-	-	-	5.650	0.22244	28.00	72.00	6.00	120	TiAlN
8595565	●	-	-	-	5.650	0.22244	28.00	72.00	6.00	120	TiN
8595566	●	-	-	-	5.660	0.22283	28.00	72.00	6.00	120	TiN
8595567	●	-	-	-	5.670	0.22323	28.00	72.00	6.00	120	TiN
8595568	●	-	-	-	5.680	0.22362	28.00	72.00	6.00	120	TiN
8595569	●	-	-	-	5.690	0.22402	28.00	72.00	6.00	120	TiN
61557	●	-	-	-	5.700	0.22441	28.00	72.00	6.00	120	TiN
8595571	●	-	-	-	5.710	0.22480	28.00	72.00	6.00	120	TiN
859557211	●	-	-	-	5.720	0.22520	28.00	72.00	6.00	120	TiAlN
8595572	●	-	-	-	5.720	0.22520	28.00	72.00	6.00	120	TiN
8595573	●	-	-	-	5.730	0.22559	28.00	72.00	6.00	120	TiN
8595574	●	-	-	-	5.740	0.22598	28.00	72.00	6.00	120	TiN
859557511	●	-	-	-	5.750	0.22638	28.00	72.00	6.00	120	TiAlN
8595575	●	-	-	-	5.750	0.22638	28.00	72.00	6.00	120	TiN
8595576	●	-	-	-	5.760	0.22677	28.00	72.00	6.00	120	TiN
8595577	●	-	-	-	5.770	0.22717	28.00	72.00	6.00	120	TiN
859557811	●	-	-	-	5.780	0.22756	28.00	72.00	6.00	120	TiAlN
8595578	●	-	-	-	5.780	0.22756	28.00	72.00	6.00	120	TiN
859557911	●	-	-	-	5.790	0.22795	28.00	72.00	6.00	120	TiAlN
8595579	●	-	-	-	5.790	0.22795	28.00	72.00	6.00	120	TiN
6155811	●	-	-	-	5.800	0.22835	28.00	72.00	6.00	120	TiAlN
61558	●	-	-	-	5.800	0.22835	28.00	72.00	6.00	120	TiN
8595581	●	-	-	-	5.810	0.22874	28.00	72.00	6.00	120	TiN
8595582	●	-	-	-	5.820	0.22913	28.00	72.00	6.00	120	TiN
8595583	●	-	-	-	5.830	0.22953	28.00	72.00	6.00	120	TiN
8595584	●	-	-	-	5.840	0.22992	28.00	72.00	6.00	120	TiN
8595585	●	-	-	-	5.850	0.23031	28.00	72.00	6.00	120	TiN
8595586	●	-	-	-	5.860	0.23071	28.00	72.00	6.00	120	TiN
8595587	●	-	-	-	5.870	0.23110	28.00	72.00	6.00	120	TiN
8595588	●	-	-	-	5.880	0.23150	28.00	72.00	6.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED ›

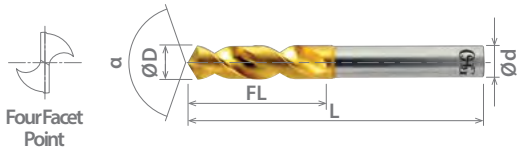
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595589	●	-	-	-	5.890	0.23189	28.00	72.00	6.00	120	TiN
6155911	●	-	-	-	5.900	0.23228	28.00	72.00	6.00	120	TiAlN
61559	●	-	-	-	5.900	0.23228	28.00	72.00	6.00	120	TiN
8595591	●	-	-	-	5.910	0.23268	28.00	72.00	6.00	120	TiN
8595592	●	-	-	-	5.920	0.23307	28.00	72.00	6.00	120	TiN
8595593	●	-	-	-	5.930	0.23346	28.00	72.00	6.00	120	TiN
8595594	●	-	-	-	5.940	0.23386	28.00	72.00	6.00	120	TiN
859559511	●	-	-	-	5.950	0.23425	28.00	72.00	6.00	120	TiAlN
8595595	●	-	-	-	5.950	0.23425	28.00	72.00	6.00	120	TiN
8595596	●	-	-	-	5.960	0.23465	28.00	72.00	6.00	120	TiN
859559711	●	-	-	-	5.970	0.23504	28.00	72.00	6.00	120	TiAlN
8595597	●	-	-	-	5.970	0.23504	28.00	72.00	6.00	120	TiN
8595598	●	-	-	-	5.980	0.23543	28.00	72.00	6.00	120	TiN
8595599	●	-	-	-	5.990	0.23583	28.00	72.00	6.00	120	TiN
6156011	●	-	-	-	6.000	0.23622	28.00	72.00	6.00	120	TiAlN
61560	●	-	-	-	6.000	0.23622	28.00	72.00	6.00	120	TiN
8595605	●	-	-	-	6.050	0.23819	31.00	75.00	8.00	120	TiN
6156111	●	-	-	-	6.100	0.24016	31.00	75.00	8.00	120	TiAlN
61561	●	-	-	-	6.100	0.24016	31.00	75.00	8.00	120	TiN
8595615	●	-	-	-	6.150	0.24213	31.00	75.00	8.00	120	TiN
61562	●	-	-	-	6.200	0.24409	31.00	75.00	8.00	120	TiN
8595625	●	-	-	-	6.250	0.24606	31.00	75.00	8.00	120	TiN
6156311	●	-	-	-	6.300	0.24803	31.00	75.00	8.00	120	TiAlN
61563	●	-	-	-	6.300	0.24803	31.00	75.00	8.00	120	TiN
859563511	●	1/4	-	E	6.350	0.25000	31.00	75.00	8.00	120	TiAlN
8595635	●	1/4	-	E	6.350	0.25000	31.00	75.00	8.00	120	TiN
6156411	●	-	-	-	6.400	0.25197	31.00	75.00	8.00	120	TiAlN
61564	●	-	-	-	6.400	0.25197	31.00	75.00	8.00	120	TiN
8595645	●	-	-	-	6.450	0.25394	31.00	75.00	8.00	120	TiN
6156511	●	-	-	-	6.500	0.25591	31.00	75.00	8.00	120	TiAlN
61565	●	-	-	-	6.500	0.25591	31.00	75.00	8.00	120	TiN
859565511	●	-	-	-	6.550	0.25787	31.00	75.00	8.00	120	TiAlN
8595655	●	-	-	-	6.550	0.25787	31.00	75.00	8.00	120	TiN
6156611	●	-	-	-	6.600	0.25984	31.00	75.00	8.00	120	TiAlN
61566	●	-	-	-	6.600	0.25984	31.00	75.00	8.00	120	TiN
8595665	●	-	-	-	6.650	0.26181	31.00	75.00	8.00	120	TiN
6156711	●	-	-	-	6.700	0.26378	31.00	75.00	8.00	120	TiAlN
61567	●	-	-	-	6.700	0.26378	31.00	75.00	8.00	120	TiN
859567511	●	-	-	-	6.750	0.26575	34.00	78.00	8.00	120	TiAlN
8595675	●	-	-	-	6.750	0.26575	34.00	78.00	8.00	120	TiN
6156811	●	-	-	-	6.800	0.26772	34.00	78.00	8.00	120	TiAlN
61568	●	-	-	-	6.800	0.26772	34.00	78.00	8.00	120	TiN
859568511	●	-	-	-	6.850	0.26969	34.00	78.00	8.00	120	TiAlN
8595685	●	-	-	-	6.850	0.26969	34.00	78.00	8.00	120	TiN
6156911	●	-	-	-	6.900	0.27165	34.00	78.00	8.00	120	TiAlN
61569	●	-	-	-	6.900	0.27165	34.00	78.00	8.00	120	TiN
8595695	●	-	-	-	6.950	0.27362	34.00	78.00	8.00	120	TiN
6157011	●	-	-	-	7.000	0.27559	34.00	78.00	8.00	120	TiAlN
61570	●	-	-	-	7.000	0.27559	34.00	78.00	8.00	120	TiN
8595705	●	-	-	-	7.050	0.27756	34.00	78.00	8.00	120	TiN
6157111	●	-	-	-	7.100	0.27953	34.00	78.00	8.00	120	TiAlN
61571	●	-	-	-	7.100	0.27953	34.00	78.00	8.00	120	TiN
859571511	●	-	-	-	7.150	0.28150	34.00	78.00	8.00	120	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8595715	●	-	-	-	7.150	0.28150	34.00	78.00	8.00	120	TiN
6157211	●	-	-	-	7.200	0.28346	34.00	78.00	8.00	120	TiAlN
61572	●	-	-	-	7.200	0.28346	34.00	78.00	8.00	120	TiN
8595725	●	-	-	-	7.250	0.28543	34.00	78.00	8.00	120	TiN
6157311	●	-	-	-	7.300	0.28740	34.00	78.00	8.00	120	TiAlN
61573	●	-	-	-	7.300	0.28740	34.00	78.00	8.00	120	TiN
8595735	●	-	-	-	7.350	0.28937	34.00	78.00	8.00	120	TiN
6157411	●	-	-	-	7.400	0.29134	34.00	78.00	8.00	120	TiAlN
61574	●	-	-	-	7.400	0.29134	34.00	78.00	8.00	120	TiN
8595745	●	-	-	-	7.450	0.29331	34.00	78.00	8.00	120	TiN
6157511	●	-	-	-	7.500	0.29528	34.00	78.00	8.00	120	TiAlN
61575	●	-	-	-	7.500	0.29528	34.00	78.00	8.00	120	TiN
859575511	●	-	-	-	7.550	0.29724	37.00	81.00	8.00	120	TiAlN
8595755	●	-	-	-	7.550	0.29724	37.00	81.00	8.00	120	TiN
61576	●	-	-	-	7.600	0.29921	37.00	81.00	8.00	120	TiN
859576511	●	-	-	-	7.650	0.30118	37.00	81.00	8.00	120	TiAlN
8595765	●	-	-	-	7.650	0.30118	37.00	81.00	8.00	120	TiN
6157711	●	-	-	-	7.700	0.30315	37.00	81.00	8.00	120	TiAlN
61577	●	-	-	-	7.700	0.30315	37.00	81.00	8.00	120	TiN
859577511	●	-	-	-	7.750	0.30512	37.00	81.00	8.00	120	TiAlN
8595775	●	-	-	-	7.750	0.30512	37.00	81.00	8.00	120	TiN
61578	●	-	-	-	7.800	0.30709	37.00	81.00	8.00	120	TiN
8595785	●	-	-	-	7.850	0.30906	37.00	81.00	8.00	120	TiN
6157911	●	-	-	-	7.900	0.31102	37.00	81.00	8.00	120	TiAlN
61579	●	-	-	-	7.900	0.31102	37.00	81.00	8.00	120	TiN
859579511	●	-	-	-	7.950	0.31299	37.00	81.00	8.00	120	TiAlN
8595795	●	-	-	-	7.950	0.31299	37.00	81.00	8.00	120	TiN
6158011	●	-	-	-	8.000	0.31496	37.00	81.00	8.00	120	TiAlN
61580	●	-	-	-	8.000	0.31496	37.00	81.00	8.00	120	TiN
8595805	●	-	-	-	8.050	0.31693	37.00	87.00	10.00	120	TiN
6158111	●	-	-	-	8.100	0.31890	37.00	87.00	10.00	120	TiAlN
61581	●	-	-	-	8.100	0.31890	37.00	87.00	10.00	120	TiN
8595815	●	-	-	-	8.150	0.32087	37.00	87.00	10.00	120	TiN
6158211	●	-	-	-	8.200	0.32283	37.00	87.00	10.00	120	TiAlN
61582	●	-	-	-	8.200	0.32283	37.00	87.00	10.00	120	TiN
8595825	●	-	-	-	8.250	0.32480	37.00	87.00	10.00	120	TiN
6158311	●	-	-	-	8.300	0.32677	37.00	87.00	10.00	120	TiAlN
61583	●	-	-	-	8.300	0.32677	37.00	87.00	10.00	120	TiN
859583511	●	-	-	-	8.350	0.32874	37.00	87.00	10.00	120	TiAlN
8595835	●	-	-	-	8.350	0.32874	37.00	87.00	10.00	120	TiN
61584	●	-	-	-	8.400	0.33071	37.00	87.00	10.00	120	TiN
8595845	●	-	-	-	8.450	0.33268	37.00	87.00	10.00	120	TiN
6158511	●	-	-	-	8.500	0.33465	37.00	87.00	10.00	120	TiAlN
61585	●	-	-	-	8.500	0.33465	37.00	87.00	10.00	120	TiN
8595855	●	-	-	-	8.550	0.33661	40.00	90.00	10.00	120	TiN
6158611	●	-	-	-	8.600	0.33858	40.00	90.00	10.00	120	TiAlN
61586	●	-	-	-	8.600	0.33858	40.00	90.00	10.00	120	TiN
8595865	●	-	-	-	8.650	0.34055	40.00	90.00	10.00	120	TiN
61587	●	-	-	-	8.700	0.34252	40.00	90.00	10.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED

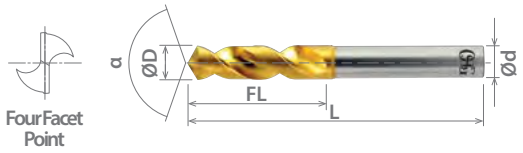
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
859587511	●	-	-	-	8.750	0.34449	40.00	90.00	10.00	120	TiAlN
8595875	●	-	-	-	8.750	0.34449	40.00	90.00	10.00	120	TiN
6158811	●	-	-	-	8.800	0.34646	40.00	90.00	10.00	120	TiAlN
61588	●	-	-	-	8.800	0.34646	40.00	90.00	10.00	120	TiN
8595885	●	-	-	-	8.850	0.34843	40.00	90.00	10.00	120	TiN
61589	●	-	-	-	8.900	0.35039	40.00	90.00	10.00	120	TiN
8595895	●	-	-	-	8.950	0.35236	40.00	90.00	10.00	120	TiN
6159011	●	-	-	-	9.000	0.35433	40.00	90.00	10.00	120	TiAlN
61590	●	-	-	-	9.000	0.35433	40.00	90.00	10.00	120	TiN
8595905	●	-	-	-	9.050	0.35630	40.00	90.00	10.00	120	TiN
61591	●	-	-	-	9.100	0.35827	40.00	90.00	10.00	120	TiN
8595915	●	-	-	-	9.150	0.36024	40.00	90.00	10.00	120	TiN
61592	●	-	-	-	9.200	0.36220	40.00	90.00	10.00	120	TiN
8595925	●	-	-	-	9.250	0.36417	40.00	90.00	10.00	120	TiN
61593	●	-	-	-	9.300	0.36614	40.00	90.00	10.00	120	TiN
8595935	●	-	-	-	9.350	0.36811	40.00	90.00	10.00	120	TiN
61594	●	-	-	-	9.400	0.37008	40.00	90.00	10.00	120	TiN
8595945	●	-	-	-	9.450	0.37205	40.00	90.00	10.00	120	TiN
6159511	●	-	-	-	9.500	0.37402	40.00	90.00	10.00	120	TiAlN
61595	●	-	-	-	9.500	0.37402	40.00	90.00	10.00	120	TiN
8595955	●	-	-	-	9.550	0.37598	43.00	93.00	10.00	120	TiN
6159611	●	-	-	-	9.600	0.37795	43.00	93.00	10.00	120	TiAlN
61596	●	-	-	-	9.600	0.37795	43.00	93.00	10.00	120	TiN
859596511	●	-	-	-	9.650	0.37992	43.00	93.00	10.00	120	TiAlN
8595965	●	-	-	-	9.650	0.37992	43.00	93.00	10.00	120	TiN
61597	●	-	-	-	9.700	0.38189	43.00	93.00	10.00	120	TiN
8595975	●	-	-	-	9.750	0.38386	43.00	93.00	10.00	120	TiN
6159811	●	-	-	-	9.800	0.38583	43.00	93.00	10.00	120	TiAlN
61598	●	-	-	-	9.800	0.38583	43.00	93.00	10.00	120	TiN
8595985	●	-	-	-	9.850	0.38780	43.00	93.00	10.00	120	TiN
6159911	●	-	-	-	9.900	0.38976	43.00	93.00	10.00	120	TiAlN
61599	●	-	-	-	9.900	0.38976	43.00	93.00	10.00	120	TiN
8595995	●	-	-	-	9.950	0.39173	43.00	93.00	10.00	120	TiN
6160011	●	-	-	-	10.000	0.39370	43.00	93.00	10.00	120	TiAlN
61600	●	-	-	-	10.000	0.39370	43.00	93.00	10.00	120	TiN
8596005	●	-	-	-	10.050	0.39567	43.00	100.00	12.00	120	TiN
61601	●	-	-	-	10.100	0.39764	43.00	100.00	12.00	120	TiN
859601511	●	-	-	-	10.150	0.39961	43.00	100.00	12.00	120	TiAlN
8596015	●	-	-	-	10.150	0.39961	43.00	100.00	12.00	120	TiN
6160211	●	-	-	-	10.200	0.40157	43.00	100.00	12.00	120	TiAlN
61602	●	-	-	-	10.200	0.40157	43.00	100.00	12.00	120	TiN
8596025	●	-	-	-	10.250	0.40354	43.00	100.00	12.00	120	TiN
6160311	●	-	-	-	10.300	0.40551	43.00	100.00	12.00	120	TiAlN
61603	●	-	-	-	10.300	0.40551	43.00	100.00	12.00	120	TiN
859603511	●	-	-	-	10.350	0.40748	43.00	100.00	12.00	120	TiAlN
8596035	●	-	-	-	10.350	0.40748	43.00	100.00	12.00	120	TiN
61604	●	-	-	-	10.400	0.40945	43.00	100.00	12.00	120	TiN
8596045	●	-	-	-	10.450	0.41142	43.00	100.00	12.00	120	TiN
6160511	●	-	-	-	10.500	0.41339	43.00	100.00	12.00	120	TiAlN
61605	●	-	-	-	10.500	0.41339	43.00	100.00	12.00	120	TiN
8596055	●	-	-	-	10.550	0.41535	43.00	100.00	12.00	120	TiN
61606	●	-	-	-	10.600	0.41732	43.00	100.00	12.00	120	TiN
8596065	●	-	-	-	10.650	0.41929	47.00	104.00	12.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
6160711	●	-	-	-	10.700	0.42126	47.00	104.00	12.00	120	TiAlN
61607	●	-	-	-	10.700	0.42126	47.00	104.00	12.00	120	TiN
8596075	●	-	-	-	10.750	0.42323	47.00	104.00	12.00	120	TiN
61608	●	-	-	-	10.800	0.42520	47.00	104.00	12.00	120	TiN
8596085	●	-	-	-	10.850	0.42717	47.00	104.00	12.00	120	TiN
61609	●	-	-	-	10.900	0.42913	47.00	104.00	12.00	120	TiN
8596095	●	-	-	-	10.950	0.43110	47.00	104.00	12.00	120	TiN
6161011	●	-	-	-	11.000	0.43307	47.00	104.00	12.00	120	TiAlN
61610	●	-	-	-	11.000	0.43307	47.00	104.00	12.00	120	TiN
8596105	●	-	-	-	11.050	0.43504	47.00	104.00	12.00	120	TiN
6161111	●	-	-	-	11.100	0.43701	47.00	104.00	12.00	120	TiAlN
61611	●	-	-	-	11.100	0.43701	47.00	104.00	12.00	120	TiN
8596115	●	-	-	-	11.150	0.43898	47.00	104.00	12.00	120	TiN
61612	●	-	-	-	11.200	0.44094	47.00	104.00	12.00	120	TiN
8596125	●	-	-	-	11.250	0.44291	47.00	104.00	12.00	120	TiN
61613	●	-	-	-	11.300	0.44488	47.00	104.00	12.00	120	TiN
8596135	●	-	-	-	11.350	0.44685	47.00	104.00	12.00	120	TiN
61614	●	-	-	-	11.400	0.44882	47.00	104.00	12.00	120	TiN
8596145	●	-	-	-	11.450	0.45079	47.00	104.00	12.00	120	TiN
6161511	●	-	-	-	11.500	0.45276	47.00	104.00	12.00	120	TiAlN
61615	●	-	-	-	11.500	0.45276	47.00	104.00	12.00	120	TiN
8596155	●	-	-	-	11.550	0.45472	47.00	104.00	12.00	120	TiN
61616	●	-	-	-	11.600	0.45669	47.00	104.00	12.00	120	TiN
8596165	●	-	-	-	11.650	0.45866	47.00	104.00	12.00	120	TiN
61617	●	-	-	-	11.700	0.46063	47.00	104.00	12.00	120	TiN
8596175	●	-	-	-	11.750	0.46260	47.00	104.00	12.00	120	TiN
61618	●	-	-	-	11.800	0.46457	47.00	104.00	12.00	120	TiN
8596185	●	-	-	-	11.850	0.46654	51.00	108.00	12.00	120	TiN
61619	●	-	-	-	11.900	0.46850	51.00	108.00	12.00	120	TiN
8596195	●	-	-	-	11.950	0.47047	51.00	108.00	12.00	120	TiN
6162011	●	-	-	-	12.000	0.47244	51.00	108.00	12.00	120	TiAlN
61620	●	-	-	-	12.000	0.47244	51.00	108.00	12.00	120	TiN
61621	●	-	-	-	12.100	0.47638	51.00	108.00	12.00	120	TiN
61622	●	-	-	-	12.200	0.48031	51.00	108.00	12.00	120	TiN
6162311	●	-	-	-	12.300	0.48425	51.00	108.00	12.00	120	TiAlN
61623	●	-	-	-	12.300	0.48425	51.00	108.00	12.00	120	TiN
6162411	●	-	-	-	12.400	0.48819	51.00	108.00	12.00	120	TiAlN
61624	●	-	-	-	12.400	0.48819	51.00	108.00	12.00	120	TiN
6162511	●	-	-	-	12.500	0.49213	51.00	108.00	12.00	120	TiAlN
61625	●	-	-	-	12.500	0.49213	51.00	108.00	12.00	120	TiN
6162611	●	-	-	-	12.600	0.49606	51.00	108.00	12.00	120	TiAlN
61626	●	-	-	-	12.600	0.49606	51.00	108.00	12.00	120	TiN
6162711	●	1/2	-	-	12.700	0.50000	51.00	108.00	12.00	120	TiAlN
61627	●	1/2	-	-	12.700	0.50000	51.00	108.00	12.00	120	TiN
6162811	●	-	-	-	12.800	0.50394	51.00	108.00	12.00	120	TiAlN
61628	●	-	-	-	12.800	0.50394	51.00	108.00	12.00	120	TiN
6162911	●	-	-	-	12.900	0.50787	51.00	108.00	12.00	120	TiAlN
61629	●	-	-	-	12.900	0.50787	51.00	108.00	12.00	120	TiN
6163011	●	-	-	-	13.000	0.51181	51.00	108.00	12.00	120	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED ›

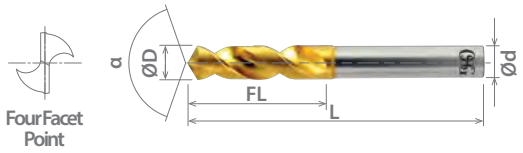
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
61630	●	-	-	-	13.000	0.51181	51.00	108.00	12.00	120	TiN
6163111	●	-	-	-	13.100	0.51575	51.00	111.00	16.00	120	TiAlN
61631	●	-	-	-	13.100	0.51575	51.00	111.00	16.00	120	TiN
61632	●	-	-	-	13.200	0.51969	51.00	111.00	16.00	120	TiN
61633	●	-	-	-	13.300	0.52362	54.00	114.00	16.00	120	TiN
61634	●	-	-	-	13.400	0.52756	54.00	114.00	16.00	120	TiN
6163511	●	-	-	-	13.500	0.53150	54.00	114.00	16.00	120	TiAlN
61635	●	-	-	-	13.500	0.53150	54.00	114.00	16.00	120	TiN
61636	●	-	-	-	13.600	0.53543	54.00	114.00	16.00	120	TiN
61637	●	-	-	-	13.700	0.53937	54.00	114.00	16.00	120	TiN
61638	●	-	-	-	13.800	0.54331	54.00	114.00	16.00	120	TiN
61639	●	-	-	-	13.900	0.54724	54.00	114.00	16.00	120	TiN
6164011	●	-	-	-	14.000	0.55118	54.00	114.00	16.00	120	TiAlN
61640	●	-	-	-	14.000	0.55118	54.00	114.00	16.00	120	TiN
6164111	●	-	-	-	14.100	0.55512	56.00	116.00	16.00	120	TiAlN
61641	●	-	-	-	14.100	0.55512	56.00	116.00	16.00	120	TiN
61642	●	-	-	-	14.200	0.55906	56.00	116.00	16.00	120	TiN
6164311	●	-	-	-	14.300	0.56299	56.00	116.00	16.00	120	TiAlN
61643	●	-	-	-	14.300	0.56299	56.00	116.00	16.00	120	TiN
61644	●	-	-	-	14.400	0.56693	56.00	116.00	16.00	120	TiN
6164511	●	-	-	-	14.500	0.57087	56.00	116.00	16.00	120	TiAlN
61645	●	-	-	-	14.500	0.57087	56.00	116.00	16.00	120	TiN
61646	●	-	-	-	14.600	0.57480	56.00	116.00	16.00	120	TiN
61647	●	-	-	-	14.700	0.57874	56.00	116.00	16.00	120	TiN
61648	●	-	-	-	14.800	0.58268	56.00	116.00	16.00	120	TiN
61649	●	-	-	-	14.900	0.58661	56.00	116.00	16.00	120	TiN
6165011	●	-	-	-	15.000	0.59055	56.00	116.00	16.00	120	TiAlN
61650	●	-	-	-	15.000	0.59055	56.00	116.00	16.00	120	TiN
61651	●	-	-	-	15.100	0.59449	58.00	118.00	16.00	120	TiN
61652	●	-	-	-	15.200	0.59843	58.00	118.00	16.00	120	TiN
6165311	●	-	-	-	15.300	0.60236	58.00	118.00	16.00	120	TiAlN
61653	●	-	-	-	15.300	0.60236	58.00	118.00	16.00	120	TiN
61654	●	-	-	-	15.400	0.60630	58.00	118.00	16.00	120	TiN
61655	●	-	-	-	15.500	0.61024	58.00	118.00	16.00	120	TiN
61656	●	-	-	-	15.600	0.61417	58.00	118.00	16.00	120	TiN
61657	●	-	-	-	15.700	0.61811	58.00	118.00	16.00	120	TiN
61658	●	-	-	-	15.800	0.62205	58.00	118.00	16.00	120	TiN
6165911	●	-	-	-	15.900	0.62598	58.00	118.00	16.00	120	TiAlN
61659	●	-	-	-	15.900	0.62598	58.00	118.00	16.00	120	TiN
6166011	●	-	-	-	16.000	0.62992	58.00	118.00	16.00	120	TiAlN
61660	●	-	-	-	16.000	0.62992	58.00	118.00	16.00	120	TiN
6166111	●	-	-	-	16.100	0.63386	60.00	126.00	20.00	120	TiAlN
61661	●	-	-	-	16.100	0.63386	60.00	126.00	20.00	120	TiN
61662	●	-	-	-	16.200	0.63780	60.00	126.00	20.00	120	TiN
61663	●	-	-	-	16.300	0.64173	60.00	126.00	20.00	120	TiN
61664	●	-	-	-	16.400	0.64567	60.00	126.00	20.00	120	TiN
6166511	●	-	-	-	16.500	0.64961	60.00	126.00	20.00	120	TiAlN
61665	●	-	-	-	16.500	0.64961	60.00	126.00	20.00	120	TiN
61666	●	-	-	-	16.600	0.65354	60.00	126.00	20.00	120	TiN
6166711	●	-	-	-	16.700	0.65748	60.00	126.00	20.00	120	TiAlN
61667	●	-	-	-	16.700	0.65748	60.00	126.00	20.00	120	TiN
61668	●	-	-	-	16.800	0.66142	60.00	126.00	20.00	120	TiN
61669	●	-	-	-	16.900	0.66535	60.00	126.00	20.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1100 (Continued)

EX-SUS-GOLD EX-SUS-GDS

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | STUB | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
61670	●	-	-	-	17.000	0.66929	60.00	126.00	20.00	120	TiN
6167111	●	-	-	-	17.100	0.67323	62.00	128.00	20.00	120	TiAlN
61671	●	-	-	-	17.100	0.67323	62.00	128.00	20.00	120	TiN
6167211	●	-	-	-	17.200	0.67717	60.00	128.00	20.00	120	TiAlN
61672	●	-	-	-	17.200	0.67717	60.00	128.00	20.00	120	TiN
61673	●	-	-	-	17.300	0.68110	60.00	128.00	20.00	120	TiN
61674	●	-	-	-	17.400	0.68504	60.00	128.00	20.00	120	TiN
61675	●	-	-	-	17.500	0.68898	60.00	128.00	20.00	120	TiN
61676	●	-	-	-	17.600	0.69291	60.00	128.00	20.00	120	TiN
6167711	●	-	-	-	17.700	0.69685	60.00	128.00	20.00	120	TiAlN
61677	●	-	-	-	17.700	0.69685	60.00	128.00	20.00	120	TiN
61678	●	-	-	-	17.800	0.70079	60.00	128.00	20.00	120	TiN
61679	●	-	-	-	17.900	0.70472	60.00	128.00	20.00	120	TiN
6168011	●	-	-	-	18.000	0.70866	60.00	128.00	20.00	120	TiAlN
61680	●	-	-	-	18.000	0.70866	60.00	128.00	20.00	120	TiN
61681	●	-	-	-	18.100	0.71260	64.00	130.00	20.00	120	TiN
61682	●	-	-	-	18.200	0.71654	64.00	130.00	20.00	120	TiN
61683	●	-	-	-	18.300	0.72047	64.00	130.00	20.00	120	TiN
61684	●	-	-	-	18.400	0.72441	64.00	130.00	20.00	120	TiN
61685	●	-	-	-	18.500	0.72835	64.00	130.00	20.00	120	TiN
61686	●	-	-	-	18.600	0.73228	64.00	130.00	20.00	120	TiN
61687	●	-	-	-	18.700	0.73622	64.00	130.00	20.00	120	TiN
61688	●	-	-	-	18.800	0.74016	64.00	130.00	20.00	120	TiN
61689	●	-	-	-	18.900	0.74409	64.00	130.00	20.00	120	TiN
61690	●	-	-	-	19.000	0.74803	64.00	130.00	20.00	120	TiN
6169111	●	-	-	-	19.100	0.75197	66.00	132.00	20.00	120	TiAlN
61691	●	-	-	-	19.100	0.75197	66.00	132.00	20.00	120	TiN
61692	●	-	-	-	19.200	0.75591	66.00	132.00	20.00	120	TiN
61693	●	-	-	-	19.300	0.75984	66.00	132.00	20.00	120	TiN
61694	●	-	-	-	19.400	0.76378	66.00	132.00	20.00	120	TiN
61695	●	-	-	-	19.500	0.76772	66.00	132.00	20.00	120	TiN
61696	●	-	-	-	19.600	0.77165	66.00	132.00	20.00	120	TiN
61697	●	-	-	-	19.700	0.77559	66.00	132.00	20.00	120	TiN
61698	●	-	-	-	19.800	0.77953	66.00	132.00	20.00	120	TiN
61699	●	-	-	-	19.900	0.78346	66.00	132.00	20.00	120	TiN
61700	●	-	-	-	20.000	0.78740	66.00	132.00	20.00	120	TiN
61705	●	-	-	-	20.500	0.80709	68.00	144.00	25.00	120	TiN
6171011	●	-	-	-	21.000	0.82677	68.00	144.00	25.00	120	TiAlN
61710	●	-	-	-	21.000	0.82677	68.00	144.00	25.00	120	TiN
6171511	●	-	-	-	21.500	0.84646	70.00	146.00	25.00	120	TiAlN
61715	●	-	-	-	21.500	0.84646	70.00	146.00	25.00	120	TiN
61720	●	-	-	-	22.000	0.86614	70.00	146.00	25.00	120	TiN
61725	●	-	-	-	22.500	0.88583	72.00	148.00	25.00	120	TiN
6173011	●	-	-	-	23.000	0.90551	72.00	148.00	25.00	120	TiAlN
61730	●	-	-	-	23.000	0.90551	72.00	148.00	25.00	120	TiN
61735	●	-	-	-	23.500	0.92520	72.00	148.00	25.00	120	TiN
61740	●	-	-	-	24.000	0.94488	75.00	151.00	25.00	120	TiN
61745	●	-	-	-	24.500	0.96457	75.00	151.00	25.00	120	TiN
61750	●	-	-	-	25.000	0.98425	75.00	151.00	25.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED

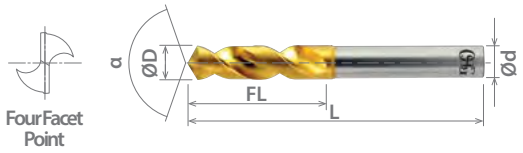
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1100 (Continued)

SPEED FEED	HSSE	TiN	TiAlN	2 FLUTE	STUB	40°	PACKED
353							1 PIECE

EX-SUS-GOLD EX-SUS-GDS



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
0.5 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
61755	●	-	-	-	25.500	1.00394	78.00	158.00	32.00	120	TiN
61760	●	-	-	-	26.000	1.02362	78.00	158.00	32.00	120	TiN
61765	●	-	-	-	26.500	1.04331	78.00	158.00	32.00	120	TiN
61770	●	-	-	-	27.000	1.06299	81.00	161.00	32.00	120	TiN
61775	●	-	-	-	27.500	1.08268	81.00	161.00	32.00	120	TiN
61780	●	-	-	-	28.000	1.10236	81.00	161.00	32.00	120	TiN
61785	●	-	-	-	28.500	1.12205	84.00	164.00	32.00	120	TiN
61790	●	-	-	-	29.000	1.14173	84.00	164.00	32.00	120	TiN
61795	●	-	-	-	29.500	1.16142	84.00	164.00	32.00	120	TiN
61800	●	-	-	-	30.000	1.18110	84.00	164.00	32.00	120	TiN
61805	●	-	-	-	30.500	1.20079	87.00	167.00	32.00	120	TiN
61810	●	-	-	-	31.000	1.22047	87.00	167.00	32.00	120	TiN
61815	●	-	-	-	31.500	1.24016	87.00	167.00	32.00	120	TiN
61820	●	-	-	-	32.000	1.25984	90.00	170.00	32.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○				◎	◎	○		◎	◎						

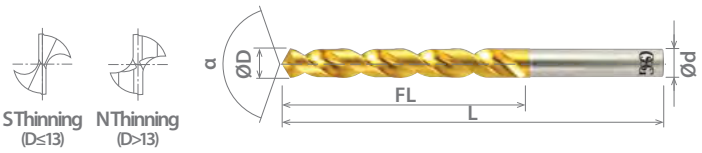
○ Good ◎ Best

List 1600

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED	HSSE	TiN	TiAlN	2 FLUTE	JOBBER	40°	PACKED
353							1 PIECE

Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Point Angle α	Surface Treatment
6252011	●	-	-	-	2.000	0.07874	24.00	56.00	3.00	130	TiAlN
62520	●	-	-	-	2.000	0.07874	24.00	56.00	3.00	130	TiN
8597201	●	-	-	-	2.010	0.07913	24.00	56.00	3.00	130	TiN
8597202	●	-	-	-	2.020	0.07953	24.00	56.00	3.00	130	TiN
8597203	●	-	-	-	2.030	0.07992	24.00	56.00	3.00	130	TiN
859720411	●	-	-	-	2.040	0.08031	24.00	56.00	3.00	130	TiAlN
8597204	●	-	-	-	2.040	0.08031	24.00	56.00	3.00	130	TiN
8597205	●	-	-	-	2.050	0.08071	24.00	56.00	3.00	130	TiN
8597206	●	-	-	-	2.060	0.08110	24.00	56.00	3.00	130	TiN
8597207	●	-	-	-	2.070	0.08150	24.00	56.00	3.00	130	TiN
859720811	●	-	-	-	2.080	0.08189	24.00	56.00	3.00	130	TiAlN
8597208	●	-	-	-	2.080	0.08189	24.00	56.00	3.00	130	TiN
8597209	●	-	-	-	2.090	0.08228	24.00	56.00	3.00	130	TiN
62521	●	-	-	-	2.100	0.08268	24.00	56.00	3.00	130	TiN
8597211	●	-	-	-	2.110	0.08307	24.00	56.00	3.00	130	TiN
8597212	●	-	-	-	2.120	0.08346	24.00	56.00	3.00	130	TiN
8597213	●	-	-	-	2.130	0.08386	27.00	59.00	3.00	130	TiN
8597214	●	-	-	-	2.140	0.08425	27.00	59.00	3.00	130	TiN
8597215	●	-	-	-	2.150	0.08465	27.00	59.00	3.00	130	TiN
8597216	●	-	-	-	2.160	0.08504	27.00	59.00	3.00	130	TiN
8597217	●	-	-	-	2.170	0.08543	27.00	59.00	3.00	130	TiN
859721811	●	-	-	-	2.180	0.08583	27.00	59.00	3.00	130	TiAlN
8597218	●	-	-	-	2.180	0.08583	27.00	59.00	3.00	130	TiN
8597219	●	-	-	-	2.190	0.08622	27.00	59.00	3.00	130	TiN
6252211	●	-	-	-	2.200	0.08661	27.00	59.00	3.00	130	TiAlN
62522	●	-	-	-	2.200	0.08661	27.00	59.00	3.00	130	TiN
8597221	●	-	-	-	2.210	0.08701	27.00	59.00	3.00	130	TiN
8597222	●	-	-	-	2.220	0.08740	27.00	59.00	3.00	130	TiN
8597223	●	-	-	-	2.230	0.08780	27.00	59.00	3.00	130	TiN
8597224	●	-	-	-	2.240	0.08819	27.00	59.00	3.00	130	TiN
8597225	●	-	-	-	2.250	0.08858	27.00	59.00	3.00	130	TiN
859722611	●	-	-	-	2.260	0.08898	27.00	59.00	3.00	130	TiAlN
8597226	●	-	-	-	2.260	0.08898	27.00	59.00	3.00	130	TiN
8597227	●	-	-	-	2.270	0.08937	27.00	59.00	3.00	130	TiN
859722811	●	-	-	-	2.280	0.08976	27.00	59.00	3.00	130	TiAlN
8597228	●	-	-	-	2.280	0.08976	27.00	59.00	3.00	130	TiN
8597229	●	-	-	-	2.290	0.09016	27.00	59.00	3.00	130	TiN
62523	●	-	-	-	2.300	0.09055	27.00	59.00	3.00	130	TiN
8597231	●	-	-	-	2.310	0.09094	27.00	59.00	3.00	130	TiN
8597232	●	-	-	-	2.320	0.09134	27.00	59.00	3.00	130	TiN
8597233	●	-	-	-	2.330	0.09173	27.00	59.00	3.00	130	TiN
8597234	●	-	-	-	2.340	0.09213	27.00	59.00	3.00	130	TiN
8597235	●	-	-	-	2.350	0.09252	27.00	59.00	3.00	130	TiN
8597236	●	-	-	-	2.360	0.09291	27.00	59.00	3.00	130	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

CONTINUED ›

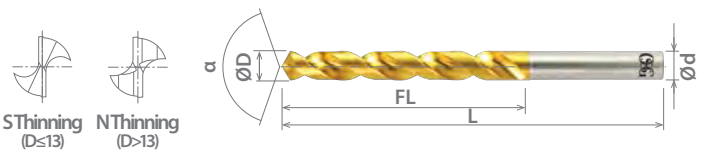
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED	HSSE	TiN	TiAlN	2 FLUTE	JOBBER	40°	PACKED
353							1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8597237	●	-	-	-	2.370	0.09331	30.00	62.00	3.00	130	TiN
859723811	●	-	-	-	2.380	0.09370	30.00	62.00	3.00	130	TiAlN
8597238	●	-	-	-	2.380	0.09370	30.00	62.00	3.00	130	TiN
8597239	●	-	-	-	2.390	0.09409	30.00	62.00	3.00	130	TiN
6252411	●	-	-	-	2.400	0.09449	30.00	62.00	3.00	130	TiAlN
62524	●	-	-	-	2.400	0.09449	30.00	62.00	3.00	130	TiN
8597241	●	-	-	-	2.410	0.09488	30.00	62.00	3.00	130	TiN
8597242	●	-	-	-	2.420	0.09528	30.00	62.00	3.00	130	TiN
8597243	●	-	-	-	2.430	0.09567	30.00	62.00	3.00	130	TiN
8597244	●	-	-	-	2.440	0.09606	30.00	62.00	3.00	130	TiN
8597245	●	-	-	-	2.450	0.09646	30.00	62.00	3.00	130	TiN
8597246	●	-	-	-	2.460	0.09685	30.00	62.00	3.00	130	TiN
8597247	●	-	-	-	2.470	0.09724	30.00	62.00	3.00	130	TiN
8597248	●	-	-	-	2.480	0.09764	30.00	62.00	3.00	130	TiN
8597249	●	-	-	-	2.490	0.09803	30.00	62.00	3.00	130	TiN
6252511	●	-	-	-	2.500	0.09843	30.00	62.00	3.00	130	TiAlN
62525	●	-	-	-	2.500	0.09843	30.00	62.00	3.00	130	TiN
8597251	●	-	-	-	2.510	0.09882	30.00	62.00	3.00	130	TiN
8597252	●	-	-	-	2.520	0.09921	30.00	62.00	3.00	130	TiN
8597253	●	-	-	-	2.530	0.09961	30.00	62.00	3.00	130	TiN
8597254	●	-	-	-	2.540	0.10000	30.00	62.00	3.00	130	TiN
859725511	●	-	-	-	2.550	0.10039	30.00	62.00	3.00	130	TiAlN
8597255	●	-	-	-	2.550	0.10039	30.00	62.00	3.00	130	TiN
8597256	●	-	-	-	2.560	0.10079	30.00	62.00	3.00	130	TiN
8597257	●	-	-	-	2.570	0.10118	30.00	62.00	3.00	130	TiN
859725811	●	-	-	-	2.580	0.10157	30.00	62.00	3.00	130	TiAlN
8597258	●	-	-	-	2.580	0.10157	30.00	62.00	3.00	130	TiN
8597259	●	-	-	-	2.590	0.10197	30.00	62.00	3.00	130	TiN
62526	●	-	-	-	2.600	0.10236	30.00	62.00	3.00	130	TiN
8597261	●	-	-	-	2.610	0.10276	30.00	62.00	3.00	130	TiN
8597262	●	-	-	-	2.620	0.10315	30.00	62.00	3.00	130	TiN
8597263	●	-	-	-	2.630	0.10354	30.00	62.00	3.00	130	TiN
8597264	●	-	-	-	2.640	0.10394	30.00	62.00	3.00	130	TiN
8597265	●	-	-	-	2.650	0.10433	30.00	62.00	3.00	130	TiN
8597266	●	-	-	-	2.660	0.10472	33.00	65.00	3.00	130	TiN
8597267	●	-	-	-	2.670	0.10512	33.00	65.00	3.00	130	TiN
8597268	●	-	-	-	2.680	0.10551	33.00	65.00	3.00	130	TiN
8597269	●	-	-	-	2.690	0.10591	33.00	65.00	3.00	130	TiN
62527	●	-	-	-	2.700	0.10630	33.00	65.00	3.00	130	TiN
8597271	●	-	-	-	2.710	0.10669	33.00	65.00	3.00	130	TiN
8597272	●	-	-	-	2.720	0.10709	33.00	65.00	3.00	130	TiN
8597273	●	-	-	-	2.730	0.10748	33.00	65.00	3.00	130	TiN
8597274	●	-	-	-	2.740	0.10787	33.00	65.00	3.00	130	TiN
8597275	●	-	-	-	2.750	0.10827	33.00	65.00	3.00	130	TiN
8597276	●	-	-	-	2.760	0.10866	33.00	65.00	3.00	130	TiN
8597277	●	-	-	-	2.770	0.10906	33.00	65.00	3.00	130	TiN
859727811	●	-	-	-	2.780	0.10945	33.00	65.00	3.00	130	TiAlN
8597278	●	-	-	-	2.780	0.10945	33.00	65.00	3.00	130	TiN
859727911	●	-	-	-	2.790	0.10984	33.00	65.00	3.00	130	TiAlN
8597279	●	-	-	-	2.790	0.10984	33.00	65.00	3.00	130	TiN
62528	●	-	-	-	2.800	0.11024	33.00	65.00	3.00	130	TiN
859728111	●	-	-	-	2.810	0.11063	33.00	65.00	3.00	130	TiAlN
8597281	●	-	-	-	2.810	0.11063	33.00	65.00	3.00	130	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Point Angle α	Surface Treatment
8597282	●	-	-	-	2.820	0.11102	33.00	65.00	3.00	130	TiN
8597283	●	-	-	-	2.830	0.11142	33.00	65.00	3.00	130	TiN
8597284	●	-	-	-	2.840	0.11181	33.00	65.00	3.00	130	TiN
8597285	●	-	-	-	2.850	0.11220	33.00	65.00	3.00	130	TiN
859728611	●	-	-	-	2.860	0.11260	33.00	65.00	3.00	130	TiAlN
8597286	●	-	-	-	2.860	0.11260	33.00	65.00	3.00	130	TiN
8597287	●	-	-	-	2.870	0.11299	33.00	65.00	3.00	130	TiN
8597288	●	-	-	-	2.880	0.11339	33.00	65.00	3.00	130	TiN
8597289	●	-	-	-	2.890	0.11378	33.00	65.00	3.00	130	TiN
6252911	●	-	-	-	2.900	0.11417	33.00	65.00	3.00	130	TiAlN
62529	●	-	-	-	2.900	0.11417	33.00	65.00	3.00	130	TiN
8597291	●	-	-	-	2.910	0.11457	33.00	65.00	3.00	130	TiN
8597292	●	-	-	-	2.920	0.11496	33.00	65.00	3.00	130	TiN
8597293	●	-	-	-	2.930	0.11535	33.00	65.00	3.00	130	TiN
859729411	●	-	-	-	2.940	0.11575	33.00	65.00	3.00	130	TiAlN
8597294	●	-	-	-	2.940	0.11575	33.00	65.00	3.00	130	TiN
8597295	●	-	-	-	2.950	0.11614	33.00	65.00	3.00	130	TiN
8597296	●	-	-	-	2.960	0.11654	33.00	65.00	3.00	130	TiN
8597297	●	-	-	-	2.970	0.11693	33.00	65.00	3.00	130	TiN
8597298	●	-	-	-	2.980	0.11732	33.00	65.00	3.00	130	TiN
8597299	●	-	-	-	2.990	0.11772	33.00	65.00	3.00	130	TiN
6253011	●	-	-	-	3.000	0.11811	33.00	65.00	3.00	130	TiAlN
62530	●	-	-	-	3.000	0.11811	33.00	65.00	3.00	130	TiN
8597301	●	-	-	-	3.010	0.11850	36.00	68.00	4.00	130	TiN
8597302	●	-	-	-	3.020	0.11890	36.00	68.00	4.00	130	TiN
8597303	●	-	-	-	3.030	0.11929	36.00	68.00	4.00	130	TiN
859730411	●	-	-	-	3.040	0.11969	36.00	68.00	4.00	130	TiAlN
8597304	●	-	-	-	3.040	0.11969	36.00	68.00	4.00	130	TiN
859730511	●	-	-	-	3.050	0.12008	36.00	68.00	4.00	130	TiAlN
8597305	●	-	-	-	3.050	0.12008	36.00	68.00	4.00	130	TiN
8597306	●	-	-	-	3.060	0.12047	36.00	68.00	4.00	130	TiN
8597307	●	-	-	-	3.070	0.12087	36.00	68.00	4.00	130	TiN
8597308	●	-	-	-	3.080	0.12126	36.00	68.00	4.00	130	TiN
8597309	●	-	-	-	3.090	0.12165	36.00	68.00	4.00	130	TiN
6253111	●	-	-	-	3.100	0.12205	36.00	68.00	4.00	130	TiAlN
62531	●	-	-	-	3.100	0.12205	36.00	68.00	4.00	130	TiN
8597311	●	-	-	-	3.110	0.12244	36.00	68.00	4.00	130	TiN
8597312	●	-	-	-	3.120	0.12283	36.00	68.00	4.00	130	TiN
8597313	●	-	-	-	3.130	0.12323	36.00	68.00	4.00	130	TiN
8597314	●	-	-	-	3.140	0.12362	36.00	68.00	4.00	130	TiN
8597315	●	-	-	-	3.150	0.12402	36.00	68.00	4.00	130	TiN
8597316	●	-	-	-	3.160	0.12441	36.00	68.00	4.00	130	TiN
8597317	●	-	-	-	3.170	0.12480	36.00	68.00	4.00	130	TiN
859731811	●	-	-	-	3.180	0.12520	36.00	68.00	4.00	130	TiAlN
8597318	●	-	-	-	3.180	0.12520	36.00	68.00	4.00	130	TiN
8597319	●	-	-	-	3.190	0.12559	36.00	68.00	4.00	130	TiN
6253211	●	-	-	-	3.200	0.12598	36.00	68.00	4.00	130	TiAlN
62532	●	-	-	-	3.200	0.12598	36.00	68.00	4.00	130	TiN
8597321	●	-	-	-	3.210	0.12638	36.00	68.00	4.00	130	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

CONTINUED ›

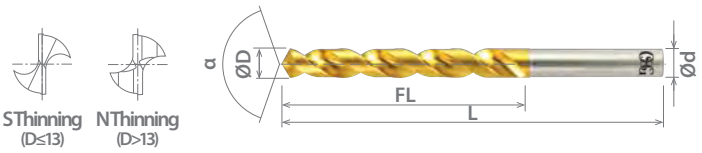
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED	HSSE	TiN	TiAlN	2 FLUTE	JOBBER	40°	PACKED
353							1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8597322	●	-	-	-	3.220	0.12677	36.00	68.00	4.00	130	TiN
8597323	●	-	-	-	3.230	0.12717	36.00	68.00	4.00	130	TiN
8597324	●	-	-	-	3.240	0.12756	36.00	68.00	4.00	130	TiN
8597325	●	-	-	-	3.250	0.12795	36.00	68.00	4.00	130	TiN
8597326	●	-	-	-	3.260	0.12835	36.00	68.00	4.00	130	TiN
8597327	●	-	-	-	3.270	0.12874	36.00	68.00	4.00	130	TiN
8597328	●	-	-	-	3.280	0.12913	36.00	68.00	4.00	130	TiN
8597329	●	-	-	-	3.290	0.12953	36.00	68.00	4.00	130	TiN
6253311	●	-	-	-	3.300	0.12992	36.00	68.00	4.00	130	TiAlN
62533	●	-	-	-	3.300	0.12992	36.00	68.00	4.00	130	TiN
8597331	●	-	-	-	3.310	0.13031	36.00	68.00	4.00	130	TiN
8597332	●	-	-	-	3.320	0.13071	36.00	68.00	4.00	130	TiN
8597333	●	-	-	-	3.330	0.13110	36.00	68.00	4.00	130	TiN
8597334	●	-	-	-	3.340	0.13150	36.00	68.00	4.00	130	TiN
8597335	●	-	-	-	3.350	0.13189	36.00	68.00	4.00	130	TiN
8597336	●	-	-	-	3.360	0.13228	39.00	71.00	4.00	130	TiN
8597337	●	-	-	-	3.370	0.13268	39.00	71.00	4.00	130	TiN
8597338	●	-	-	-	3.380	0.13307	39.00	71.00	4.00	130	TiN
8597339	●	-	-	-	3.390	0.13346	39.00	71.00	4.00	130	TiN
62534	●	-	-	-	3.400	0.13386	39.00	71.00	4.00	130	TiN
8597341	●	-	-	-	3.410	0.13425	39.00	71.00	4.00	130	TiN
8597342	●	-	-	-	3.420	0.13465	39.00	71.00	4.00	130	TiN
8597343	●	-	-	-	3.430	0.13504	39.00	71.00	4.00	130	TiN
8597344	●	-	-	-	3.440	0.13543	39.00	71.00	4.00	130	TiN
859734511	●	-	-	-	3.450	0.13583	39.00	71.00	4.00	130	TiAlN
8597345	●	-	-	-	3.450	0.13583	39.00	71.00	4.00	130	TiN
8597346	●	-	-	-	3.460	0.13622	39.00	71.00	4.00	130	TiN
8597347	●	-	-	-	3.470	0.13661	39.00	71.00	4.00	130	TiN
8597348	●	-	-	-	3.480	0.13701	39.00	71.00	4.00	130	TiN
8597349	●	-	-	-	3.490	0.13740	39.00	71.00	4.00	130	TiN
6253511	●	-	-	-	3.500	0.13780	39.00	71.00	4.00	130	TiAlN
62535	●	-	-	-	3.500	0.13780	39.00	71.00	4.00	130	TiN
8597351	●	-	-	-	3.510	0.13819	39.00	71.00	4.00	130	TiN
8597352	●	-	-	-	3.520	0.13858	39.00	71.00	4.00	130	TiN
8597353	●	-	-	-	3.530	0.13898	39.00	71.00	4.00	130	TiN
8597354	●	-	-	-	3.540	0.13937	39.00	71.00	4.00	130	TiN
8597355	●	-	-	-	3.550	0.13976	39.00	71.00	4.00	130	TiN
8597356	●	-	-	-	3.560	0.14016	39.00	71.00	4.00	130	TiN
859735711	●	-	-	-	3.570	0.14055	39.00	71.00	4.00	130	TiAlN
8597357	●	-	-	-	3.570	0.14055	39.00	71.00	4.00	130	TiN
859735811	●	-	-	-	3.580	0.14094	39.00	71.00	4.00	130	TiAlN
8597358	●	-	-	-	3.580	0.14094	39.00	71.00	4.00	130	TiN
8597359	●	-	-	-	3.590	0.14134	39.00	71.00	4.00	130	TiN
62536	●	-	-	-	3.600	0.14173	39.00	71.00	4.00	130	TiN
8597361	●	-	-	-	3.610	0.14213	39.00	71.00	4.00	130	TiN
8597362	●	-	-	-	3.620	0.14252	39.00	71.00	4.00	130	TiN
8597363	●	-	-	-	3.630	0.14291	39.00	71.00	4.00	130	TiN
8597364	●	-	-	-	3.640	0.14331	39.00	71.00	4.00	130	TiN
8597365	●	-	-	-	3.650	0.14370	39.00	71.00	4.00	130	TiN
8597366	●	-	-	-	3.660	0.14409	39.00	71.00	4.00	130	TiN
8597367	●	-	-	-	3.670	0.14449	39.00	71.00	4.00	130	TiN
8597368	●	-	-	-	3.680	0.14488	39.00	71.00	4.00	130	TiN
8597369	●	-	-	-	3.690	0.14528	39.00	71.00	4.00	130	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
6253711	●	-	-	-	3.700	0.14567	39.00	71.00	4.00	130	TiAlN
62537	●	-	-	-	3.700	0.14567	39.00	71.00	4.00	130	TiN
8597371	●	-	-	-	3.710	0.14606	39.00	71.00	4.00	130	TiN
8597372	●	-	-	-	3.720	0.14646	39.00	71.00	4.00	130	TiN
8597373	●	-	-	-	3.730	0.14685	39.00	71.00	4.00	130	TiN
8597374	●	-	-	-	3.740	0.14724	39.00	71.00	4.00	130	TiN
8597375	●	-	-	-	3.750	0.14764	39.00	71.00	4.00	130	TiN
8597376	●	-	-	-	3.760	0.14803	43.00	75.00	4.00	130	TiN
8597377	●	-	-	-	3.770	0.14843	43.00	75.00	4.00	130	TiN
8597378	●	-	-	-	3.780	0.14882	43.00	75.00	4.00	130	TiN
8597379	●	-	-	-	3.790	0.14921	43.00	75.00	4.00	130	TiN
6253811	●	-	-	-	3.800	0.14961	43.00	75.00	4.00	130	TiAlN
62538	●	-	-	-	3.800	0.14961	43.00	75.00	4.00	130	TiN
8597381	●	-	-	-	3.810	0.15000	43.00	75.00	4.00	130	TiN
859738211	●	-	-	-	3.820	0.15039	43.00	75.00	4.00	130	TiAlN
8597382	●	-	-	-	3.820	0.15039	43.00	75.00	4.00	130	TiN
859738311	●	-	-	-	3.830	0.15079	43.00	75.00	4.00	130	TiAlN
8597383	●	-	-	-	3.830	0.15079	43.00	75.00	4.00	130	TiN
859738411	●	-	-	-	3.840	0.15118	43.00	75.00	4.00	130	TiAlN
8597384	●	-	-	-	3.840	0.15118	43.00	75.00	4.00	130	TiN
8597385	●	-	-	-	3.850	0.15157	43.00	75.00	4.00	130	TiN
8597386	●	-	-	-	3.860	0.15197	43.00	75.00	4.00	130	TiN
8597387	●	-	-	-	3.870	0.15236	43.00	75.00	4.00	130	TiN
8597388	●	-	-	-	3.880	0.15276	43.00	75.00	4.00	130	TiN
8597389	●	-	-	-	3.890	0.15315	43.00	75.00	4.00	130	TiN
62539	●	-	-	-	3.900	0.15354	43.00	75.00	4.00	130	TiN
8597391	●	-	-	-	3.910	0.15394	43.00	75.00	4.00	130	TiN
8597392	●	-	-	-	3.920	0.15433	43.00	75.00	4.00	130	TiN
8597393	●	-	-	-	3.930	0.15472	43.00	75.00	4.00	130	TiN
8597394	●	-	-	-	3.940	0.15512	43.00	75.00	4.00	130	TiN
8597395	●	-	-	-	3.950	0.15551	43.00	75.00	4.00	130	TiN
8597396	●	-	-	-	3.960	0.15591	43.00	75.00	4.00	130	TiN
859739711	●	-	-	-	3.970	0.15630	43.00	75.00	4.00	130	TiAlN
8597397	●	-	-	-	3.970	0.15630	43.00	75.00	4.00	130	TiN
8597398	●	-	-	-	3.980	0.15669	43.00	75.00	4.00	130	TiN
859739911	●	-	-	-	3.990	0.15709	43.00	75.00	4.00	130	TiAlN
8597399	●	-	-	-	3.990	0.15709	43.00	75.00	4.00	130	TiN
6254011	●	-	-	-	4.000	0.15748	43.00	75.00	4.00	130	TiAlN
62540	●	-	-	-	4.000	0.15748	43.00	75.00	4.00	130	TiN
8597401	●	-	-	-	4.010	0.15787	43.00	87.00	6.00	120	TiN
8597402	●	-	-	-	4.020	0.15827	43.00	87.00	6.00	120	TiN
8597403	●	-	-	-	4.030	0.15866	43.00	87.00	6.00	120	TiN
859740411	●	-	-	-	4.040	0.15906	43.00	87.00	6.00	120	TiAlN
8597404	●	-	-	-	4.040	0.15906	43.00	87.00	6.00	120	TiN
8597405	●	-	-	-	4.050	0.15945	43.00	87.00	6.00	120	TiN
8597406	●	-	-	-	4.060	0.15984	43.00	87.00	6.00	120	TiN
8597407	●	-	-	-	4.070	0.16024	43.00	87.00	6.00	120	TiN
8597408	●	-	-	-	4.080	0.16063	43.00	87.00	6.00	120	TiN
859740911	●	-	-	-	4.090	0.16102	43.00	87.00	6.00	120	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

CONTINUED ›

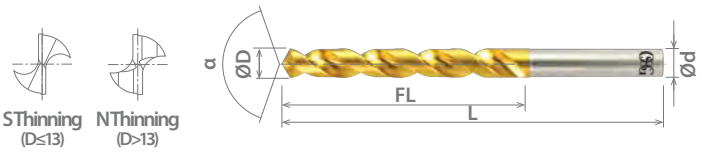
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED	HSSE	TiN	TiAlN	2 FLUTE	JOBBER	40°	PACKED
353							1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8597409	●	-	-	-	4.090	0.16102	43.00	87.00	6.00	120	TiN
62541	●	-	-	-	4.100	0.16142	43.00	87.00	6.00	120	TiN
8597411	●	-	-	-	4.110	0.16181	43.00	87.00	6.00	120	TiN
8597412	●	-	-	-	4.120	0.16220	43.00	87.00	6.00	120	TiN
8597413	●	-	-	-	4.130	0.16260	43.00	87.00	6.00	120	TiN
8597414	●	-	-	-	4.140	0.16299	43.00	87.00	6.00	120	TiN
8597415	●	-	-	-	4.150	0.16339	43.00	87.00	6.00	120	TiN
8597416	●	-	-	-	4.160	0.16378	43.00	87.00	6.00	120	TiN
8597417	●	-	-	-	4.170	0.16417	43.00	87.00	6.00	120	TiN
8597418	●	-	-	-	4.180	0.16457	43.00	87.00	6.00	120	TiN
8597419	●	-	-	-	4.190	0.16496	43.00	87.00	6.00	120	TiN
62542	●	-	-	-	4.200	0.16535	43.00	87.00	6.00	120	TiN
8597421	●	-	-	-	4.210	0.16575	43.00	87.00	6.00	120	TiN
859742211	●	-	-	-	4.220	0.16614	43.00	87.00	6.00	120	TiAlN
8597422	●	-	-	-	4.220	0.16614	43.00	87.00	6.00	120	TiN
8597423	●	-	-	-	4.230	0.16654	43.00	87.00	6.00	120	TiN
8597424	●	-	-	-	4.240	0.16693	43.00	87.00	6.00	120	TiN
8597425	●	-	-	-	4.250	0.16732	43.00	87.00	6.00	120	TiN
8597426	●	-	-	-	4.260	0.16772	47.00	91.00	6.00	120	TiN
8597427	●	-	-	-	4.270	0.16811	47.00	91.00	6.00	120	TiN
8597428	●	-	-	-	4.280	0.16850	47.00	91.00	6.00	120	TiN
8597429	●	-	-	-	4.290	0.16890	47.00	91.00	6.00	120	TiN
62543	●	-	-	-	4.300	0.16929	47.00	91.00	6.00	120	TiN
8597431	●	-	-	-	4.310	0.16969	47.00	91.00	6.00	120	TiN
8597432	●	-	-	-	4.320	0.17008	47.00	91.00	6.00	120	TiN
8597433	●	-	-	-	4.330	0.17047	47.00	91.00	6.00	120	TiN
8597434	●	-	-	-	4.340	0.17087	47.00	91.00	6.00	120	TiN
8597435	●	-	-	-	4.350	0.17126	47.00	91.00	6.00	120	TiN
8597436	●	-	-	-	4.360	0.17165	47.00	91.00	6.00	120	TiN
859743711	●	-	-	-	4.370	0.17205	47.00	91.00	6.00	120	TiAlN
8597437	●	-	-	-	4.370	0.17205	47.00	91.00	6.00	120	TiN
8597438	●	-	-	-	4.380	0.17244	47.00	91.00	6.00	120	TiN
8597439	●	-	-	-	4.390	0.17283	47.00	91.00	6.00	120	TiN
62544	●	-	-	-	4.400	0.17323	47.00	91.00	6.00	120	TiN
8597441	●	-	-	-	4.410	0.17362	47.00	91.00	6.00	120	TiN
8597442	●	-	-	-	4.420	0.17402	47.00	91.00	6.00	120	TiN
8597443	●	-	-	-	4.430	0.17441	47.00	91.00	6.00	120	TiN
8597444	●	-	-	-	4.440	0.17480	47.00	91.00	6.00	120	TiN
8597445	●	-	-	-	4.450	0.17520	47.00	91.00	6.00	120	TiN
8597446	●	-	-	-	4.460	0.17559	47.00	91.00	6.00	120	TiN
8597447	●	-	-	-	4.470	0.17598	47.00	91.00	6.00	120	TiN
8597448	●	-	-	-	4.480	0.17638	47.00	91.00	6.00	120	TiN
8597449	●	-	-	-	4.490	0.17677	47.00	91.00	6.00	120	TiN
6254511	●	-	-	-	4.500	0.17717	47.00	91.00	6.00	120	TiAlN
62545	●	-	-	-	4.500	0.17717	47.00	91.00	6.00	120	TiN
8597451	●	-	-	-	4.510	0.17756	47.00	91.00	6.00	120	TiN
8597452	●	-	-	-	4.520	0.17795	47.00	91.00	6.00	120	TiN
8597453	●	-	-	-	4.530	0.17835	47.00	91.00	6.00	120	TiN
8597454	●	-	-	-	4.540	0.17874	47.00	91.00	6.00	120	TiN
8597455	●	-	-	-	4.550	0.17913	47.00	91.00	6.00	120	TiN
8597456	●	-	-	-	4.560	0.17953	47.00	91.00	6.00	120	TiN
859745711	●	-	-	-	4.570	0.17992	47.00	91.00	6.00	120	TiAlN
8597457	●	-	-	-	4.570	0.17992	47.00	91.00	6.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8597458	●	-	-	-	4.580	0.18031	47.00	91.00	6.00	120	TiN
8597459	●	-	-	-	4.590	0.18071	47.00	91.00	6.00	120	TiN
62546	●	-	-	-	4.600	0.18110	47.00	91.00	6.00	120	TiN
8597461	●	-	-	-	4.610	0.18150	47.00	91.00	6.00	120	TiN
8597462	●	-	-	-	4.620	0.18189	47.00	91.00	6.00	120	TiN
8597463	●	-	-	-	4.630	0.18228	47.00	91.00	6.00	120	TiN
8597464	●	-	-	-	4.640	0.18268	47.00	91.00	6.00	120	TiN
8597465	●	-	-	-	4.650	0.18307	47.00	91.00	6.00	120	TiN
8597466	●	-	-	-	4.660	0.18346	47.00	91.00	6.00	120	TiN
8597467	●	-	-	-	4.670	0.18386	47.00	91.00	6.00	120	TiN
8597468	●	-	-	-	4.680	0.18425	47.00	91.00	6.00	120	TiN
8597469	●	-	-	-	4.690	0.18465	47.00	91.00	6.00	120	TiN
62547	●	-	-	-	4.700	0.18504	47.00	91.00	6.00	120	TiN
8597471	●	-	-	-	4.710	0.18543	47.00	91.00	6.00	120	TiN
8597472	●	-	-	-	4.720	0.18583	47.00	91.00	6.00	120	TiN
8597473	●	-	-	-	4.730	0.18622	47.00	91.00	6.00	120	TiN
8597474	●	-	-	-	4.740	0.18661	47.00	91.00	6.00	120	TiN
859747511	●	-	-	-	4.750	0.18701	47.00	91.00	6.00	120	TiAlN
8597475	●	-	-	-	4.750	0.18701	47.00	91.00	6.00	120	TiN
859747611	●	-	-	-	4.760	0.18740	52.00	96.00	6.00	120	TiAlN
8597476	●	-	-	-	4.760	0.18740	52.00	96.00	6.00	120	TiN
8597477	●	-	-	-	4.770	0.18780	52.00	96.00	6.00	120	TiN
8597478	●	-	-	-	4.780	0.18819	52.00	96.00	6.00	120	TiN
8597479	●	-	-	-	4.790	0.18858	52.00	96.00	6.00	120	TiN
6254811	●	-	-	-	4.800	0.18898	52.00	96.00	6.00	120	TiAlN
62548	●	-	-	-	4.800	0.18898	52.00	96.00	6.00	120	TiN
8597481	●	-	-	-	4.810	0.18937	52.00	96.00	6.00	120	TiN
8597482	●	-	-	-	4.820	0.18976	52.00	96.00	6.00	120	TiN
8597483	●	-	-	-	4.830	0.19016	52.00	96.00	6.00	120	TiN
8597484	●	-	-	-	4.840	0.19055	52.00	96.00	6.00	120	TiN
859748511	●	-	-	-	4.850	0.19094	52.00	96.00	6.00	120	TiAlN
8597485	●	-	-	-	4.850	0.19094	52.00	96.00	6.00	120	TiN
8597486	●	-	-	-	4.860	0.19134	52.00	96.00	6.00	120	TiN
8597487	●	-	-	-	4.870	0.19173	52.00	96.00	6.00	120	TiN
8597488	●	-	-	-	4.880	0.19213	52.00	96.00	6.00	120	TiN
8597489	●	-	-	-	4.890	0.19252	52.00	96.00	6.00	120	TiN
62549	●	-	-	-	4.900	0.19291	52.00	96.00	6.00	120	TiN
8597491	●	-	-	-	4.910	0.19331	52.00	96.00	6.00	120	TiN
8597492	●	-	-	-	4.920	0.19370	52.00	96.00	6.00	120	TiN
8597493	●	-	-	-	4.930	0.19409	52.00	96.00	6.00	120	TiN
8597494	●	-	-	-	4.940	0.19449	52.00	96.00	6.00	120	TiN
8597495	●	-	-	-	4.950	0.19488	52.00	96.00	6.00	120	TiN
8597496	●	-	-	-	4.960	0.19528	52.00	96.00	6.00	120	TiN
8597497	●	-	-	-	4.970	0.19567	52.00	96.00	6.00	120	TiN
859749811	●	-	-	-	4.980	0.19606	52.00	96.00	6.00	120	TiAlN
8597498	●	-	-	-	4.980	0.19606	52.00	96.00	6.00	120	TiN
8597499	●	-	-	-	4.990	0.19646	52.00	96.00	6.00	120	TiN
62550	●	-	-	-	5.000	0.19685	52.00	96.00	6.00	120	TiN
8597501	●	-	-	-	5.010	0.19724	52.00	96.00	6.00	120	TiN
859750211	●	-	-	-	5.020	0.19764	52.00	96.00	6.00	120	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

CONTINUED

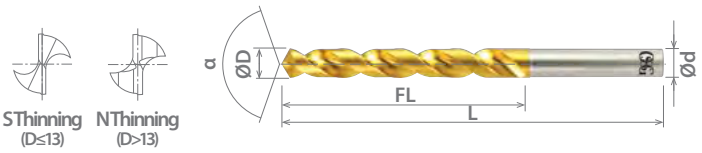
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED	HSSE	TiN	TiAlN	2 FLUTE	JOBBER	40°	PACKED
353							1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8597502	●	-	-	-	5.020	0.19764	52.00	96.00	6.00	120	TiN
8597503	●	-	-	-	5.030	0.19803	52.00	96.00	6.00	120	TiN
8597504	●	-	-	-	5.040	0.19843	52.00	96.00	6.00	120	TiN
8597505	●	-	-	-	5.050	0.19882	52.00	96.00	6.00	120	TiN
8597506	●	-	-	-	5.060	0.19921	52.00	96.00	6.00	120	TiN
8597507	●	-	-	-	5.070	0.19961	52.00	96.00	6.00	120	TiN
8597508	●	-	-	-	5.080	0.20000	52.00	96.00	6.00	120	TiN
8597509	●	-	-	-	5.090	0.20039	52.00	96.00	6.00	120	TiN
62551	●	-	-	-	5.100	0.20079	52.00	96.00	6.00	120	TiN
859751111	●	-	-	-	5.110	0.20118	52.00	96.00	6.00	120	TiAlN
8597511	●	-	-	-	5.110	0.20118	52.00	96.00	6.00	120	TiN
8597512	●	-	-	-	5.120	0.20157	52.00	96.00	6.00	120	TiN
8597513	●	-	-	-	5.130	0.20197	52.00	96.00	6.00	120	TiN
8597514	●	-	-	-	5.140	0.20236	52.00	96.00	6.00	120	TiN
8597515	●	-	-	-	5.150	0.20276	52.00	96.00	6.00	120	TiN
859751611	●	-	-	-	5.160	0.20315	52.00	96.00	6.00	120	TiAlN
8597516	●	-	-	-	5.160	0.20315	52.00	96.00	6.00	120	TiN
8597517	●	-	-	-	5.170	0.20354	52.00	96.00	6.00	120	TiN
8597518	●	-	-	-	5.180	0.20394	52.00	96.00	6.00	120	TiN
8597519	●	-	-	-	5.190	0.20433	52.00	96.00	6.00	120	TiN
6255211	●	-	-	-	5.200	0.20472	52.00	96.00	6.00	120	TiAlN
62552	●	-	-	-	5.200	0.20472	52.00	96.00	6.00	120	TiN
8597521	●	-	-	-	5.210	0.20512	52.00	96.00	6.00	120	TiN
8597522	●	-	-	-	5.220	0.20551	52.00	96.00	6.00	120	TiN
8597523	●	-	-	-	5.230	0.20591	52.00	96.00	6.00	120	TiN
8597524	●	-	-	-	5.240	0.20630	52.00	96.00	6.00	120	TiN
8597525	●	-	-	-	5.250	0.20669	52.00	96.00	6.00	120	TiN
8597526	●	-	-	-	5.260	0.20709	52.00	96.00	6.00	120	TiN
8597527	●	-	-	-	5.270	0.20748	52.00	96.00	6.00	120	TiN
8597528	●	-	-	-	5.280	0.20787	52.00	96.00	6.00	120	TiN
8597529	●	-	-	-	5.290	0.20827	52.00	96.00	6.00	120	TiN
62553	●	-	-	-	5.300	0.20866	52.00	96.00	6.00	120	TiN
859753111	●	-	-	-	5.310	0.20906	57.00	101.00	6.00	120	TiAlN
8597531	●	-	-	-	5.310	0.20906	57.00	101.00	6.00	120	TiN
8597532	●	-	-	-	5.320	0.20945	57.00	101.00	6.00	120	TiN
8597533	●	-	-	-	5.330	0.20984	57.00	101.00	6.00	120	TiN
8597534	●	-	-	-	5.340	0.21024	57.00	101.00	6.00	120	TiN
8597535	●	-	-	-	5.350	0.21063	57.00	101.00	6.00	120	TiN
8597536	●	-	-	-	5.360	0.21102	57.00	101.00	6.00	120	TiN
8597537	●	-	-	-	5.370	0.21142	57.00	101.00	6.00	120	TiN
8597538	●	-	-	-	5.380	0.21181	57.00	101.00	6.00	120	TiN
8597539	●	-	-	-	5.390	0.21220	57.00	101.00	6.00	120	TiN
62554	●	-	-	-	5.400	0.21260	57.00	101.00	6.00	120	TiN
8597541	●	-	-	-	5.410	0.21299	57.00	101.00	6.00	120	TiN
8597542	●	-	-	-	5.420	0.21339	57.00	101.00	6.00	120	TiN
8597543	●	-	-	-	5.430	0.21378	57.00	101.00	6.00	120	TiN
8597544	●	-	-	-	5.440	0.21417	57.00	101.00	6.00	120	TiN
8597545	●	-	-	-	5.450	0.21457	57.00	101.00	6.00	120	TiN
8597546	●	-	-	-	5.460	0.21496	57.00	101.00	6.00	120	TiN
859754711	●	-	-	-	5.470	0.21535	57.00	101.00	6.00	120	TiAlN
8597547	●	-	-	-	5.470	0.21535	57.00	101.00	6.00	120	TiN
8597548	●	-	-	-	5.480	0.21575	57.00	101.00	6.00	120	TiN
8597549	●	-	-	-	5.490	0.21614	57.00	101.00	6.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
6255511	●	-	-	-	5.500	0.21654	57.00	101.00	6.00	120	TiAlN
62555	●	-	-	-	5.500	0.21654	57.00	101.00	6.00	120	TiN
8597551	●	-	-	-	5.510	0.21693	57.00	101.00	6.00	120	TiN
8597552	●	-	-	-	5.520	0.21732	57.00	101.00	6.00	120	TiN
8597553	●	-	-	-	5.530	0.21772	57.00	101.00	6.00	120	TiN
8597554	●	-	-	-	5.540	0.21811	57.00	101.00	6.00	120	TiN
8597555	●	-	-	-	5.550	0.21850	57.00	101.00	6.00	120	TiN
8597556	●	-	-	-	5.560	0.21890	57.00	101.00	6.00	120	TiN
8597557	●	-	-	-	5.570	0.21929	57.00	101.00	6.00	120	TiN
8597558	●	-	-	-	5.580	0.21969	57.00	101.00	6.00	120	TiN
8597559	●	-	-	-	5.590	0.22008	57.00	101.00	6.00	120	TiN
62556	●	-	-	-	5.600	0.22047	57.00	101.00	6.00	120	TiN
859756111	●	-	-	-	5.610	0.22087	57.00	101.00	6.00	120	TiAlN
8597561	●	-	-	-	5.610	0.22087	57.00	101.00	6.00	120	TiN
8597562	●	-	-	-	5.620	0.22126	57.00	101.00	6.00	120	TiN
8597563	●	-	-	-	5.630	0.22165	57.00	101.00	6.00	120	TiN
8597564	●	-	-	-	5.640	0.22205	57.00	101.00	6.00	120	TiN
8597565	●	-	-	-	5.650	0.22244	57.00	101.00	6.00	120	TiN
8597566	●	-	-	-	5.660	0.22283	57.00	101.00	6.00	120	TiN
8597567	●	-	-	-	5.670	0.22323	57.00	101.00	6.00	120	TiN
8597568	●	-	-	-	5.680	0.22362	57.00	101.00	6.00	120	TiN
8597569	●	-	-	-	5.690	0.22402	57.00	101.00	6.00	120	TiN
62557	●	-	-	-	5.700	0.22441	57.00	101.00	6.00	120	TiN
8597571	●	-	-	-	5.710	0.22480	57.00	101.00	6.00	120	TiN
8597572	●	-	-	-	5.720	0.22520	57.00	101.00	6.00	120	TiN
8597573	●	-	-	-	5.730	0.22559	57.00	101.00	6.00	120	TiN
8597574	●	-	-	-	5.740	0.22598	57.00	101.00	6.00	120	TiN
8597575	●	-	-	-	5.750	0.22638	57.00	101.00	6.00	120	TiN
8597576	●	-	-	-	5.760	0.22677	57.00	101.00	6.00	120	TiN
8597577	●	-	-	-	5.770	0.22717	57.00	101.00	6.00	120	TiN
8597578	●	-	-	-	5.780	0.22756	57.00	101.00	6.00	120	TiN
8597579	●	-	-	-	5.790	0.22795	57.00	101.00	6.00	120	TiN
62558	●	-	-	-	5.800	0.22835	57.00	101.00	6.00	120	TiN
8597581	●	-	-	-	5.810	0.22874	57.00	101.00	6.00	120	TiN
8597582	●	-	-	-	5.820	0.22913	57.00	101.00	6.00	120	TiN
8597583	●	-	-	-	5.830	0.22953	57.00	101.00	6.00	120	TiN
8597584	●	-	-	-	5.840	0.22992	57.00	101.00	6.00	120	TiN
8597585	●	-	-	-	5.850	0.23031	57.00	101.00	6.00	120	TiN
8597586	●	-	-	-	5.860	0.23071	57.00	101.00	6.00	120	TiN
8597587	●	-	-	-	5.870	0.23110	57.00	101.00	6.00	120	TiN
8597588	●	-	-	-	5.880	0.23150	57.00	101.00	6.00	120	TiN
8597589	●	-	-	-	5.890	0.23189	57.00	101.00	6.00	120	TiN
62559	●	-	-	-	5.900	0.23228	57.00	101.00	6.00	120	TiN
8597591	●	-	-	-	5.910	0.23268	57.00	101.00	6.00	120	TiN
8597592	●	-	-	-	5.920	0.23307	57.00	101.00	6.00	120	TiN
8597593	●	-	-	-	5.930	0.23346	57.00	101.00	6.00	120	TiN
8597594	●	-	-	-	5.940	0.23386	57.00	101.00	6.00	120	TiN
859759511	●	-	-	-	5.950	0.23425	57.00	101.00	6.00	120	TiAlN
8597595	●	-	-	-	5.950	0.23425	57.00	101.00	6.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

CONTINUED ›

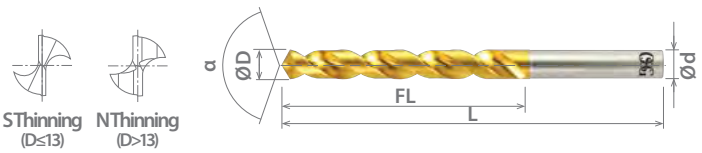
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED	HSSE	TiN	TiAlN	2 FLUTE	JOBBER	40°	PACKED
353							1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8597596	●	-	-	-	5.960	0.23465	57.00	101.00	6.00	120	TiN
8597597	●	-	-	-	5.970	0.23504	57.00	101.00	6.00	120	TiN
8597598	●	-	-	-	5.980	0.23543	57.00	101.00	6.00	120	TiN
8597599	●	-	-	-	5.990	0.23583	57.00	101.00	6.00	120	TiN
62560	●	-	-	-	6.000	0.23622	57.00	101.00	6.00	120	TiN
8597605	●	-	-	-	6.050	0.23819	63.00	107.00	8.00	120	TiN
6256111	●	-	-	-	6.100	0.24016	63.00	107.00	8.00	120	TiAlN
62561	●	-	-	-	6.100	0.24016	63.00	107.00	8.00	120	TiN
8597615	●	-	-	-	6.150	0.24213	63.00	107.00	8.00	120	TiN
62562	●	-	-	-	6.200	0.24409	63.00	107.00	8.00	120	TiN
8597625	●	-	-	-	6.250	0.24606	63.00	107.00	8.00	120	TiN
62563	●	-	-	-	6.300	0.24803	63.00	107.00	8.00	120	TiN
859763511	●	1/4	-	E	6.350	0.25000	63.00	107.00	8.00	120	TiAlN
8597635	●	1/4	-	E	6.350	0.25000	63.00	107.00	8.00	120	TiN
62564	●	-	-	-	6.400	0.25197	63.00	107.00	8.00	120	TiN
8597645	●	-	-	-	6.450	0.25394	63.00	107.00	8.00	120	TiN
6256511	●	-	-	-	6.500	0.25591	63.00	107.00	8.00	120	TiAlN
62565	●	-	-	-	6.500	0.25591	63.00	107.00	8.00	120	TiN
8597655	●	-	-	-	6.550	0.25787	63.00	107.00	8.00	120	TiN
6256611	●	-	-	-	6.600	0.25984	63.00	107.00	8.00	120	TiAlN
62566	●	-	-	-	6.600	0.25984	63.00	107.00	8.00	120	TiN
8597665	●	-	-	-	6.650	0.26181	63.00	107.00	8.00	120	TiN
62567	●	-	-	-	6.700	0.26378	63.00	107.00	8.00	120	TiN
859767511	●	-	-	-	6.750	0.26575	69.00	113.00	8.00	120	TiAlN
8597675	●	-	-	-	6.750	0.26575	69.00	113.00	8.00	120	TiN
6256811	●	-	-	-	6.800	0.26772	69.00	113.00	8.00	120	TiAlN
62568	●	-	-	-	6.800	0.26772	69.00	113.00	8.00	120	TiN
8597685	●	-	-	-	6.850	0.26969	69.00	113.00	8.00	120	TiN
62569	●	-	-	-	6.900	0.27165	69.00	113.00	8.00	120	TiN
8597695	●	-	-	-	6.950	0.27362	69.00	113.00	8.00	120	TiN
6257011	●	-	-	-	7.000	0.27559	69.00	113.00	8.00	120	TiAlN
62570	●	-	-	-	7.000	0.27559	69.00	113.00	8.00	120	TiN
8597705	●	-	-	-	7.050	0.27756	69.00	113.00	8.00	120	TiN
62571	●	-	-	-	7.100	0.27953	69.00	113.00	8.00	120	TiN
8597715	●	-	-	-	7.150	0.28150	69.00	113.00	8.00	120	TiN
62572	●	-	-	-	7.200	0.28346	69.00	113.00	8.00	120	TiN
859772511	●	-	-	-	7.250	0.28543	69.00	113.00	8.00	120	TiAlN
8597725	●	-	-	-	7.250	0.28543	69.00	113.00	8.00	120	TiN
62573	●	-	-	-	7.300	0.28740	69.00	113.00	8.00	120	TiN
8597735	●	-	-	-	7.350	0.28937	69.00	113.00	8.00	120	TiN
6257411	●	-	-	-	7.400	0.29134	69.00	113.00	8.00	120	TiAlN
62574	●	-	-	-	7.400	0.29134	69.00	113.00	8.00	120	TiN
8597745	●	-	-	-	7.450	0.29331	69.00	113.00	8.00	120	TiN
62575	●	-	-	-	7.500	0.29528	69.00	113.00	8.00	120	TiN
8597755	●	-	-	-	7.550	0.29724	75.00	119.00	8.00	120	TiN
62576	●	-	-	-	7.600	0.29921	75.00	119.00	8.00	120	TiN
8597765	●	-	-	-	7.650	0.30118	75.00	119.00	8.00	120	TiN
6257711	●	-	-	-	7.700	0.30315	75.00	119.00	8.00	120	TiAlN
62577	●	-	-	-	7.700	0.30315	75.00	119.00	8.00	120	TiN
8597775	●	-	-	-	7.750	0.30512	75.00	119.00	8.00	120	TiN
62578	●	-	-	-	7.800	0.30709	75.00	119.00	8.00	120	TiN
8597785	●	-	-	-	7.850	0.30906	75.00	119.00	8.00	120	TiN
6257911	●	-	-	-	7.900	0.31102	75.00	119.00	8.00	120	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
62579	●	-	-	-	7.900	0.31102	75.00	119.00	8.00	120	TiN
8597795	●	-	-	-	7.950	0.31299	75.00	119.00	8.00	120	TiN
62580	●	-	-	-	8.000	0.31496	75.00	119.00	8.00	120	TiN
8597805	●	-	-	-	8.050	0.31693	75.00	125.00	10.00	120	TiN
62581	●	-	-	-	8.100	0.31890	75.00	125.00	10.00	120	TiN
8597815	●	-	-	-	8.150	0.32087	75.00	125.00	10.00	120	TiN
62582	●	-	-	-	8.200	0.32283	75.00	125.00	10.00	120	TiN
8597825	●	-	-	-	8.250	0.32480	75.00	125.00	10.00	120	TiN
62583	●	-	-	-	8.300	0.32677	75.00	125.00	10.00	120	TiN
8597835	●	-	-	-	8.350	0.32874	75.00	125.00	10.00	120	TiN
62584	●	-	-	-	8.400	0.33071	75.00	125.00	10.00	120	TiN
8597845	●	-	-	-	8.450	0.33268	75.00	125.00	10.00	120	TiN
6258511	●	-	-	-	8.500	0.33465	75.00	125.00	10.00	120	TiAlN
62585	●	-	-	-	8.500	0.33465	75.00	125.00	10.00	120	TiN
8597855	●	-	-	-	8.550	0.33661	81.00	131.00	10.00	120	TiN
6258611	●	-	-	-	8.600	0.33858	81.00	131.00	10.00	120	TiAlN
62586	●	-	-	-	8.600	0.33858	81.00	131.00	10.00	120	TiN
8597865	●	-	-	-	8.650	0.34055	81.00	131.00	10.00	120	TiN
62587	●	-	-	-	8.700	0.34252	81.00	131.00	10.00	120	TiN
8597875	●	-	-	-	8.750	0.34449	81.00	131.00	10.00	120	TiN
62588	●	-	-	-	8.800	0.34646	81.00	131.00	10.00	120	TiN
8597885	●	-	-	-	8.850	0.34843	81.00	131.00	10.00	120	TiN
62589	●	-	-	-	8.900	0.35039	81.00	131.00	10.00	120	TiN
8597895	●	-	-	-	8.950	0.35236	81.00	131.00	10.00	120	TiN
62590	●	-	-	-	9.000	0.35433	81.00	131.00	10.00	120	TiN
8597905	●	-	-	-	9.050	0.35630	81.00	131.00	10.00	120	TiN
6259111	●	-	-	-	9.100	0.35827	81.00	131.00	10.00	120	TiAlN
62591	●	-	-	-	9.100	0.35827	81.00	131.00	10.00	120	TiN
8597915	●	-	-	-	9.150	0.36024	81.00	131.00	10.00	120	TiN
6259211	●	-	-	-	9.200	0.36220	81.00	131.00	10.00	120	TiAlN
62592	●	-	-	-	9.200	0.36220	81.00	131.00	10.00	120	TiN
859792511	●	-	-	-	9.250	0.36417	81.00	131.00	10.00	120	TiAlN
8597925	●	-	-	-	9.250	0.36417	81.00	131.00	10.00	120	TiN
62593	●	-	-	-	9.300	0.36614	81.00	131.00	10.00	120	TiN
859793511	●	-	-	-	9.350	0.36811	81.00	131.00	10.00	120	TiAlN
8597935	●	-	-	-	9.350	0.36811	81.00	131.00	10.00	120	TiN
62594	●	-	-	-	9.400	0.37008	81.00	131.00	10.00	120	TiN
8597945	●	-	-	-	9.450	0.37205	81.00	131.00	10.00	120	TiN
6259511	●	-	-	-	9.500	0.37402	81.00	131.00	10.00	120	TiAlN
62595	●	-	-	-	9.500	0.37402	81.00	131.00	10.00	120	TiN
8597955	●	-	-	-	9.550	0.37598	87.00	137.00	10.00	120	TiN
62596	●	-	-	-	9.600	0.37795	87.00	137.00	10.00	120	TiN
8597965	●	-	-	-	9.650	0.37992	87.00	137.00	10.00	120	TiN
62597	●	-	-	-	9.700	0.38189	87.00	137.00	10.00	120	TiN
8597975	●	-	-	-	9.750	0.38386	87.00	137.00	10.00	120	TiN
6259811	●	-	-	-	9.800	0.38583	87.00	137.00	10.00	120	TiAlN
62598	●	-	-	-	9.800	0.38583	87.00	137.00	10.00	120	TiN
8597985	●	-	-	-	9.850	0.38780	87.00	137.00	10.00	120	TiN
62599	●	-	-	-	9.900	0.38976	87.00	137.00	10.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

CONTINUED

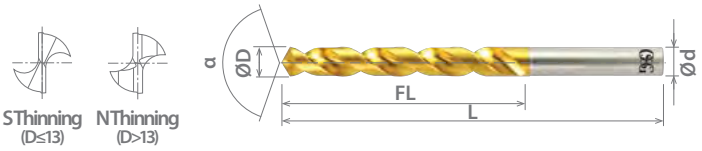
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED	HSSE	TiN	TiAlN	2 FLUTE	JOBBER	40°	PACKED
353							1 PIECE



Cutting Diameter Tolerance (h8)		
Size (mm)	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 30	+0 / -0.033	+0 / -0.0013
30 < D ≤ 32	+0 / -0.039	+0 / -0.0015

EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter	Point Angle	Surface Treatment
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)	α	
8597995	●	-	-	-	9.950	0.39173	87.00	137.00	10.00	120	TiN
62600	●	-	-	-	10.000	0.39370	87.00	137.00	10.00	120	TiN
8598005	●	-	-	-	10.050	0.39567	87.00	144.00	12.00	120	TiN
62601	●	-	-	-	10.100	0.39764	87.00	144.00	12.00	120	TiN
8598015	●	-	-	-	10.150	0.39961	87.00	144.00	12.00	120	TiN
6260211	●	-	-	-	10.200	0.40157	87.00	144.00	12.00	120	TiAlN
62602	●	-	-	-	10.200	0.40157	87.00	144.00	12.00	120	TiN
8598025	●	-	-	-	10.250	0.40354	87.00	144.00	12.00	120	TiN
62603	●	-	-	-	10.300	0.40551	87.00	144.00	12.00	120	TiN
8598035	●	-	-	-	10.350	0.40748	87.00	144.00	12.00	120	TiN
62604	●	-	-	-	10.400	0.40945	87.00	144.00	12.00	120	TiN
8598045	●	-	-	-	10.450	0.41142	87.00	144.00	12.00	120	TiN
62605	●	-	-	-	10.500	0.41339	87.00	144.00	12.00	120	TiN
8598055	●	-	-	-	10.550	0.41535	87.00	144.00	12.00	120	TiN
62606	●	-	-	-	10.600	0.41732	87.00	144.00	12.00	120	TiN
8598065	●	-	-	-	10.650	0.41929	94.00	151.00	12.00	120	TiN
6260711	●	-	-	-	10.700	0.42126	94.00	151.00	12.00	120	TiAlN
62607	●	-	-	-	10.700	0.42126	94.00	151.00	12.00	120	TiN
8598075	●	-	-	-	10.750	0.42323	94.00	151.00	12.00	120	TiN
62608	●	-	-	-	10.800	0.42520	94.00	151.00	12.00	120	TiN
8598085	●	-	-	-	10.850	0.42717	94.00	151.00	12.00	120	TiN
6260911	●	-	-	-	10.900	0.42913	94.00	151.00	12.00	120	TiAlN
62609	●	-	-	-	10.900	0.42913	94.00	151.00	12.00	120	TiN
8598095	●	-	-	-	10.950	0.43110	94.00	151.00	12.00	120	TiN
6261011	●	-	-	-	11.000	0.43307	94.00	151.00	12.00	120	TiAlN
62610	●	-	-	-	11.000	0.43307	94.00	151.00	12.00	120	TiN
8598105	●	-	-	-	11.050	0.43504	94.00	151.00	12.00	120	TiN
6261111	●	-	-	-	11.100	0.43701	94.00	151.00	12.00	120	TiAlN
62611	●	-	-	-	11.100	0.43701	94.00	151.00	12.00	120	TiN
8598115	●	-	-	-	11.150	0.43898	94.00	151.00	12.00	120	TiN
62612	●	-	-	-	11.200	0.44094	94.00	151.00	12.00	120	TiN
8598125	●	-	-	-	11.250	0.44291	94.00	151.00	12.00	120	TiN
62613	●	-	-	-	11.300	0.44488	94.00	151.00	12.00	120	TiN
8598135	●	-	-	-	11.350	0.44685	94.00	151.00	12.00	120	TiN
62614	●	-	-	-	11.400	0.44882	94.00	151.00	12.00	120	TiN
8598145	●	-	-	-	11.450	0.45079	94.00	151.00	12.00	120	TiN
62615	●	-	-	-	11.500	0.45276	94.00	151.00	12.00	120	TiN
8598155	●	-	-	-	11.550	0.45472	94.00	151.00	12.00	120	TiN
62616	●	-	-	-	11.600	0.45669	94.00	151.00	12.00	120	TiN
8598165	●	-	-	-	11.650	0.45866	94.00	151.00	12.00	120	TiN
62617	●	-	-	-	11.700	0.46063	94.00	151.00	12.00	120	TiN
8598175	●	-	-	-	11.750	0.46260	94.00	151.00	12.00	120	TiN
62618	●	-	-	-	11.800	0.46457	94.00	151.00	12.00	120	TiN
8598185	●	-	-	-	11.850	0.46654	101.00	158.00	12.00	120	TiN
62619	●	-	-	-	11.900	0.46850	101.00	158.00	12.00	120	TiN
8598195	●	-	-	-	11.950	0.47047	101.00	158.00	12.00	120	TiN
62620	●	-	-	-	12.000	0.47244	101.00	158.00	12.00	120	TiN
62621	●	-	-	-	12.100	0.47638	101.00	158.00	12.00	120	TiN
62622	●	-	-	-	12.200	0.48031	101.00	158.00	12.00	120	TiN
6262311	●	-	-	-	12.300	0.48425	101.00	158.00	12.00	120	TiAlN
62623	●	-	-	-	12.300	0.48425	101.00	158.00	12.00	120	TiN
6262411	●	-	-	-	12.400	0.48819	101.00	158.00	12.00	120	TiAlN
62624	●	-	-	-	12.400	0.48819	101.00	158.00	12.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

List 1600 (Continued)

EX-SUS-GOLD EX-SUS-GDR

SPEED FEED 353 | HSSE | TiN | TiAlN | 2 FLUTE | JOBBER | 40° | PACKED 1 PIECE

EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Point Angle α	Surface Treatment
62625	●	-	-	-	12.500	0.49213	101.00	158.00	12.00	120	TiN
6262611	●	-	-	-	12.600	0.49606	101.00	158.00	12.00	120	TiAlN
62626	●	-	-	-	12.600	0.49606	101.00	158.00	12.00	120	TiN
6262711	●	-	-	-	12.700	0.50000	101.00	158.00	12.00	120	TiAlN
62627	●	-	-	-	12.700	0.50000	101.00	158.00	12.00	120	TiN
62628	●	-	-	-	12.800	0.50394	101.00	158.00	12.00	120	TiN
62629	●	-	-	-	12.900	0.50787	101.00	158.00	12.00	120	TiN
62630	●	-	-	-	13.000	0.51181	101.00	158.00	12.00	120	TiN
62635	●	-	-	-	13.500	0.53150	106.00	166.00	16.00	120	TiN
62640	●	-	-	-	14.000	0.55118	106.00	166.00	16.00	120	TiN
62641	●	-	-	-	14.100	0.55512	109.00	169.00	16.00	120	TiN
62645	●	-	-	-	14.500	0.57087	109.00	169.00	16.00	120	TiN
6265011	●	-	-	-	15.000	0.59055	109.00	169.00	16.00	120	TiAlN
62650	●	-	-	-	15.000	0.59055	109.00	169.00	16.00	120	TiN
62655	●	-	-	-	15.500	0.61024	112.00	172.00	16.00	120	TiN
62656	●	-	-	-	15.600	0.61417	112.00	172.00	16.00	120	TiN
62660	●	-	-	-	16.000	0.62992	112.00	172.00	16.00	120	TiN
62665	●	-	-	-	16.500	0.64961	115.00	181.00	20.00	120	TiN
62670	●	-	-	-	17.000	0.66929	115.00	181.00	20.00	120	TiN
62675	●	-	-	-	17.500	0.68898	118.00	184.00	20.00	120	TiN
62676	●	-	-	-	17.600	0.69291	118.00	184.00	20.00	120	TiN
62680	●	-	-	-	18.000	0.70866	118.00	184.00	20.00	120	TiN
62685	●	-	-	-	18.500	0.72835	122.00	188.00	20.00	120	TiN
62690	●	-	-	-	19.000	0.74803	122.00	188.00	20.00	120	TiN
62695	●	-	-	-	19.500	0.76772	125.00	191.00	20.00	120	TiN
62696	●	-	-	-	19.600	0.77165	125.00	191.00	20.00	120	TiN
62700	●	-	-	-	20.000	0.78740	125.00	191.00	20.00	120	TiN
62705	●	-	-	-	20.500	0.80709	128.00	204.00	25.00	120	TiN
62710	●	-	-	-	21.000	0.82677	128.00	204.00	25.00	120	TiN
62715	●	-	-	-	21.500	0.84646	132.00	208.00	25.00	120	TiN
62720	●	-	-	-	22.000	0.86614	132.00	208.00	25.00	120	TiN
62725	●	-	-	-	22.500	0.88583	136.00	212.00	25.00	120	TiN
6273011	●	-	-	-	23.000	0.90551	136.00	212.00	25.00	120	TiAlN
62730	●	-	-	-	23.000	0.90551	136.00	212.00	25.00	120	TiN
62735	●	-	-	-	23.500	0.92520	136.00	212.00	25.00	120	TiN
62740	●	-	-	-	24.000	0.94488	140.00	216.00	25.00	120	TiN
62745	●	-	-	-	24.500	0.96457	140.00	216.00	25.00	120	TiN
62750	●	-	-	-	25.000	0.98425	140.00	216.00	25.00	120	TiN
62755	●	-	-	-	25.500	1.00394	145.00	225.00	32.00	120	TiN
62760	●	-	-	-	26.000	1.02362	145.00	225.00	32.00	120	TiN
62765	●	-	-	-	26.500	1.04331	145.00	225.00	32.00	120	TiN
62770	●	-	-	-	27.000	1.06299	150.00	230.00	32.00	120	TiN
62780	●	-	-	-	28.000	1.10236	150.00	230.00	32.00	120	TiN
62790	●	-	-	-	29.000	1.14173	155.00	235.00	32.00	120	TiN
62800	●	-	-	-	30.000	1.18110	155.00	235.00	32.00	120	TiN
62810	●	-	-	-	31.000	1.22047	160.00	240.00	32.00	120	TiN
62820	●	-	-	-	32.000	1.25984	165.00	245.00	32.00	120	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXD

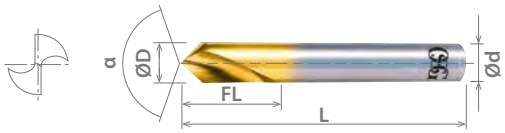
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○				◎	◎	○		◎	◎						

○ Good ◎ Best

List 1200

EX-GOLD TIN-NC-LDS, 60°, 90°, & 120° Spot Drills

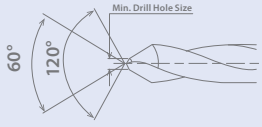
SPEED FEED 354 | HSS | BR | TiN | 2 FLUTE | STUB | 20° | PACKED 1 PIECE



EDP Number		Diameter (D) Fractional Size	Wire Gage	Letter Size	mm	Inch	Min Drill Hole Size	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Point Angle α	Surface Treatment
63703	●	-	-	-	3.000	0.11811	1.50	11.00	48.000	3.00	60	BRIGHT
62903	●	-	-	-	3.000	0.11811	1.10	11.00	48.000	3.00	90	BRIGHT
63603	●	-	-	-	3.000	0.11811	1.10	11.00	48.000	3.00	90	TiN
62923	●	-	-	-	3.000	0.11811	-	11.00	48.000	3.00	120	BRIGHT
63653	●	-	-	-	3.000	0.11811	-	11.00	48.000	3.00	120	TiN
63704	●	-	-	-	4.000	0.15748	1.70	15.00	54.000	4.00	60	TiN
62904	●	-	-	-	4.000	0.15748	1.30	15.00	54.000	4.00	90	BRIGHT
63604	●	-	-	-	4.000	0.15748	1.30	15.00	54.000	4.00	90	TiN
62924	●	-	-	-	4.000	0.15748	-	15.00	54.000	4.00	120	BRIGHT
63654	●	-	-	-	4.000	0.15748	-	15.00	54.000	4.00	120	TiN
63706	●	-	-	-	6.000	0.23622	1.90	20.00	72.000	6.00	60	TiN
62906	●	-	-	-	6.000	0.23622	1.50	20.00	72.000	6.00	90	BRIGHT
63606	●	-	-	-	6.000	0.23622	1.50	20.00	72.000	6.00	90	TiN
62926	●	-	-	-	6.000	0.23622	-	20.00	72.000	6.00	120	BRIGHT
63656	●	-	-	-	6.000	0.23622	-	20.00	72.000	6.00	120	TiN
63708	●	-	-	-	8.000	0.31496	1.90	26.00	81.000	8.00	60	TiN
62908	●	-	-	-	8.000	0.31496	1.60	26.00	81.000	8.00	90	BRIGHT
63608	●	-	-	-	8.000	0.31496	1.60	26.00	81.000	8.00	90	TiN
62928	●	-	-	-	8.000	0.31496	-	26.00	81.000	8.00	120	BRIGHT
63658	●	-	-	-	8.000	0.31496	-	26.00	81.000	8.00	120	TiN
63710	●	-	-	-	10.000	0.39370	2.10	30.00	93.000	10.00	60	TiN
62910	●	-	-	-	10.000	0.39370	2.10	30.00	93.000	10.00	90	BRIGHT
63610	●	-	-	-	10.000	0.39370	2.10	30.00	93.000	10.00	90	TiN
62930	●	-	-	-	10.000	0.39370	-	30.00	93.000	10.00	120	BRIGHT
63660	●	-	-	-	10.000	0.39370	-	30.00	93.000	10.00	120	TiN
63712	●	-	-	-	12.000	0.47244	2.10	36.00	108.000	12.00	60	TiN
62912	●	-	-	-	12.000	0.47244	2.10	36.00	108.000	12.00	90	BRIGHT
63612	●	-	-	-	12.000	0.47244	2.10	36.00	108.000	12.00	90	TiN
62932	●	-	-	-	12.000	0.47244	-	36.00	108.000	12.00	120	BRIGHT
63662	●	-	-	-	12.000	0.47244	-	36.00	108.000	12.00	120	TiN
62916	●	-	-	-	16.000	0.62992	3.00	41.00	118.000	16.00	90	BRIGHT
63616	●	-	-	-	16.000	0.62992	3.00	41.00	118.000	16.00	90	TiN
62936	●	-	-	-	16.000	0.62992	-	41.00	118.000	16.00	120	BRIGHT
62918	●	-	-	-	20.000	0.78740	3.00	53.00	132.000	20.00	90	BRIGHT
63618	●	-	-	-	20.000	0.78740	3.00	53.00	132.000	20.00	90	TiN
62938	●	-	-	-	20.000	0.78740	-	53.00	132.000	20.00	120	BRIGHT
62920	●	-	-	-	25.000	0.98425	3.00	60.00	151.000	25.00	90	BRIGHT
63620	●	-	-	-	25.000	0.98425	3.00	60.00	151.000	25.00	90	TiN
62940	●	-	-	-	25.000	0.98425	-	60.00	151.000	25.00	120	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXD



The EX-SPOT with point angle 60° has a 120° point angle within the minimum drill hole diameter in order to prevent the chisel edges from crashing.

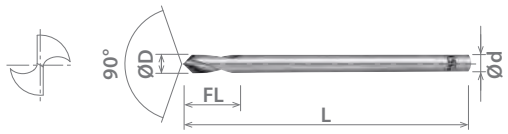
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○	○	○	○		○	○			○			

○ Good ◎ Best

List 1250

EX-GOLD LS-NC-LDS, Long Shank, 90° Spot Drills

SPEED FEED	HSS	BR	2 FLUTE	STUB	20°	PACKED
354						1 PIECE



EDP Number		Diameter (D)					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL (mm)	L (mm)	d (mm)
63503	●	-	-	-	3.000	0.11811	11.00	75.00	3.00
63504	●	-	-	-	4.000	0.15748	15.00	100.00	4.00
63506	●	-	-	-	6.000	0.23622	20.00	150.00	6.00
63508	●	-	-	-	8.000	0.31496	26.00	150.00	8.00
63510	●	-	-	-	10.000	0.39370	30.00	200.00	10.00
63512	●	-	-	-	12.000	0.47244	36.00	200.00	12.00
63516	●	-	-	-	16.000	0.62992	41.00	250.00	16.00
63518	●	-	-	-	20.000	0.78740	53.00	250.00	20.00
63520	●	-	-	-	25.000	0.98425	60.00	250.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXD

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○				○	○	○						

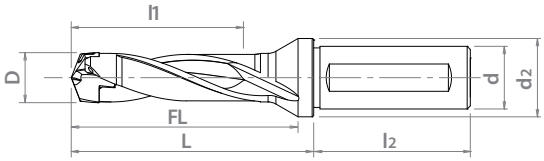
○ Good ◎ Best

List 52400

SPEED FEED 361 | INSERTS 258-263 | ACCS. 264 | STEEL | 2 FLUTE | PACKED 1 PIECE

OSG PHOENIX® PXD, 3D/5D, Cylindrical Body





EDP Number		Designation	Diameter Min Dmin (in)	Diameter Max Dmax (in)	Drilling Depth l1 (in)	Flute Length FL (in)	Projection Length L2 (in)	Shank Length l2 (in)	Shank Diameter d (in)	Flange Diameter D2 (in)	Head Size
3D											
52400000	●	PXDZ0551-3D-113.5-0625	0.551	0.570	1.693	2.496	2.752	1.890	0.625	0.787	1
52400001	●	PXDZ0571-3D-115.5-0625	0.571	0.590	1.752	2.579	2.835	1.890	0.625	0.787	2
52400002	●	PXDZ0591-3D-119.5-0750	0.591	0.629	1.831	2.642	2.898	1.969	0.750	0.984	3
52400003	●	PXDZ0630-3D-123.5-0750	0.630	0.668	1.949	2.823	3.079	1.969	0.750	0.984	4
52400004	●	PXDZ0669-3D-128.5-0750	0.669	0.708	2.067	3.024	3.280	1.969	0.750	0.984	5
52400005	●	PXDZ0709-3D-138.5-1000	0.709	0.747	2.185	3.205	3.461	2.205	1.000	1.260	6
52400006	●	PXDZ0748-3D-142.5-1000	0.748	0.786	2.303	3.362	3.618	2.205	1.000	1.260	7
52400007	●	PXDZ0787-3D-146.5-1000	0.787	0.826	2.421	3.547	3.803	2.205	1.000	1.260	8
52400008	●	PXDZ0827-3D-154.5-1250	0.827	0.865	2.539	3.728	3.984	2.362	1.250	1.654	9
52400009	●	PXDZ0866-3D-158.5-1250	0.866	0.905	2.657	3.890	4.146	2.362	1.250	1.654	10
52400010	●	PXDZ0906-3D-162.5-1250	0.906	0.944	2.775	4.071	4.327	2.362	1.250	1.654	11
52400011	●	PXDZ0945-3D-167.5-1250	0.945	0.983	2.894	4.268	4.524	2.362	1.250	1.654	12
52400012	●	PXDZ0984-3D-170.5-1250	0.984	1.023	3.012	4.409	4.665	2.362	1.250	1.654	13
5D											
52400100	●	PXDZ0551-5D-141.5-0625	0.551	0.570	2.805	3.657	3.854	1.890	0.625	0.787	1
52400101	●	PXDZ0571-5D-144.5-0625	0.571	0.590	2.903	3.780	3.976	1.890	0.625	0.787	2
52400102	●	PXDZ0591-5D-149.5-0750	0.591	0.629	3.051	3.823	4.079	1.969	0.750	0.984	3
52400103	●	PXDZ0630-5D-155.5-0750	0.630	0.668	3.248	4.083	4.339	1.969	0.750	0.984	4
52400104	●	PXDZ0669-5D-162.5-0750	0.669	0.708	3.445	4.362	4.618	1.969	0.750	0.984	5
52400105	●	PXDZ0709-5D-174.5-1000	0.709	0.747	3.642	4.622	4.878	2.205	1.000	1.260	6
52400106	●	PXDZ0748-5D-180.5-1000	0.748	0.786	3.838	4.858	5.114	2.205	1.000	1.260	7
52400107	●	PXDZ0787-5D-186.5-1000	0.787	0.826	4.035	5.122	5.378	2.205	1.000	1.260	8
52400108	●	PXDZ0827-5D-196.5-1250	0.827	0.865	4.232	5.382	5.638	2.362	1.250	1.654	9
52400109	●	PXDZ0866-5D-202.5-1250	0.866	0.905	4.429	5.622	5.878	2.362	1.250	1.654	10
52400110	●	PXDZ0906-5D-208.5-1250	0.906	0.944	4.626	5.882	6.138	2.362	1.250	1.654	11
52400111	●	PXDZ0945-5D-215.5-1250	0.945	0.983	4.823	6.157	6.413	2.362	1.250	1.654	12
52400112	●	PXDZ0984-5D-220.5-1250	0.984	1.023	5.020	6.378	6.634	2.362	1.250	1.654	13

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Driver included with body.

PXT

DESIGNATION EXPLANATION

PXDZ 0551-3D-113.5-0625

- PXDZ — Series
- 0551 — Minimum Diameter
- 3D — Drilling Depth
- 113.5 — Overall Length of Body (Without Head)
- 0625 — Shank Diameter

See Full Detail on Page 360

P				K	N			H
Steel				Cast Iron	Non-Ferrous			Hardened Steel
Carbon Steel			Alloy Steel		Aluminum		Copper Alloys	
Low	Medium	High			6061 7075	Casting		~35 HRC
1010 1018	1035 1045	1065	4140 4340					
◎	◎	◎	○	○	◎	◎	○	○

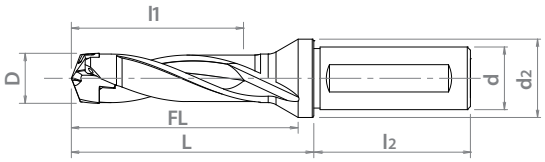
Material recommendation based on drill heads compatible with this tool body.

○ Good ◎ Best

List 78310

OSG PHOENIX® PXD, 3D/5D, Cylindrical Body





SPEED FEED	INSERTS	ACCS.	STEEL		2 FLUTE	PACKED
361	258-263	264				1 PIECE

EDP Number		Designation	Diameter Min Dmin (mm)	Diameter Max Dmax (mm)	Drilling Depth l1 (mm)	Flute Length FL (mm)	Projection Length L2 (mm)	Shank Length l2 (mm)	Shank Diameter d (mm)	Flange Diameter D2 (mm)	Head Size
3D											
48173001	●	PXDZ140-3D-113.5-16	14.00	14.49	43.00	63.40	69.90	48.00	16.00	20.00	1
48173002	●	PXDZ145-3D-115.5-16	14.50	14.99	44.50	65.50	72.00	48.00	16.00	20.00	2
48173003	●	PXDZ150-3D-119.5-20	15.00	15.99	46.50	67.10	73.60	50.00	20.00	25.00	3
48173004	●	PXDZ160-3D-123.5-20	16.00	16.99	49.50	71.70	78.20	50.00	20.00	25.00	4
48173005	●	PXDZ170-3D-128.5-20	17.00	17.99	52.50	76.80	83.30	50.00	20.00	25.00	5
48173006	●	PXDZ180-3D-138.5-25	18.00	18.99	55.50	81.40	87.90	56.00	25.00	32.00	6
48173007	●	PXDZ190-3D-142.5-25	19.00	19.99	58.50	85.40	91.90	56.00	25.00	32.00	7
48173008	●	PXDZ200-3D-146.5-25	20.00	20.99	61.50	90.10	96.60	56.00	25.00	32.00	8
48173009	●	PXDZ210-3D-154.5-32	21.00	21.99	64.50	94.70	101.20	60.00	32.00	42.00	9
48173010	●	PXDZ220-3D-158.5-32	22.00	22.99	67.50	98.80	105.30	60.00	32.00	42.00	10
48173011	●	PXDZ230-3D-162.5-32	23.00	23.99	70.50	103.40	109.90	60.00	32.00	42.00	11
48173012	●	PXDZ240-3D-167.5-32	24.00	24.99	73.50	108.40	114.90	60.00	32.00	42.00	12
48173013	●	PXDZ250-3D-170.5-32	25.00	25.99	76.50	112.00	118.50	60.00	32.00	42.00	13
5D											
48173014	●	PXDZ140-5D-141.5-16	14.00	14.49	71.20	92.90	97.90	48.00	16.00	20.00	1
48173015	●	PXDZ145-5D-144.5-16	14.50	14.99	73.70	96.00	101.00	48.00	16.00	20.00	2
48173016	●	PXDZ150-5D-149.5-20	15.00	15.99	77.50	97.10	103.60	50.00	20.00	25.00	3
48173017	●	PXDZ160-5D-155.5-20	16.00	16.99	82.50	103.70	110.20	50.00	20.00	25.00	4
48173018	●	PXDZ170-5D-162.5-20	17.00	17.99	87.50	110.80	117.30	50.00	20.00	25.00	5
48173019	●	PXDZ180-5D-174.5-25	18.00	18.99	92.50	117.40	123.90	56.00	25.00	32.00	6
48173020	●	PXDZ190-5D-180.5-25	19.00	19.99	97.50	123.40	129.90	56.00	25.00	32.00	7
48173021	●	PXDZ200-5D-186.5-25	20.00	20.99	102.50	130.10	136.60	56.00	25.00	32.00	8
48173022	●	PXDZ210-5D-196.5-32	21.00	21.99	107.50	136.70	143.20	60.00	32.00	42.00	9
48173023	●	PXDZ220-5D-202.5-32	22.00	22.99	112.50	142.80	149.30	60.00	32.00	42.00	10
48173024	●	PXDZ230-5D-208.5-32	23.00	23.99	117.50	149.40	155.90	60.00	32.00	42.00	11
48173025	●	PXDZ240-5D-215.5-32	24.00	24.99	122.50	156.40	162.90	60.00	32.00	42.00	12
48173026	●	PXDZ250-5D-220.5-32	25.00	25.99	127.50	162.00	168.50	60.00	32.00	42.00	13

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Driver included with body.

PXT

DESIGNATION EXPLANATION

PXDZ 140-3D-113.5-16

- PXDZ — Series
- 140 — Minimum Diameter
- 3D — Drilling Depth
- 113.5 — Overall Length of Body (Without Head)
- 16 — Shank Diameter

See Full Detail on Page 360

P				K	N			H
Steel				Cast Iron	Non-Ferrous			Hardened Steel
Carbon Steel			Alloy Steel		Aluminum		Copper Alloys	
Low	Medium	High			6061 7075	Casting		~35 HRC
1010 1018	1035 1045	1065	4140 4340					
◎	◎	◎	○	○	◎	◎	○	○

Material recommendation based on drill heads compatible with this tool body.

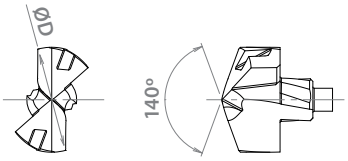
○ Good ◎ Best

List 78PXD

SPEED FEED 361 | PACKED 1 PIECE

OSG PHOENIX® PXD Exchangeable Heads





EDP Number		Specification	Designation	Head Size (D)			Head Size	Grade
				Fractional Size	Metric	Inch		
7831140	●	PC	PXDH1400-PC	-	14.00	0.55118	1	XP3425
52401000	●	PC	PXDH5625-PC	9/16	14.29	0.56250	1	XP3425
7831145	●	PC	PXDH1450-PC	-	14.50	0.57087	2	XP3425
52401014	●	PC	PXDH5781-PC	37/64	14.68	0.57813	2	XP3425
7831351	●	PC	PXDH1495-PC	-	14.95	0.58858	2	XP3425
7831150	●	PC	PXDH1500-PC	-	15.00	0.59055	3	XP3425
52401001	●	PC	PXDH5938-PC	19/32	15.08	0.59375	3	XP3425
7831352	●	PC	PXDH1525-PC	-	15.25	0.60039	3	XP3425
52401015	●	PC	PXDH6094-PC	39/64	15.48	0.60938	3	XP3425
7831155	●	PC	PXDH1550-PC	-	15.50	0.61024	3	XP3425
52401002	●	PC	PXDH6250-PC	5/8	15.88	0.62500	3	XP3425
7831160	●	PC	PXDH1600-PC	-	16.00	0.62992	4	XP3425
52401016	●	PC	PXDH6406-PC	41/64	16.27	0.64063	4	XP3425
7831165	●	PC	PXDH1650-PC	-	16.50	0.64961	4	XP3425
52401003	●	PC	PXDH6563-PC	21/32	16.67	0.65625	4	XP3425
7831167	●	PC	PXDH1670-PC	-	16.70	0.65748	4	XP3425
7831170	●	PC	PXDH1700-PC	-	17.00	0.66929	5	XP3425
52401017	●	PC	PXDH6719-PC	43/64	17.07	0.67188	5	XP3425
7831353	●	PC	PXDH1725-PC	-	17.25	0.67913	5	XP3425
52401004	●	PC	PXDH6875-PC	11/16	17.46	0.68750	5	XP3425
7831175	●	PC	PXDH1750-PC	-	17.50	0.68898	5	XP3425
52401018	●	PC	PXDH7031-PC	45/64	17.86	0.70313	5	XP3425
7831180	●	PC	PXDH1800-PC	-	18.00	0.70866	6	XP3425
52401005	●	PC	PXDH7188-PC	23/32	18.26	0.71875	6	XP3425
7831185	●	PC	PXDH1850-PC	-	18.50	0.72835	6	XP3425
52401019	●	PC	PXDH7344-PC	47/64	18.65	0.73438	6	XP3425
7831187	●	PC	PXDH1870-PC	-	18.70	0.73622	6	XP3425
7831190	●	PC	PXDH1900-PC	-	19.00	0.74803	7	XP3425
52401006	●	PC	PXDH7500-PC	3/4	19.05	0.75000	7	XP3425
7831354	●	PC	PXDH1925-PC	-	19.25	0.75787	7	XP3425
52401020	●	PC	PXDH7656-PC	49/64	19.45	0.76563	7	XP3425
7831195	●	PC	PXDH1950-PC	-	19.50	0.76772	7	XP3425
52401007	●	PC	PXDH7813-PC	25/32	19.84	0.78125	7	XP3425
7831200	●	PC	PXDH2000-PC	-	20.00	0.78740	8	XP3425
52401021	●	PC	PXDH7969-PC	51/64	20.24	0.79688	8	XP3425
7831205	●	PC	PXDH2050-PC	-	20.50	0.80709	8	XP3425
52401008	●	PC	PXDH8125-PC	13/16	20.64	0.81250	8	XP3425
7831207	●	PC	PXDH2070-PC	-	20.70	0.81496	8	XP3425
7831210	●	PC	PXDH2100-PC	-	21.00	0.82677	9	XP3425
52401022	●	PC	PXDH8281-PC	53/64	21.03	0.82813	9	XP3425
7831355	●	PC	PXDH2125-PC	-	21.25	0.83661	9	XP3425
52401009	●	PC	PXDH8438-PC	27/32	21.43	0.84375	9	XP3425
7831215	●	PC	PXDH2150-PC	-	21.50	0.84646	9	XP3425
52401023	●	PC	PXDH8594-PC	55/64	21.83	0.85938	9	XP3425
7831220	●	PC	PXDH2200-PC	-	22.00	0.86614	10	XP3425
52401010	●	PC	PXDH8750-PC	7/8	22.23	0.87500	10	XP3425
7831224	●	PC	PXDH2240-PC	-	22.40	0.88189	10	XP3425
7831225	●	PC	PXDH2250-PC	-	22.50	0.88583	10	XP3425
52401024	●	PC	PXDH8906-PC	57/64	22.62	0.89063	10	XP3425
7831230	●	PC	PXDH2300-PC	-	23.00	0.90551	11	XP3425
52401011	●	PC	PXDH9063-PC	29/32	23.02	0.90625	11	XP3425
7831356	●	PC	PXDH2325-PC	-	23.25	0.91535	11	XP3425

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PXD (Continued)

SPEED FEED 361 | PACKED 1 PIECE

OSG PHOENIX® PXD Exchangeable Heads

EDP Number		Specification	Designation	Head Size (D)			Head Size	Grade
				Fractional Size	Metric	Inch		
52401025	●	PC	PXDH9219-PC	59/64	23.42	0.92188	11	XP3425
7831235	●	PC	PXDH2350-PC	-	23.50	0.92520	11	XP3425
52401012	●	PC	PXDH9375-PC	15/16	23.81	0.93750	11	XP3425
7831240	●	PC	PXDH2400-PC	-	24.00	0.94488	12	XP3425
52401026	●	PC	PXDH9531-PC	61/64	24.21	0.95313	12	XP3425
7831245	●	PC	PXDH2450-PC	-	24.50	0.96457	12	XP3425
52401013	●	PC	PXDH9688-PC	31/32	24.61	0.96875	12	XP3425
7831250	●	PC	PXDH2500-PC	-	25.00	0.98425	13	XP3425
52401027	●	PC	PXDH9844-PC	63/64	25.00	0.98438	13	XP3425
7831254	●	PC	PXDH2540-PC	1	25.40	1.00000	13	XP3425

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXDH 1400-PC-XP3425

Series: PXDH — Diameter: 1400 — Specification: PC — Grade: XP3425

See Full Detail on Page 358-359

P				K	N			H
Steel				Cast Iron	Non-Ferrous			Hardened Steel
Carbon Steel			Alloy Steel		Aluminum		Copper Alloys	
Low	Medium	High			6061 7075	Casting		~35 HRC
1010 1018	1035 1045	1065	4140 4340					
◎	◎	◎	○	○				○

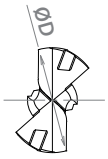
○ Good ◎ Best

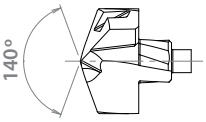
List 78PXD (Continued)

SPEED FEED 361 | PACKED 1 PIECE

OSG PHOENIX® PXD Exchangeable Heads







EDP Number		Specification	Designation	Head Size (D)			Head Size	Grade
				Fractional Size	Metric	Inch		
7831440	●	KC	PXDH1400-KC	-	14.00	0.55118	1	XP1425
52402000	●	KC	PXDH5625-KC	9/16	14.29	0.56250	1	XP1425
7831445	●	KC	PXDH1450-KC	-	14.50	0.57087	2	XP1425
52402014	●	KC	PXDH5781-KC	37/64	14.68	0.57813	2	XP1425
7831450	●	KC	PXDH1500-KC	-	15.00	0.59055	3	XP1425
52402001	●	KC	PXDH5938-KC	19/32	15.08	0.59375	3	XP1425
52402015	●	KC	PXDH6094-KC	39/64	15.48	0.60938	3	XP1425
7831455	●	KC	PXDH1550-KC	-	15.50	0.61024	3	XP1425
52402002	●	KC	PXDH6250-KC	5/8	15.88	0.62500	3	XP1425
7831460	●	KC	PXDH1600-KC	-	16.00	0.62992	4	XP1425
52402016	●	KC	PXDH6406-KC	41/64	16.27	0.64063	4	XP1425
7831465	●	KC	PXDH1650-KC	-	16.50	0.64961	4	XP1425
52402003	●	KC	PXDH6563-KC	21/32	16.67	0.65625	4	XP1425
7831467	●	KC	PXDH1670-KC	-	16.70	0.65748	4	XP1425
7831470	●	KC	PXDH1700-KC	-	17.00	0.66929	5	XP1425
52402017	●	KC	PXDH6719-KC	43/64	17.07	0.67188	5	XP1425
52402004	●	KC	PXDH6875-KC	11/16	17.46	0.68750	5	XP1425
7831475	●	KC	PXDH1750-KC	-	17.50	0.68898	5	XP1425
52402018	●	KC	PXDH7031-KC	45/64	17.86	0.70313	5	XP1425
7831480	●	KC	PXDH1800-KC	-	18.00	0.70866	6	XP1425
52402005	●	KC	PXDH7188-KC	23/32	18.26	0.71875	6	XP1425
7831485	●	KC	PXDH1850-KC	-	18.50	0.72835	6	XP1425
52402019	●	KC	PXDH7344-KC	47/64	18.65	0.73438	6	XP1425
7831487	●	KC	PXDH1870-KC	-	18.70	0.73622	6	XP1425
7831490	●	KC	PXDH1900-KC	-	19.00	0.74803	7	XP1425
52402006	●	KC	PXDH7500-KC	3/4	19.05	0.75000	7	XP1425
52402020	●	KC	PXDH7656-KC	49/64	19.45	0.76563	7	XP1425
7831495	●	KC	PXDH1950-KC	-	19.50	0.76772	7	XP1425
52402007	●	KC	PXDH7813-KC	25/32	19.84	0.78125	7	XP1425
7831500	●	KC	PXDH2000-KC	-	20.00	0.78740	8	XP1425
52402021	●	KC	PXDH7969-KC	51/64	20.24	0.79688	8	XP1425
7831505	●	KC	PXDH2050-KC	-	20.50	0.80709	8	XP1425
52402008	●	KC	PXDH8125-KC	13/16	20.64	0.81250	8	XP1425
7831507	●	KC	PXDH2070-KC	-	20.70	0.81496	8	XP1425
7831510	●	KC	PXDH2100-KC	-	21.00	0.82677	9	XP1425
52402022	●	KC	PXDH8281-KC	53/64	21.03	0.82813	9	XP1425
52402009	●	KC	PXDH8438-KC	27/32	21.43	0.84375	9	XP1425
7831515	●	KC	PXDH2150-KC	-	21.50	0.84646	9	XP1425
52402023	●	KC	PXDH8594-KC	55/64	21.83	0.85938	9	XP1425
7831520	●	KC	PXDH2200-KC	-	22.00	0.86614	10	XP1425
52402010	●	KC	PXDH8750-KC	7/8	22.23	0.87500	10	XP1425
7831524	●	KC	PXDH2240-KC	-	22.40	0.88189	10	XP1425
7831525	●	KC	PXDH2250-KC	-	22.50	0.88583	10	XP1425
52402024	●	KC	PXDH8906-KC	57/64	22.62	0.89063	10	XP1425
7831530	●	KC	PXDH2300-KC	-	23.00	0.90551	11	XP1425
52402011	●	KC	PXDH9063-KC	29/32	23.02	0.90625	11	XP1425
52402025	●	KC	PXDH9219-KC	59/64	23.42	0.92188	11	XP1425
7831535	●	KC	PXDH2350-KC	-	23.50	0.92520	11	XP1425
52402012	●	KC	PXDH9375-KC	15/16	23.81	0.93750	11	XP1425
7831540	●	KC	PXDH2400-KC	-	24.00	0.94488	12	XP1425
52402026	●	KC	PXDH9531-KC	61/64	24.21	0.95313	12	XP1425
7831545	●	KC	PXDH2450-KC	-	24.50	0.96457	12	XP1425

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PXD (Continued)

SPEED FEED 361 | PACKED 1 PIECE

OSG PHOENIX® PXD Exchangeable Heads

EDP Number		Specification	Designation	Head Size (D)			Head Size	Grade
				Fractional Size	Metric	Inch		
52402013	●	KC	PXDH9688-KC	31/32	24.61	0.96875	12	XP1425
7831550	●	KC	PXDH2500-KC	-	25.00	0.98425	13	XP1425
52402027	●	KC	PXDH9844-KC	63/64	25.00	0.98438	13	XP1425
7831554	●	KC	PXDH2540-KC	1.00	25.40	1.00000	13	XP1425

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXDH 1400-PC-XP3425

Series: PXDH | Diameter: 1400 | Specification: PC | Grade: XP3425

See Full Detail on Page 358-359

P				K	N			H
Steel				Cast Iron	Non-Ferrous			Hardened Steel
Carbon Steel			Alloy Steel		Aluminum		Copper Alloys	
Low	Medium	High			6061 7075	Casting		~35 HRC
1010 1018	1035 1045	1065	4140 4340					
○	○	○	○	◎				○

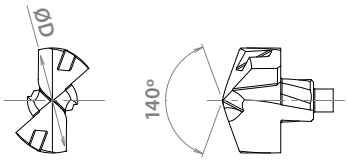
○ Good ◎ Best

List 78PXD (Continued)

SPEED FEED 361 | PACKED 1 PIECE

OSG PHOENIX® PXD Exchangeable Heads





EDP Number		Specification	Designation	Head Size (D)			Head Size	Grade
				Fractional Size	Metric	Inch		
7831740	●	NC	PXDH1400-NC	-	14.00	0.55118	1	CF225
52403000	●	NC	PXDH5625-NC	9/16	14.29	0.56250	1	CF225
7831745	●	NC	PXDH1450-NC	-	14.50	0.57087	2	CF225
52403014	●	NC	PXDH5781-NC	37/64	14.68	0.57813	2	CF225
7831750	●	NC	PXDH1500-NC	-	15.00	0.59055	3	CF225
52403001	●	NC	PXDH5938-NC	19/32	15.08	0.59375	3	CF225
52403015	●	NC	PXDH6094-NC	39/64	15.48	0.60938	3	CF225
7831755	●	NC	PXDH1550-NC	-	15.50	0.61024	3	CF225
52403002	●	NC	PXDH6250-NC	5/8	15.88	0.62500	3	CF225
7831760	●	NC	PXDH1600-NC	-	16.00	0.62992	4	CF225
52403016	●	NC	PXDH6406-NC	41/64	16.27	0.64063	4	CF225
7831765	●	NC	PXDH1650-NC	-	16.50	0.64961	4	CF225
52403003	●	NC	PXDH6563-NC	21/32	16.67	0.65625	4	CF225
7831767	●	NC	PXDH1670-NC	-	16.70	0.65748	4	CF225
7831770	●	NC	PXDH1700-NC	-	17.00	0.66929	5	CF225
52403017	●	NC	PXDH6719-NC	43/64	17.07	0.67188	5	CF225
52403004	●	NC	PXDH6875-NC	11/16	17.46	0.68750	5	CF225
7831775	●	NC	PXDH1750-NC	-	17.50	0.68898	5	CF225
52403018	●	NC	PXDH7031-NC	45/64	17.86	0.70313	5	CF225
7831780	●	NC	PXDH1800-NC	-	18.00	0.70866	6	CF225
52403005	●	NC	PXDH7188-NC	23/32	18.26	0.71875	6	CF225
7831785	●	NC	PXDH1850-NC	-	18.50	0.72835	6	CF225
52403019	●	NC	PXDH7344-NC	47/64	18.65	0.73438	6	CF225
7831787	●	NC	PXDH1870-NC	-	18.70	0.73622	6	CF225
7831790	●	NC	PXDH1900-NC	-	19.00	0.74803	7	CF225
52403006	●	NC	PXDH7500-NC	3/4	19.05	0.75000	7	CF225
52403020	●	NC	PXDH7656-NC	49/64	19.45	0.76563	7	CF225
7831795	●	NC	PXDH1950-NC	-	19.50	0.76772	7	CF225
52403007	●	NC	PXDH7813-NC	25/32	19.84	0.78125	7	CF225
7831800	●	NC	PXDH2000-NC	-	20.00	0.78740	8	CF225
52403021	●	NC	PXDH7969-NC	51/64	20.24	0.79688	8	CF225
7831805	●	NC	PXDH2050-NC	-	20.50	0.80709	8	CF225
52403008	●	NC	PXDH8125-NC	13/16	20.64	0.81250	8	CF225
7831807	●	NC	PXDH2070-NC	-	20.70	0.81496	8	CF225
7831810	●	NC	PXDH2100-NC	-	21.00	0.82677	9	CF225
52403022	●	NC	PXDH8281-NC	53/64	21.03	0.82813	9	CF225
52403009	●	NC	PXDH8438-NC	27/32	21.43	0.84375	9	CF225
7831815	●	NC	PXDH2150-NC	-	21.50	0.84646	9	CF225
52403023	●	NC	PXDH8594-NC	55/64	21.83	0.85938	9	CF225
7831820	●	NC	PXDH2200-NC	-	22.00	0.86614	10	CF225
52403010	●	NC	PXDH8750-NC	7/8	22.23	0.87500	10	CF225
7831824	●	NC	PXDH2240-NC	-	22.40	0.88189	10	CF225
7831825	●	NC	PXDH2250-NC	-	22.50	0.88583	10	CF225
52403024	●	NC	PXDH8906-NC	57/64	22.62	0.89063	10	CF225
7831830	●	NC	PXDH2300-NC	-	23.00	0.90551	11	CF225
52403011	●	NC	PXDH9063-NC	29/32	23.02	0.90625	11	CF225
52403025	●	NC	PXDH9219-NC	59/64	23.42	0.92188	11	CF225
7831835	●	NC	PXDH2350-NC	-	23.50	0.92520	11	CF225
52403012	●	NC	PXDH9375-NC	15/16	23.81	0.93750	11	CF225
7831840	●	NC	PXDH2400-NC	-	24.00	0.94488	12	CF225
52403026	●	NC	PXDH9531-NC	61/64	24.21	0.95313	12	CF225
7831845	●	NC	PXDH2450-NC	-	24.50	0.96457	12	CF225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PXD (Continued)

SPEED FEED 361 | PACKED 1 PIECE

OSG PHOENIX® PXD Exchangeable Heads

EDP Number		Specification	Designation	Head Size (D)			Head Size	Grade
				Fractional Size	Metric	Inch		
52403013	●	NC	PXDH9688-NC	31/32	24.61	0.96875	12	CF225
7831850	●	NC	PXDH2500-NC	-	25.00	0.98425	13	CF225
52403027	●	NC	PXDH9844-NC	63/64	25.00	0.98438	13	CF225
7831854	●	NC	PXDH2540-NC	1.00	25.40	1.00000	13	CF225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXDH 1400-PC-XP3425

Series: PXDH | Diameter: 1400 | Specification: PC | Grade: XP3425

See Full Detail on Page 358-359

P				K	N			H
Steel				Cast Iron	Non-Ferrous			Hardened Steel
Carbon Steel			Alloy Steel		Aluminum		Copper Alloys	
Low	Medium	High			6061 7075	Casting		~35 HRC
1010 1018	1035 1045	1065	4140 4340		◎	◎	○	

○ Good ◎ Best

List 7808H

PACKED 1 PIECE

OSG PHOENIX® PXD Accessories

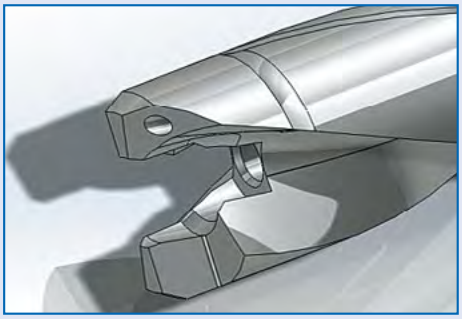
Appearance	EDP No.		Designation	Sheet Thickness (mm)	Applicable Head		
					Size	Inch	mm
 Driver	7808282	●	PXDP1400-1890	1.5	1-6	Ø0.551-0.744	Ø14.0-18.9
	7808283	●	PXDP1900-2299	1.8	7-10	Ø0.748-0.901	Ø19.0-22.9
	7808284	●	PXDP2300-2699	2	11-13	Ø0.905-1.059	Ø23.0-26.9

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

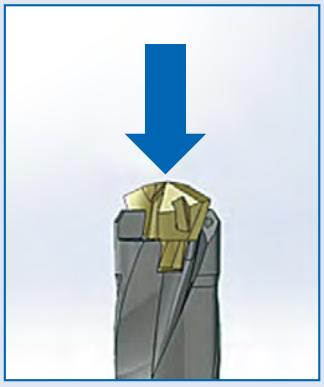
Mounting Procedure

Step 1



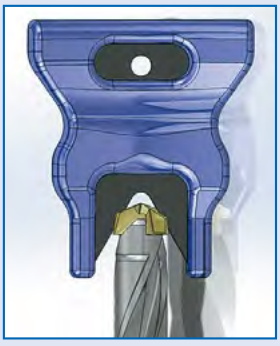
Clean attachment area with an air nozzle.
Any leftover cutting chips may prevent the head from being mounted properly and may cause damage to the tool.

Step 2



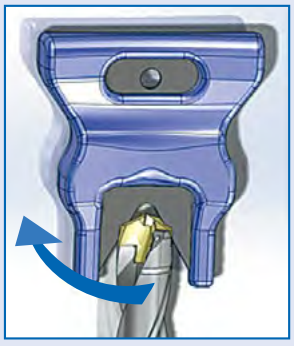
Manually attach the head.

Step 3



Insert the flat metal portion of the designated driver into the groove of the head. Insert the driver firmly into the groove. If the insertion of the designated driver is too shallow, it could damage the flutes.

Step 4



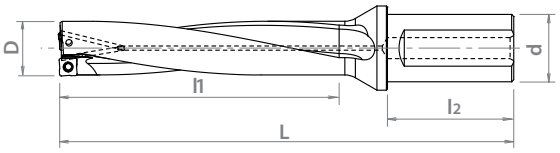
Turn the driver clockwise and mount the head onto the body. Mount it firmly and make sure that there is no gap in the area between the head and the body.

List 52502

OSG PHOENIX® P2D, Flat Shank

SPEED FEED 362 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Applicable Insert
52502063	●	P2D0484FS075A03	0.484	0.969	3.449	0.750	1.969	XCMT03
52502064	●	P2D0500FS075A03	0.500	1.000	3.480	0.750	1.969	XCMT03
52502065	●	P2D0516FS075A03	0.516	1.031	3.512	0.750	1.969	XCMT03
52502066	●	P2D0531FS075A03	0.531	1.063	3.543	0.750	1.969	XCMT03
52502067	●	P2D0547FS075A03	0.547	1.094	3.574	0.750	1.969	XCMT03
52502068	●	P2D0563FS075A03	0.563	1.125	3.605	0.750	1.969	XCMT03
52502069	●	P2D0578FS075A03	0.578	1.156	3.637	0.750	1.969	XCMT03
52502026	●	P2D0594FS075A04	0.594	1.188	3.747	0.750	1.969	XCMT04
52502028	●	P2D0641FS075A04	0.605	1.281	3.841	0.750	1.969	XCMT04
52502027	●	P2D0609FS075A04	0.609	1.219	3.777	0.750	1.969	XCMT04
52502008	●	P2D0625FS075A04	0.625	1.250	3.809	0.750	1.969	XCMT04
52502009	●	P2D0656FS075A04	0.656	1.313	3.871	0.750	1.969	XCMT04
52502029	●	P2D0672FS075A05	0.672	1.344	4.021	0.750	1.969	XCMT05
52502010	●	P2D0688FS075A05	0.688	1.375	4.053	0.750	1.969	XCMT05
52502030	●	P2D0703FS075A05	0.703	1.406	4.883	0.750	1.969	XCMT05
52502031	●	P2D0719FS100A05	0.719	1.438	4.352	1.000	2.205	XCMT05
52502032	●	P2D0734FS100A05	0.734	1.469	4.381	1.000	2.205	XCMT05
52502011	●	P2D0750FS100A06	0.750	1.500	4.413	1.000	2.205	XCMT06
52502033	●	P2D0766FS100A06	0.766	1.531	4.445	1.000	2.205	XCMT06
52502034	●	P2D0781FS100A06	0.781	1.563	4.475	1.000	2.205	XCMT06
52502035	●	P2D0797FS100A06	0.797	1.594	4.507	1.000	2.205	XCMT06
52502012	●	P2D0812FS100A06	0.813	1.625	4.537	1.000	2.205	XCMT06
52502036	●	P2D0828FS100A07	0.828	1.656	4.766	1.000	2.205	XCMT07
52502037	●	P2D0844FS100A07	0.844	1.688	4.798	1.000	2.205	XCMT07
52502038	●	P2D0859FS100A07	0.859	1.719	4.828	1.000	2.205	XCMT07
52502000	●	P2D0875FS100A07	0.875	1.750	4.860	1.000	2.205	XCMT07
52502039	●	P2D0891FS100A07	0.891	1.781	4.892	1.000	2.205	XCMT07
52502040	●	P2D0906FS100A07	0.906	1.813	4.992	1.000	2.205	XCMT07
52502041	●	P2D0922FS100A07	0.922	1.844	4.954	1.000	2.205	XCMT07
52502001	●	P2D0937FS125A07	0.938	1.875	5.142	1.250	2.362	XCMT07
52502042	●	P2D0953FS125A07	0.953	1.906	5.174	1.250	2.362	XCMT07
52502043	●	P2D0969FS125A07	0.969	1.938	5.206	1.250	2.362	XCMT07
52502044	●	P2D0984FS125A08	0.984	1.969	5.236	1.250	2.362	XCMT08
52502002	●	P2D1000FS125A08	1.000	2.000	5.268	1.250	2.362	XCMT08
52502045	●	P2D1031FS125A08	1.031	2.063	5.330	1.250	2.362	XCMT08

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P2D-0484-FS-075-A-03

Series | Diameter | Body Type | Shank Diameter | Units | Insert Size

See Full Detail on Page 360

CONTINUED

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

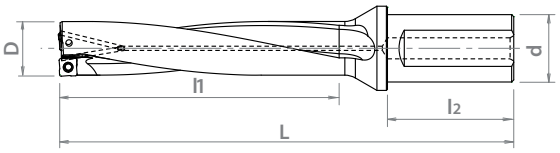
○ Good ◎ Best

List 52502 (Continued)

OSG PHOENIX® P2D, Flat Shank

SPEED FEED	INSERTS	ACCS.	STEEL		2 FLUTE	PACKED
362	282-283	284				1 PIECE





EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Applicable Insert
52502003	●	P2D1062FS125A08	1.063	2.125	5.392	1.250	2.362	XCMT08
52502046	●	P2D1094FS125A08	1.094	2.188	5.456	1.250	2.362	XCMT08
52502004	●	P2D1125FS125A08	1.125	2.250	5.518	1.250	2.362	XCMT08
52502047	●	P2D1156FS125A09	1.156	2.313	5.580	1.250	2.362	XCMT09
52502005	●	P2D1187FS125A09	1.188	2.375	5.642	1.250	2.362	XCMT09
52502048	●	P2D1219FS125A09	1.219	2.438	5.706	1.250	2.362	XCMT09
52502006	●	P2D1250FS125A09	1.250	2.500	5.768	1.250	2.362	XCMT09
52502049	●	P2D1281FS150A09	1.281	2.563	6.223	1.500	2.756	XCMT09
52502007	●	P2D1312FS150A09	1.313	2.625	6.285	1.500	2.756	XCMT09
52502050	●	P2D1344FS150A10	1.344	2.688	6.350	1.500	2.756	XCMT10
52502013	●	P2D1375FS150A10	1.375	2.750	6.411	1.500	2.756	XCMT10
52502051	●	P2D1406FS150A10	1.406	2.813	6.473	1.500	2.756	XCMT10
52502014	●	P2D1437FS150A10	1.438	2.875	6.535	1.500	2.756	XCMT10
52502052	●	P2D1469FS150A10	1.469	2.938	6.600	1.500	2.756	XCMT10
52502015	●	P2D1500FS150A10	1.500	3.000	6.661	1.500	2.756	XCMT10
52502053	●	P2D1531FS150A10	1.531	3.063	6.723	1.500	2.756	XCMT10
52502016	●	P2D1563FS150A12	1.563	3.125	7.063	1.500	2.756	XCMT12
52502054	●	P2D1594FS150A12	1.594	3.188	7.125	1.500	2.756	XCMT12
52502017	●	P2D1625FS150A12	1.625	3.250	7.187	1.500	2.756	XCMT12
52502055	●	P2D1656FS150A12	1.656	3.313	7.249	1.500	2.756	XCMT12
52502018	●	P2D1688FS150A12	1.688	3.375	7.313	1.500	2.756	XCMT12
52502056	●	P2D1719FS150A12	1.719	3.438	7.375	1.500	2.756	XCMT12
52502019	●	P2D1750FS150A12	1.750	3.500	7.437	1.500	2.756	XCMT12
52502057	●	P2D1781FS150A13	1.781	3.563	7.499	1.500	2.756	XCMT13
52502058	●	P2D1813FS150A13	1.813	3.625	7.563	1.500	2.756	XCMT13
52502059	●	P2D1844FS150A13	1.844	3.688	7.625	1.500	2.756	XCMT13
52502020	●	P2D1875FS150A13	1.875	3.750	7.687	1.500	2.756	XCMT13
52502060	●	P2D1906FS150A13	1.906	3.813	7.749	1.500	2.756	XCMT13
52502061	●	P2D1938FS150A13	1.938	3.875	7.813	1.500	2.756	XCMT13
52502062	●	P2D1969FS150A14	1.969	3.938	7.875	1.500	2.756	XCMT14
52502021	●	P2D2000FS150A14	2.000	4.000	7.937	1.500	2.756	XCMT14
52502022	●	P2D2125FS150A14	2.125	4.250	8.187	1.500	2.756	XCMT14
52502023	●	P2D2250FS150A16	2.250	4.500	8.437	1.500	2.756	XCMT16
52502024	●	P2D2375FS150A16	2.375	4.750	8.687	1.500	2.756	XCMT16
52502025	●	P2D2500FS150A16	2.500	5.000	8.937	1.500	2.756	XCMT16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P2D-0484-FS-075-A-03

Series	Diameter	Body Type	Shank Diameter	Units	Insert Size

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

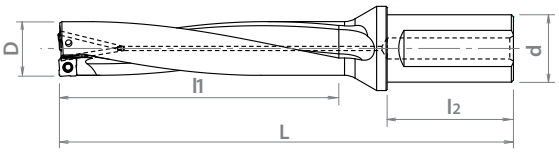
○ Good ◎ Best

List 78031

OSG PHOENIX® P2D, Flat Shank

SPEED FEED	INSERTS	ACCS.	STEEL		2 FLUTE	PACKED
362	282-283	284				1 PIECE





EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803180	●	P2D1200FS20M03	12.000	24.000	87.000	20.000	50.000	XCMT03
7803181	●	P2D1250FS20M03	12.500	25.000	88.000	20.000	50.000	XCMT03
7803182	●	P2D1300FS20M03	13.000	26.000	89.000	20.000	50.000	XCMT03
7803183	●	P2D1350FS20M03	13.500	27.000	90.000	20.000	50.000	XCMT03
7803184	●	P2D1400FS20M03	14.000	28.000	91.000	20.000	50.000	XCMT03
7803185	●	P2D1450FS20M03	14.500	29.000	92.000	20.000	50.000	XCMT03
7803117	●	P2D1500FS20M04	15.000	30.000	95.000	20.000	50.000	XCMT04
7803118	●	P2D1550FS20M04	15.500	31.000	96.000	20.000	50.000	XCMT04
7803119	●	P2D1600FS20M04	16.000	32.000	97.000	20.000	50.000	XCMT04
7803120	●	P2D1650FS20M04	16.500	33.000	98.000	20.000	50.000	XCMT04
7803121	●	P2D1700FS20M05	17.000	34.000	102.000	20.000	50.000	XCMT05
7803122	●	P2D1750FS20M05	17.500	35.000	103.000	20.000	50.000	XCMT05
7803190	●	P2D1750FS25M05	17.500	35.000	109.000	25.000	56.000	XCMT05
7803123	●	P2D1800FS25M05	18.000	36.000	110.000	25.000	56.000	XCMT05
7803124	●	P2D1850FS25M05	18.500	37.000	111.000	25.000	56.000	XCMT05
7803125	●	P2D1900FS25M06	19.000	38.000	112.000	25.000	56.000	XCMT06
7803126	●	P2D1950FS25M06	19.500	39.000	113.000	25.000	56.000	XCMT06
7803127	●	P2D2000FS25M06	20.000	40.000	114.000	25.000	56.000	XCMT06
7803128	●	P2D2050FS25M06	20.500	41.000	115.000	25.000	56.000	XCMT06
7803129	●	P2D2100FS25M07	21.000	42.000	121.000	25.000	56.000	XCMT07
7803130	●	P2D2150FS25M07	21.500	43.000	122.000	25.000	56.000	XCMT07
7803131	●	P2D2200FS25M07	22.000	44.000	123.000	25.000	56.000	XCMT07
7803132	●	P2D2250FS25M07	22.500	45.000	124.000	25.000	56.000	XCMT07
7803133	●	P2D2300FS25M07	23.000	46.000	125.000	25.000	56.000	XCMT07
7803134	●	P2D2350FS32M07	23.500	47.000	130.000	32.000	60.000	XCMT07
7803191	●	P2D2350FS25M07	23.500	47.000	126.000	25.000	56.000	XCMT07
7803135	●	P2D2400FS32M07	24.000	48.000	131.000	32.000	60.000	XCMT07
7803192	●	P2D2400FS25M07	24.000	48.000	127.000	25.000	56.000	XCMT07
7803136	●	P2D2450FS32M07	24.500	49.000	132.000	32.000	60.000	XCMT07
7803193	●	P2D2450FS25M07	24.500	49.000	128.000	25.000	56.000	XCMT07
7803137	●	P2D2500FS32M08	25.000	50.000	133.000	32.000	60.000	XCMT08
7803194	●	P2D2500FS25M08	25.000	50.000	129.000	25.000	56.000	XCMT08
7803138	●	P2D2550FS32M08	25.500	51.000	134.000	32.000	60.000	XCMT08
7803195	●	P2D2550FS25M08	25.500	51.000	130.000	25.000	56.000	XCMT08
7803139	●	P2D2600FS32M08	26.000	52.000	135.000	32.000	60.000	XCMT08

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P2D-1200-FS-20-M-03

Series	Diameter	Body Type	Shank Diameter	Units	Insert Size

See Full Detail on Page 360

CONTINUED

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

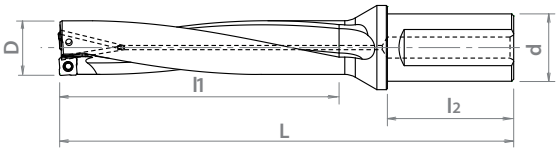
○ Good ◎ Best

List 78031 (Continued)

SPEED FEED 362 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE

OSG PHOENIX® P2D, Flat Shank





EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803140	●	P2D2650FS32M08	26.500	53.000	136.000	32.000	60.000	XCMT08
7803141	●	P2D2700FS32M08	27.000	54.000	137.000	32.000	60.000	XCMT08
7803142	●	P2D2800FS32M08	28.000	56.000	139.000	32.000	60.000	XCMT08
7803143	●	P2D2850FS32M08	28.500	57.000	140.000	32.000	60.000	XCMT08
7803144	●	P2D2900FS32M09	29.000	58.000	141.000	32.000	60.000	XCMT09
7803145	●	P2D3000FS32M09	30.000	60.000	143.000	32.000	60.000	XCMT09
7803146	●	P2D3100FS32M09	31.000	62.000	145.000	32.000	60.000	XCMT09
7803196	●	P2D3100FS40M09	31.000	62.000	155.000	40.000	70.000	XCMT09
7803147	●	P2D3200FS32M09	32.000	64.000	147.000	32.000	60.000	XCMT09
7803197	●	P2D3200FS40M09	32.000	64.000	157.000	40.000	70.000	XCMT09
7803148	●	P2D3300FS40M09	33.000	66.000	159.000	40.000	70.000	XCMT09
7803149	●	P2D3350FS40M09	33.500	67.000	160.000	40.000	70.000	XCMT09
7803150	●	P2D3400FS40M10	34.000	68.000	161.000	40.000	70.000	XCMT10
7803151	●	P2D3500FS40M10	35.000	70.000	163.000	40.000	70.000	XCMT10
7803152	●	P2D3600FS40M10	36.000	72.000	165.000	40.000	70.000	XCMT10
7803153	●	P2D3700FS40M10	37.000	74.000	167.000	40.000	70.000	XCMT10
7803154	●	P2D3800FS40M10	38.000	76.000	169.000	40.000	70.000	XCMT10
7803155	●	P2D3900FS40M12	39.000	78.000	178.000	40.000	70.000	XCMT12
7803156	●	P2D4000FS40M12	40.000	80.000	180.000	40.000	70.000	XCMT12
7803157	●	P2D4100FS40M12	41.000	82.000	182.000	40.000	70.000	XCMT12
7803158	●	P2D4200FS40M12	42.000	84.000	184.000	40.000	70.000	XCMT12
7803159	●	P2D4300FS40M12	43.000	86.000	186.000	40.000	70.000	XCMT12
7803160	●	P2D4400FS40M12	44.000	88.000	188.000	40.000	70.000	XCMT12
7803161	●	P2D4500FS40M13	45.000	90.000	190.000	40.000	70.000	XCMT13
7803162	●	P2D4600FS40M13	46.000	92.000	192.000	40.000	70.000	XCMT13
7803163	●	P2D4700FS40M13	47.000	94.000	194.000	40.000	70.000	XCMT13
7803164	●	P2D4800FS40M13	48.000	96.000	196.000	40.000	70.000	XCMT13
7803165	●	P2D4900FS40M13	49.000	98.000	198.000	40.000	70.000	XCMT13
7803166	●	P2D5000FS40M14	50.000	100.000	200.000	40.000	70.000	XCMT14
7803167	●	P2D5100FS40M14	51.000	102.000	202.000	40.000	70.000	XCMT14
7803168	●	P2D5200FS40M14	52.000	104.000	204.000	40.000	70.000	XCMT14
7803169	●	P2D5300FS40M14	53.000	106.000	206.000	40.000	70.000	XCMT14
7803170	●	P2D5400FS40M14	54.000	108.000	208.000	40.000	70.000	XCMT14
7803171	●	P2D5500FS40M14	55.000	110.000	210.000	40.000	70.000	XCMT14
7803172	●	P2D5600FS40M14	56.000	112.000	212.000	40.000	70.000	XCMT14

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

List 78031 (Continued)

OSG PHOENIX® P2D, Flat Shank



SPEED FEED 362 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE

EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803173	●	P2D5700FS40M16	57.000	114.000	214.000	40.000	70.000	XCMT16
7803174	●	P2D5800FS40M16	58.000	116.000	216.000	40.000	70.000	XCMT16
7803175	●	P2D5900FS40M16	59.000	118.000	218.000	40.000	70.000	XCMT16
7803176	●	P2D6000FS40M16	60.000	120.000	220.000	40.000	70.000	XCMT16
7803177	●	P2D6100FS40M16	61.000	122.000	222.000	40.000	70.000	XCMT16
7803178	●	P2D6200FS40M16	62.000	124.000	224.000	40.000	70.000	XCMT16
7803179	●	P2D6300FS40M16	63.000	126.000	226.000	40.000	70.000	XCMT16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P2D-1200-FS-20-M-03

Series | Diameter | Body Type | Shank Diameter | Units | Insert Size

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

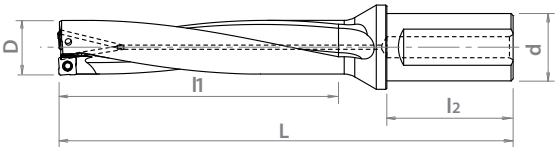
○ Good ◎ Best

List 52503

OSG PHOENIX® P3D, Flat Shank

SPEED FEED 362 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter	Drilling Depth	Overall Length	Shank Diameter	Shank Length	Applicable Insert
			D (in)	l1 (in)	L (in)	d (in)	l2 (in)	
52503063	●	P3D0484FS075A03	0.484	1.453	3.933	0.750	1.969	XCMT03
52503064	●	P3D0500FS075A03	0.500	1.500	3.980	0.750	1.969	XCMT03
52503065	●	P3D0516FS075A03	0.516	1.547	4.027	0.750	1.969	XCMT03
52503066	●	P3D0531FS075A03	0.531	1.594	4.074	0.750	1.969	XCMT03
52503067	●	P3D0547FS075A03	0.547	1.641	4.121	0.750	1.969	XCMT03
52503068	●	P3D0563FS075A03	0.563	1.688	4.168	0.750	1.969	XCMT03
52503069	●	P3D0578FS075A03	0.578	1.734	4.215	0.750	1.969	XCMT03
52503026	●	P3D0594FS075A04	0.594	1.781	4.341	0.750	1.969	XCMT04
52503027	●	P3D0609FS075A04	0.609	1.828	4.386	0.750	1.969	XCMT04
52503008	●	P3D0625FS075A04	0.625	1.875	4.434	0.750	1.969	XCMT04
52503028	●	P3D0641FS075A04	0.641	1.922	4.482	0.750	1.969	XCMT04
52503009	●	P3D0656FS075A04	0.656	1.969	4.527	0.750	1.969	XCMT04
52503029	●	P3D0672FS075A05	0.672	2.016	4.693	0.750	1.969	XCMT05
52503010	●	P3D0688FS075A05	0.688	2.063	4.741	0.750	1.969	XCMT05
52503030	●	P3D0703FS075A05	0.703	2.109	4.786	0.750	1.969	XCMT05
52503031	●	P3D0719FS100A05	0.719	2.156	5.070	1.000	2.205	XCMT05
52503032	●	P3D0734FS100A05	0.734	2.203	5.115	1.000	2.205	XCMT05
52503011	●	P3D0750FS100A06	0.750	2.250	5.163	1.000	2.205	XCMT06
52503033	●	P3D0766FS100A06	0.766	2.297	5.211	1.000	2.205	XCMT06
52503034	●	P3D0781FS100A06	0.781	2.344	5.256	1.000	2.205	XCMT06
52503035	●	P3D0797FS100A06	0.797	2.391	5.304	1.000	2.205	XCMT06
52503012	●	P3D0812FS100A06	0.813	2.438	5.349	1.000	2.205	XCMT06
52503036	●	P3D0828FS100A07	0.828	2.484	5.594	1.000	2.205	XCMT07
52503037	●	P3D0844FS100A07	0.844	2.531	5.642	1.000	2.205	XCMT07
52503038	●	P3D0859FS100A07	0.859	2.578	5.687	1.000	2.205	XCMT07
52503000	●	P3D0875FS100A07	0.875	2.625	5.735	1.000	2.205	XCMT07
52503039	●	P3D0891FS100A07	0.891	2.672	5.783	1.000	2.205	XCMT07
52503040	●	P3D0906FS100A07	0.906	2.719	5.828	1.000	2.205	XCMT07
52503041	●	P3D0922FS100A07	0.922	2.766	5.876	1.000	2.205	XCMT07
52503001	●	P3D0937FS125A07	0.938	2.813	6.079	1.250	2.362	XCMT07
52503042	●	P3D0953FS125A07	0.953	2.859	6.127	1.250	2.362	XCMT07
52503043	●	P3D0969FS125A07	0.969	2.906	6.175	1.250	2.362	XCMT07
52503044	●	P3D0984FS125A08	0.984	2.953	6.220	1.250	2.362	XCMT08
52503002	●	P3D1000FS125A08	1.000	3.000	6.268	1.250	2.362	XCMT08
52503045	●	P3D1031FS125A08	1.031	3.094	6.361	1.250	2.362	XCMT08
52503003	●	P3D1062FS125A08	1.063	3.188	6.454	1.250	2.362	XCMT08
52503046	●	P3D1094FS125A08	1.094	3.281	6.550	1.250	2.362	XCMT08
52503004	●	P3D1125FS125A08	1.125	3.375	6.643	1.250	2.362	XCMT08
52503047	●	P3D1156FS125A09	1.156	3.469	6.736	1.250	2.362	XCMT09
52503005	●	P3D1187FS125A09	1.188	3.563	6.829	1.250	2.362	XCMT09
52503048	●	P3D1219FS125A09	1.219	3.656	6.925	1.250	2.362	XCMT09
52503006	●	P3D1250FS125A09	1.250	3.750	7.018	1.250	2.362	XCMT09
52503049	●	P3D1281FS150A09	1.281	3.844	7.504	1.500	2.756	XCMT09
52503007	●	P3D1312FS150A09	1.313	3.938	7.597	1.500	2.756	XCMT09
52503050	●	P3D1344FS150A10	1.344	4.031	7.693	1.500	2.756	XCMT10
52503013	●	P3D1375FS150A10	1.375	4.125	7.787	1.500	2.756	XCMT10
52503051	●	P3D1406FS150A10	1.406	4.219	7.880	1.500	2.756	XCMT10
52503014	●	P3D1437FS150A10	1.438	4.313	7.972	1.500	2.756	XCMT10
52503052	●	P3D1469FS150A10	1.469	4.406	8.069	1.500	2.756	XCMT10
52503015	●	P3D1500FS150A10	1.500	4.500	8.161	1.500	2.756	XCMT10
52503053	●	P3D1531FS150A10	1.531	4.594	8.254	1.500	2.756	XCMT10
52503016	●	P3D1563FS150A12	1.563	4.688	8.626	1.500	2.756	XCMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

List 52503 (Continued)

OSG PHOENIX® P3D, Flat Shank



SPEED FEED	INSERTS	ACCS.	STEEL		2 FLUTE	PACKED
362	282-283	284				1 PIECE

EDP Number		Designation	Diameter	Drilling Depth	Overall Length	Shank Diameter	Shank Length	Applicable Insert
			D (in)	l1 (in)	L (in)	d (in)	l2 (in)	
52503054	●	P3D1594FS150A12	1.594	4.781	8.719	1.500	2.756	XCMT12
52503017	●	P3D1625FS150A12	1.625	4.875	8.812	1.500	2.756	XCMT12
52503055	●	P3D1656FS150A12	1.656	4.969	8.905	1.500	2.756	XCMT12
52503018	●	P3D1688FS150A12	1.688	5.063	9.001	1.500	2.756	XCMT12
52503056	●	P3D1719FS150A12	1.719	5.156	9.094	1.500	2.756	XCMT12
52503019	●	P3D1750FS150A12	1.750	5.250	9.187	1.500	2.756	XCMT12
52503057	●	P3D1781FS150A13	1.781	5.344	9.280	1.500	2.756	XCMT13
52503058	●	P3D1813FS150A13	1.813	5.438	9.376	1.500	2.756	XCMT13
52503059	●	P3D1844FS150A13	1.844	5.531	9.469	1.500	2.756	XCMT13
52503020	●	P3D1875FS150A13	1.875	5.625	9.562	1.500	2.756	XCMT13
52503060	●	P3D1906FS150A13	1.906	5.719	9.655	1.500	2.756	XCMT13
52503061	●	P3D1938FS150A13	1.938	5.813	9.751	1.500	2.756	XCMT13
52503062	●	P3D1969FS150A14	1.969	5.906	9.844	1.500	2.756	XCMT14
52503021	●	P3D2000FS150A14	2.000	6.000	9.937	1.500	2.756	XCMT14
52503022	●	P3D2125FS150A14	2.125	6.375	10.312	1.500	2.756	XCMT14
52503023	●	P3D2250FS150A16	2.250	6.750	10.687	1.500	2.756	XCMT16
52503024	●	P3D2375FS150A16	2.375	7.125	11.062	1.500	2.756	XCMT16
52503025	●	P3D2500FS150A16	2.500	7.500	11.437	1.500	2.756	XCMT16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P3D-0484-FS-075-A-03

Series	Diameter	Body Type	Shank Diameter	Units	Insert Size

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

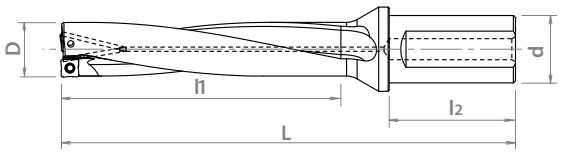
○ Good ◎ Best

List 78032

OSG PHOENIX® P3D, Flat Shank

SPEED FEED 362 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803210	●	P3D1200FS20M03	12.00	36.00	99.00	20.00	50.00	XCMT03
7803211	●	P3D1250FS20M03	12.50	37.50	100.50	20.00	50.00	XCMT03
7803212	●	P3D1270FS20M03	12.70	38.10	101.10	20.00	50.00	XCMT03
7803213	●	P3D1300FS20M03	13.00	39.00	102.00	20.00	50.00	XCMT03
7803214	●	P3D1350FS20M03	13.50	40.50	103.50	20.00	50.00	XCMT03
7803215	●	P3D1400FS20M03	14.00	42.00	105.00	20.00	50.00	XCMT03
7803216	●	P3D1450FS20M03	14.50	43.50	106.50	20.00	50.00	XCMT03
7803217	●	P3D1500FS20M04	15.00	45.00	110.00	20.00	50.00	XCMT04
7803218	●	P3D1550FS20M04	15.50	47.00	112.00	20.00	50.00	XCMT04
7803219	●	P3D1600FS20M04	16.00	48.00	113.00	20.00	50.00	XCMT04
7803220	●	P3D1650FS20M04	16.50	50.00	115.00	20.00	50.00	XCMT04
7803221	●	P3D1700FS20M05	17.00	51.00	119.00	20.00	50.00	XCMT05
7803222	●	P3D1750FS20M05	17.50	53.00	121.00	20.00	50.00	XCMT05
7803290	●	P3D1750FS25M05	17.50	53.00	127.00	25.00	56.00	XCMT05
7803223	●	P3D1800FS25M05	18.00	54.00	128.00	25.00	56.00	XCMT05
7803224	●	P3D1850FS25M05	18.50	56.00	130.00	25.00	56.00	XCMT05
7803225	●	P3D1900FS25M06	19.00	57.00	131.00	25.00	56.00	XCMT06
7803226	●	P3D1950FS25M06	19.50	59.00	133.00	25.00	56.00	XCMT06
7803227	●	P3D2000FS25M06	20.00	60.00	134.00	25.00	56.00	XCMT06
7803228	●	P3D2050FS25M06	20.50	62.00	136.00	25.00	56.00	XCMT06
7803229	●	P3D2100FS25M07	21.00	63.00	142.00	25.00	56.00	XCMT07
7803230	●	P3D2150FS25M07	21.50	65.00	144.00	25.00	56.00	XCMT07
7803231	●	P3D2200FS25M07	22.00	66.00	145.00	25.00	56.00	XCMT07
7803232	●	P3D2250FS25M07	22.50	68.00	147.00	25.00	56.00	XCMT07
7803233	●	P3D2300FS25M07	23.00	69.00	148.00	25.00	56.00	XCMT07
7803234	●	P3D2350FS32M07	23.50	71.00	154.00	32.00	60.00	XCMT07
7803291	●	P3D2350FS25M07	23.50	71.00	150.00	25.00	56.00	XCMT07
7803235	●	P3D2400FS32M07	24.00	72.00	155.00	32.00	60.00	XCMT07
7803292	●	P3D2400FS25M07	24.00	72.00	151.00	25.00	56.00	XCMT07
7803236	●	P3D2450FS32M07	24.50	74.00	157.00	32.00	60.00	XCMT07
7803293	●	P3D2450FS25M07	24.50	74.00	153.00	25.00	56.00	XCMT07
7803237	●	P3D2500FS32M08	25.00	75.00	158.00	32.00	60.00	XCMT08
7803294	●	P3D2500FS25M08	25.00	75.00	154.00	25.00	56.00	XCMT08
7803238	●	P3D2550FS32M08	25.50	77.00	160.00	32.00	60.00	XCMT08
7803295	●	P3D2550FS25M08	25.50	77.00	156.00	25.00	56.00	XCMT08
7803239	●	P3D2600FS32M08	26.00	78.00	161.00	32.00	60.00	XCMT08
7803240	●	P3D2650FS32M08	26.50	80.00	163.00	32.00	60.00	XCMT08
7803241	●	P3D2700FS32M08	27.00	81.00	164.00	32.00	60.00	XCMT08
7803300	●	P3D2750FS32M08	27.50	83.00	166.00	32.00	60.00	XCMT08
7803242	●	P3D2800FS32M08	28.00	84.00	167.00	32.00	60.00	XCMT08
7803243	●	P3D2850FS32M08	28.50	86.00	169.00	32.00	60.00	XCMT08
7803244	●	P3D2900FS32M09	29.00	87.00	170.00	32.00	60.00	XCMT09
7803301	●	P3D2950FS32M09	29.50	89.00	172.00	32.00	60.00	XCMT09
7803245	●	P3D3000FS32M09	30.00	90.00	173.00	32.00	60.00	XCMT09
7803302	●	P3D3050FS32M09	30.50	92.00	175.00	32.00	60.00	XCMT09
7803246	●	P3D3100FS32M09	31.00	93.00	176.00	32.00	60.00	XCMT09
7803296	●	P3D3100FS40M09	31.00	93.00	186.00	40.00	70.00	XCMT09
7803303	●	P3D3150FS32M09	31.50	95.00	178.00	32.00	60.00	XCMT09
7803247	●	P3D3200FS32M09	32.00	96.00	179.00	32.00	60.00	XCMT09
7803297	●	P3D3200FS40M09	32.00	96.00	189.00	40.00	70.00	XCMT09
7803304	●	P3D3250FS40M09	32.50	98.00	191.00	40.00	70.00	XCMT09
7803248	●	P3D3300FS40M09	33.00	99.00	192.00	40.00	70.00	XCMT09
7803249	●	P3D3350FS40M09	33.50	101.00	194.00	40.00	70.00	XCMT09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

List 78032 (Continued)

OSG PHOENIX® P3D, Flat Shank



SPEED FEED 362 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE

EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803250	●	P3D3400FS40M10	34.00	102.00	195.00	40.00	70.00	XCMT10
7803305	●	P3D3450FS40M10	34.50	104.00	197.00	40.00	70.00	XCMT10
7803251	●	P3D3500FS40M10	35.00	105.00	198.00	40.00	70.00	XCMT10
7803306	●	P3D3550FS40M10	35.50	107.00	200.00	40.00	70.00	XCMT10
7803252	●	P3D3600FS40M10	36.00	108.00	201.00	40.00	70.00	XCMT10
7803253	●	P3D3700FS40M10	37.00	111.00	204.00	40.00	70.00	XCMT10
7803307	●	P3D3750FS40M10	37.50	113.00	206.00	40.00	70.00	XCMT10
7803254	●	P3D3800FS40M10	38.00	114.00	207.00	40.00	70.00	XCMT10
7803255	●	P3D3900FS40M12	39.00	117.00	217.00	40.00	70.00	XCMT12
7803256	●	P3D4000FS40M12	40.00	120.00	220.00	40.00	70.00	XCMT12
7803308	●	P3D4050FS40M12	40.50	122.00	222.00	40.00	70.00	XCMT12
7803257	●	P3D4100FS40M12	41.00	123.00	223.00	40.00	70.00	XCMT12
7803258	●	P3D4200FS40M12	42.00	126.00	226.00	40.00	70.00	XCMT12
7803259	●	P3D4300FS40M12	43.00	129.00	229.00	40.00	70.00	XCMT12
7803260	●	P3D4400FS40M12	44.00	132.00	232.00	40.00	70.00	XCMT12
7803261	●	P3D4500FS40M13	45.00	135.00	235.00	40.00	70.00	XCMT13
7803262	●	P3D4600FS40M13	46.00	138.00	238.00	40.00	70.00	XCMT13
7803263	●	P3D4700FS40M13	47.00	141.00	241.00	40.00	70.00	XCMT13
7803264	●	P3D4800FS40M13	48.00	144.00	244.00	40.00	70.00	XCMT13
7803265	●	P3D4900FS40M13	49.00	147.00	247.00	40.00	70.00	XCMT13
7803266	●	P3D5000FS40M14	50.00	150.00	250.00	40.00	70.00	XCMT14
7803309	●	P3D5050FS40M14	50.50	152.00	252.00	40.00	70.00	XCMT14
7803267	●	P3D5100FS40M14	51.00	153.00	253.00	40.00	70.00	XCMT14
7803268	●	P3D5200FS40M14	52.00	156.00	256.00	40.00	70.00	XCMT14
7803269	●	P3D5300FS40M14	53.00	159.00	259.00	40.00	70.00	XCMT14
7803270	●	P3D5400FS40M14	54.00	162.00	262.00	40.00	70.00	XCMT14
7803271	●	P3D5500FS40M14	55.00	165.00	265.00	40.00	70.00	XCMT14
7803272	●	P3D5600FS40M14	56.00	168.00	268.00	40.00	70.00	XCMT14
7803273	●	P3D5700FS40M16	57.00	171.00	271.00	40.00	70.00	XCMT16
7803274	●	P3D5800FS40M16	58.00	174.00	274.00	40.00	70.00	XCMT16
7803275	●	P3D5900FS40M16	59.00	177.00	277.00	40.00	70.00	XCMT16
7803276	●	P3D6000FS40M16	60.00	180.00	280.00	40.00	70.00	XCMT16
7803277	●	P3D6100FS40M16	61.00	183.00	283.00	40.00	70.00	XCMT16
7803278	●	P3D6200FS40M16	62.00	186.00	286.00	40.00	70.00	XCMT16
7803279	●	P3D6300FS40M16	63.00	189.00	289.00	40.00	70.00	XCMT16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P3D-1200-FS-20-M-03

Series | Diameter | Body Type | Shank Diameter | Units | Insert Size

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

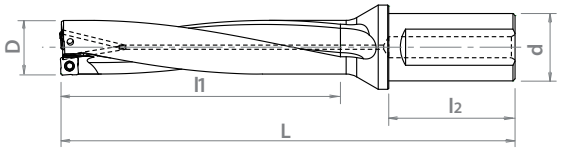
○ Good ◎ Best

List 52504

OSG PHOENIX® P4D, Flat Shank

SPEED FEED 363 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Applicable Insert
52504063	●	P4D0484FS075A03	0.484	1.938	4.418	0.750	1.969	XCMT03
52504064	●	P4D0500FS075A03	0.500	2.000	4.480	0.750	1.969	XCMT03
52504065	●	P4D0516FS075A03	0.516	2.063	4.543	0.750	1.969	XCMT03
52504066	●	P4D0531FS075A03	0.531	2.125	4.605	0.750	1.969	XCMT03
52504067	●	P4D0547FS075A03	0.547	2.188	4.668	0.750	1.969	XCMT03
52504068	●	P4D0563FS075A03	0.563	2.250	4.730	0.750	1.969	XCMT03
52504069	●	P4D0578FS075A03	0.578	2.313	4.793	0.750	1.969	XCMT03
52504026	●	P4D0594FS075A04	0.594	2.375	4.935	0.750	1.969	XCMT04
52504027	●	P4D0609FS075A04	0.609	2.438	4.995	0.750	1.969	XCMT04
52504008	●	P4D0625FS075A04	0.625	2.500	5.059	0.750	1.969	XCMT04
52504028	●	P4D0641FS075A04	0.641	2.563	5.123	0.750	1.969	XCMT04
52504009	●	P4D0656FS075A04	0.656	2.625	5.183	0.750	1.969	XCMT04
52504029	●	P4D0672FS075A05	0.672	2.688	5.365	0.750	1.969	XCMT05
52504010	●	P4D0688FS075A05	0.688	2.750	5.429	0.750	1.969	XCMT05
52504030	●	P4D0703FS075A05	0.703	2.813	5.489	0.750	1.969	XCMT05
52504031	●	P4D0719FS100A05	0.719	2.875	5.789	1.000	2.205	XCMT05
52504032	●	P4D0734FS100A05	0.734	2.938	5.849	1.000	2.205	XCMT05
52504011	●	P4D0750FS100A06	0.750	3.000	5.913	1.000	2.205	XCMT06
52504033	●	P4D0766FS100A06	0.766	3.063	5.978	1.000	2.205	XCMT06
52504034	●	P4D0781FS100A06	0.781	3.125	6.037	1.000	2.205	XCMT06
52504035	●	P4D0797FS100A06	0.797	3.188	6.102	1.000	2.205	XCMT06
52504012	●	P4D0812FS100A06	0.813	3.250	6.161	1.000	2.205	XCMT06
52504036	●	P4D0828FS100A07	0.828	3.313	6.422	1.000	2.205	XCMT07
52504037	●	P4D0844FS100A07	0.844	3.375	6.486	1.000	2.205	XCMT07
52504038	●	P4D0859FS100A07	0.859	3.438	6.546	1.000	2.205	XCMT07
52504000	●	P4D0875FS100A07	0.875	3.500	6.610	1.000	2.205	XCMT07
52504039	●	P4D0891FS100A07	0.891	3.563	6.674	1.000	2.205	XCMT07
52504040	●	P4D0906FS100A07	0.906	3.625	6.734	1.000	2.205	XCMT07
52504041	●	P4D0922FS100A07	0.922	3.688	6.798	1.000	2.205	XCMT07
52504001	●	P4D0937FS125A07	0.938	3.750	7.016	1.250	2.362	XCMT07
52504042	●	P4D0953FS125A07	0.953	3.813	7.080	1.250	2.362	XCMT07
52504043	●	P4D0969FS125A07	0.969	3.875	7.144	1.250	2.362	XCMT07
52504044	●	P4D0984FS125A08	0.984	3.938	7.204	1.250	2.362	XCMT08
52504002	●	P4D1000FS125A08	1.000	4.000	7.268	1.250	2.362	XCMT08
52504045	●	P4D1031FS125A08	1.031	4.125	7.392	1.250	2.362	XCMT08
52504003	●	P4D1062FS125A08	1.063	4.250	7.516	1.250	2.362	XCMT08
52504046	●	P4D1094FS125A08	1.094	4.375	7.644	1.250	2.362	XCMT08
52504004	●	P4D1125FS125A08	1.125	4.500	7.768	1.250	2.362	XCMT08
52504047	●	P4D1156FS125A09	1.156	4.625	7.892	1.250	2.362	XCMT09
52504005	●	P4D1187FS125A09	1.188	4.750	8.016	1.250	2.362	XCMT09
52504048	●	P4D1219FS125A09	1.219	4.875	8.144	1.250	2.362	XCMT09
52504006	●	P4D1250FS125A09	1.250	5.000	8.268	1.250	2.362	XCMT09
52504049	●	P4D1281FS150A09	1.281	5.125	8.785	1.500	2.756	XCMT09
52504007	●	P4D1312FS150A09	1.313	5.250	8.909	1.500	2.756	XCMT09
52504050	●	P4D1344FS150A10	1.344	5.375	9.037	1.500	2.756	XCMT10
52504013	●	P4D1375FS150A10	1.375	5.500	9.161	1.500	2.756	XCMT10
52504051	●	P4D1406FS150A10	1.406	5.625	9.285	1.500	2.756	XCMT10
52504014	●	P4D1437FS150A10	1.438	5.750	9.409	1.500	2.756	XCMT10
52504052	●	P4D1469FS150A10	1.469	5.875	9.537	1.500	2.756	XCMT10
52504015	●	P4D1500FS150A10	1.500	6.000	9.661	1.500	2.756	XCMT10
52504053	●	P4D1531FS150A10	1.531	6.125	9.785	1.500	2.756	XCMT10
52504016	●	P4D1563FS150A12	1.563	6.250	10.189	1.500	2.756	XCMT12
52504054	●	P4D1594FS150A12	1.594	6.375	10.313	1.500	2.756	XCMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

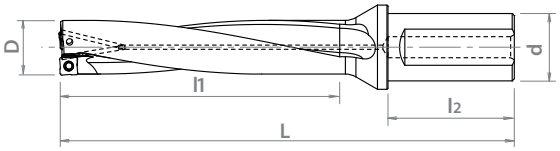
PXT

List 52504 (Continued)

OSG PHOENIX® P4D, Flat Shank

SPEED FEED 363 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Applicable Insert
52504017	●	P4D1625FS150A12	1.625	6.500	10.437	1.500	2.756	XCMT12
52504055	●	P4D1656FS150A12	1.656	6.625	10.561	1.500	2.756	XCMT12
52504018	●	P4D1688FS150A12	1.688	6.750	10.689	1.500	2.756	XCMT12
52504056	●	P4D1719FS150A12	1.719	6.875	10.813	1.500	2.756	XCMT12
52504019	●	P4D1750FS150A12	1.750	7.000	10.937	1.500	2.756	XCMT12
52504057	●	P4D1781FS150A13	1.781	7.125	11.061	1.500	2.756	XCMT13
52504058	●	P4D1813FS150A13	1.813	7.250	11.189	1.500	2.756	XCMT13
52504059	●	P4D1844FS150A13	1.844	7.375	11.313	1.500	2.756	XCMT13
52504020	●	P4D1875FS150A13	1.875	7.500	11.437	1.500	2.756	XCMT13
52504060	●	P4D1906FS150A13	1.906	7.625	11.561	1.500	2.756	XCMT13
52504061	●	P4D1938FS150A13	1.938	7.750	11.689	1.500	2.756	XCMT13
52504062	●	P4D1969FS150A14	1.969	7.875	11.813	1.500	2.756	XCMT14
52504021	●	P4D2000FS150A14	2.000	8.000	11.937	1.500	2.756	XCMT14
52504022	●	P4D2125FS150A14	2.125	8.500	12.437	1.500	2.756	XCMT14
52504023	●	P4D2250FS150A16	2.250	9.000	12.937	1.500	2.756	XCMT16
52504024	●	P4D2375FS150A16	2.375	9.500	13.437	1.500	2.756	XCMT16
52504025	●	P4D2500FS150A16	2.500	10.000	13.937	1.500	2.756	XCMT16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P4D-0484-FS-075-A-03

Series | Diameter | Body Type | Shank Diameter | Units | Insert Size

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

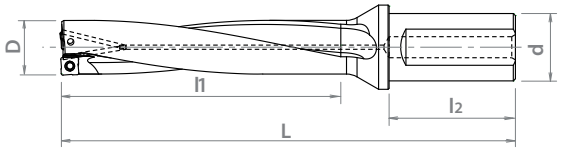
○ Good ◎ Best

List 78033

OSG PHOENIX® P4D, Flat Shank

SPEED FEED 363 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803311	●	P4D1200FS20M03	12.00	48.00	111.00	20.00	50.00	XCMT03
7803312	●	P4D1250FS20M03	12.50	50.00	113.00	20.00	50.00	XCMT03
7803313	●	P4D1300FS20M03	13.00	52.00	115.00	20.00	50.00	XCMT03
7803314	●	P4D1350FS20M03	13.50	54.00	117.00	20.00	50.00	XCMT03
7803315	●	P4D1400FS20M03	14.00	56.00	119.00	20.00	50.00	XCMT03
7803316	●	P4D1450FS20M03	14.50	58.00	121.00	20.00	50.00	XCMT03
7803317	●	P4D1500FS20M04	15.00	60.00	125.00	20.00	50.00	XCMT04
7803318	●	P4D1550FS20M04	15.50	62.00	127.00	20.00	50.00	XCMT04
7803319	●	P4D1600FS20M04	16.00	64.00	129.00	20.00	50.00	XCMT04
7803320	●	P4D1650FS20M04	16.50	66.00	131.00	20.00	50.00	XCMT04
7803321	●	P4D1700FS20M05	17.00	68.00	136.00	20.00	50.00	XCMT05
7803322	●	P4D1750FS20M05	17.50	70.00	138.00	20.00	50.00	XCMT05
7803390	●	P4D1750FS25M05	17.50	70.00	144.00	25.00	56.00	XCMT05
7803323	●	P4D1800FS25M05	18.00	72.00	146.00	25.00	56.00	XCMT05
7803324	●	P4D1850FS25M05	18.50	74.00	148.00	25.00	56.00	XCMT05
7803325	●	P4D1900FS25M06	19.00	76.00	150.00	25.00	56.00	XCMT06
7803326	●	P4D1950FS25M06	19.50	78.00	152.00	25.00	56.00	XCMT06
7803327	●	P4D2000FS25M06	20.00	80.00	154.00	25.00	56.00	XCMT06
7803328	●	P4D2050FS25M06	20.50	82.00	156.00	25.00	56.00	XCMT06
7803329	●	P4D2100FS25M07	21.00	84.00	163.00	25.00	56.00	XCMT07
7803330	●	P4D2150FS25M07	21.50	86.00	165.00	25.00	56.00	XCMT07
7803331	●	P4D2200FS25M07	22.00	88.00	167.00	25.00	56.00	XCMT07
7803332	●	P4D2250FS25M07	22.50	90.00	169.00	25.00	56.00	XCMT07
7803333	●	P4D2300FS25M07	23.00	92.00	171.00	25.00	56.00	XCMT07
7803334	●	P4D2350FS32M07	23.50	94.00	177.00	32.00	60.00	XCMT07
7803391	●	P4D2350FS25M07	23.50	94.00	173.00	25.00	56.00	XCMT07
7803335	●	P4D2400FS32M07	24.00	96.00	179.00	32.00	60.00	XCMT07
7803392	●	P4D2400FS25M07	24.00	96.00	175.00	25.00	56.00	XCMT07
7803336	●	P4D2450FS32M07	24.50	98.00	181.00	32.00	60.00	XCMT07
7803393	●	P4D2450FS25M07	24.50	98.00	177.00	25.00	56.00	XCMT07
7803337	●	P4D2500FS32M08	25.00	100.00	183.00	32.00	60.00	XCMT08
7803394	●	P4D2500FS25M08	25.00	100.00	179.00	25.00	56.00	XCMT08
7803338	●	P4D2550FS32M08	25.50	102.00	185.00	32.00	60.00	XCMT08
7803395	●	P4D2550FS25M08	25.50	102.00	181.00	25.00	56.00	XCMT08
7803339	●	P4D2600FS32M08	26.00	104.00	187.00	32.00	60.00	XCMT08
7803340	●	P4D2650FS32M08	26.50	106.00	189.00	32.00	60.00	XCMT08
7803341	●	P4D2700FS32M08	27.00	108.00	191.00	32.00	60.00	XCMT08
7803342	●	P4D2800FS32M08	28.00	112.00	195.00	32.00	60.00	XCMT08
7803343	●	P4D2850FS32M08	28.50	114.00	197.00	32.00	60.00	XCMT08
7803344	●	P4D2900FS32M09	29.00	116.00	199.00	32.00	60.00	XCMT09
7803345	●	P4D3000FS32M09	30.00	120.00	203.00	32.00	60.00	XCMT09
7803346	●	P4D3100FS32M09	31.00	124.00	207.00	32.00	60.00	XCMT09
7803396	●	P4D3100FS40M09	31.00	124.00	217.00	40.00	70.00	XCMT09
7803347	●	P4D3200FS32M09	32.00	128.00	211.00	32.00	60.00	XCMT09
7803397	●	P4D3200FS40M09	32.00	128.00	221.00	40.00	70.00	XCMT09
7803348	●	P4D3300FS40M09	33.00	132.00	225.00	40.00	70.00	XCMT09
7803349	●	P4D3350FS40M09	33.50	134.00	227.00	40.00	70.00	XCMT09
7803350	●	P4D3400FS40M10	34.00	136.00	229.00	40.00	70.00	XCMT10
7803351	●	P4D3500FS40M10	35.00	140.00	233.00	40.00	70.00	XCMT10
7803352	●	P4D3600FS40M10	36.00	144.00	237.00	40.00	70.00	XCMT10
7803353	●	P4D3700FS40M10	37.00	148.00	241.00	40.00	70.00	XCMT10
7803354	●	P4D3800FS40M10	38.00	152.00	245.00	40.00	70.00	XCMT10
7803355	●	P4D3900FS40M12	39.00	156.00	256.00	40.00	70.00	XCMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

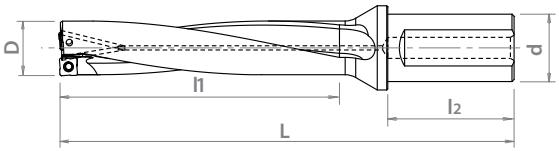
PXT

List 78033 (Continued)

OSG PHOENIX® P4D, Flat Shank

SPEED FEED 363 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803356	●	P4D4000FS40M12	40.00	160.00	260.00	40.00	70.00	XCMT12
7803357	●	P4D4100FS40M12	41.00	164.00	264.00	40.00	70.00	XCMT12
7803358	●	P4D4200FS40M12	42.00	168.00	268.00	40.00	70.00	XCMT12
7803359	●	P4D4300FS40M12	43.00	172.00	272.00	40.00	70.00	XCMT12
7803360	●	P4D4400FS40M12	44.00	176.00	276.00	40.00	70.00	XCMT12
7803361	●	P4D4500FS40M13	45.00	180.00	280.00	40.00	70.00	XCMT13
7803362	●	P4D4600FS40M13	46.00	184.00	284.00	40.00	70.00	XCMT13
7803363	●	P4D4700FS40M13	47.00	188.00	288.00	40.00	70.00	XCMT13
7803364	●	P4D4800FS40M13	48.00	192.00	292.00	40.00	70.00	XCMT13
7803365	●	P4D4900FS40M13	49.00	196.00	296.00	40.00	70.00	XCMT13
7803366	●	P4D5000FS40M14	50.00	200.00	300.00	40.00	70.00	XCMT14
7803367	●	P4D5100FS40M14	51.00	204.00	304.00	40.00	70.00	XCMT14
7803368	●	P4D5200FS40M14	52.00	208.00	308.00	40.00	70.00	XCMT14
7803369	●	P4D5300FS40M14	53.00	212.00	312.00	40.00	70.00	XCMT14
7803370	●	P4D5400FS40M14	54.00	216.00	316.00	40.00	70.00	XCMT14
7803371	●	P4D5500FS40M14	55.00	220.00	320.00	40.00	70.00	XCMT14
7803372	●	P4D5600FS40M14	56.00	224.00	324.00	40.00	70.00	XCMT14
7803373	●	P4D5700FS40M16	57.00	228.00	328.00	40.00	70.00	XCMT16
7803374	●	P4D5800FS40M16	58.00	232.00	332.00	40.00	70.00	XCMT16
7803375	●	P4D5900FS40M16	59.00	236.00	336.00	40.00	70.00	XCMT16
7803376	●	P4D6000FS40M16	60.00	240.00	340.00	40.00	70.00	XCMT16
7803377	●	P4D6100FS40M16	61.00	244.00	344.00	40.00	70.00	XCMT16
7803378	●	P4D6200FS40M16	62.00	248.00	348.00	40.00	70.00	XCMT16
7803379	●	P4D6300FS40M16	63.00	252.00	352.00	40.00	70.00	XCMT16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P4D-1200-FS-20-M-03

Series | Diameter | Body Type | Shank Diameter | Units | Insert Size

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

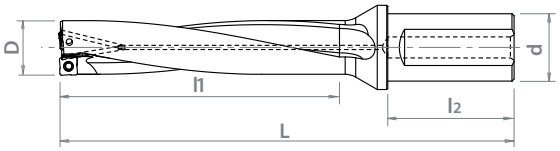
○ Good ◎ Best

List 52505

OSG PHOENIX® P5D, Flat Shank

SPEED FEED 364 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Applicable Insert
52505063	●	P5D0484FS075A03	0.484	2.422	4.981	0.750	1.969	XCMT03
52505064	●	P5D0500FS075A03	0.500	2.500	5.059	0.750	1.969	XCMT03
52505065	●	P5D0516FS075A03	0.516	2.578	5.137	0.750	1.969	XCMT03
52505066	●	P5D0531FS075A03	0.531	2.656	5.215	0.750	1.969	XCMT03
52505067	●	P5D0547FS075A03	0.547	2.734	5.294	0.750	1.969	XCMT03
52505068	●	P5D0563FS075A03	0.563	2.813	5.372	0.750	1.969	XCMT03
52505069	●	P5D0578FS075A03	0.578	2.891	5.450	0.750	1.969	XCMT03
52505026	●	P5D0594FS075A04	0.594	2.969	5.529	0.750	1.969	XCMT04
52505027	●	P5D0609FS075A04	0.609	3.047	5.604	0.750	1.969	XCMT04
52505008	●	P5D0625FS075A04	0.625	3.125	5.684	0.750	1.969	XCMT04
52505028	●	P5D0641FS075A04	0.641	3.203	5.764	0.750	1.969	XCMT04
52505009	●	P5D0656FS075A04	0.656	3.281	5.839	0.750	1.969	XCMT04
52505029	●	P5D0672FS075A05	0.672	3.359	6.037	0.750	1.969	XCMT05
52505010	●	P5D0688FS075A05	0.688	3.438	6.117	0.750	1.969	XCMT05
52505030	●	P5D0703FS075A05	0.703	3.516	6.192	0.750	1.969	XCMT05
52505031	●	P5D0719FS100A05	0.719	3.594	6.508	1.000	2.205	XCMT05
52505032	●	P5D0734FS100A05	0.734	3.672	6.583	1.000	2.205	XCMT05
52505011	●	P5D0750FS100A06	0.750	3.750	6.663	1.000	2.205	XCMT06
52505033	●	P5D0766FS100A06	0.766	3.828	6.743	1.000	2.205	XCMT06
52505034	●	P5D0781FS100A06	0.781	3.906	6.819	1.000	2.205	XCMT06
52505035	●	P5D0797FS100A06	0.797	3.984	6.898	1.000	2.205	XCMT06
52505012	●	P5D0812FS100A06	0.813	4.063	6.973	1.000	2.205	XCMT06
52505036	●	P5D0828FS100A07	0.828	4.141	7.250	1.000	2.205	XCMT07
52505037	●	P5D0844FS100A07	0.844	4.219	7.330	1.000	2.205	XCMT07
52505038	●	P5D0859FS100A07	0.859	4.297	7.405	1.000	2.205	XCMT07
52505000	●	P5D0875FS100A07	0.875	4.375	7.485	1.000	2.205	XCMT07
52505039	●	P5D0891FS100A07	0.891	4.453	7.565	1.000	2.205	XCMT07
52505040	●	P5D0906FS100A07	0.906	4.531	7.640	1.000	2.205	XCMT07
52505041	●	P5D0922FS100A07	0.922	4.609	7.720	1.000	2.205	XCMT07
52505001	●	P5D0937FS125A07	0.938	4.688	7.953	1.250	2.362	XCMT07
52505042	●	P5D0953FS125A07	0.953	4.766	8.033	1.250	2.362	XCMT07
52505043	●	P5D0969FS125A07	0.969	4.844	8.113	1.250	2.362	XCMT07
52505044	●	P5D0984FS125A08	0.984	4.922	8.188	1.250	2.362	XCMT08
52505002	●	P5D1000FS125A08	1.000	5.000	8.268	1.250	2.362	XCMT08
52505045	●	P5D1031FS125A08	1.031	5.156	8.423	1.250	2.362	XCMT08
52505003	●	P5D1062FS125A08	1.063	5.313	8.578	1.250	2.362	XCMT08
52505046	●	P5D1094FS125A08	1.094	5.469	8.738	1.250	2.362	XCMT08
52505004	●	P5D1125FS125A08	1.125	5.625	8.893	1.250	2.362	XCMT08
52505047	●	P5D1156FS125A09	1.156	5.781	9.048	1.250	2.362	XCMT09
52505005	●	P5D1187FS125A09	1.188	5.938	9.203	1.250	2.362	XCMT09
52505048	●	P5D1219FS125A09	1.219	6.094	9.363	1.250	2.362	XCMT09
52505006	●	P5D1250FS125A09	1.250	6.250	9.518	1.250	2.362	XCMT09
52505049	●	P5D1281FS150A09	1.281	6.406	10.067	1.500	2.756	XCMT09
52505007	●	P5D1312FS150A09	1.313	6.563	10.221	1.500	2.756	XCMT09
52505050	●	P5D1344FS150A10	1.344	6.719	10.381	1.500	2.756	XCMT10
52505013	●	P5D1375FS150A10	1.375	6.875	10.537	1.500	2.756	XCMT10
52505051	●	P5D1406FS150A10	1.406	7.031	10.691	1.500	2.756	XCMT10
52505014	●	P5D1437FS150A10	1.438	7.188	10.846	1.500	2.756	XCMT10
52505052	●	P5D1469FS150A10	1.469	7.344	11.006	1.500	2.756	XCMT10
52505015	●	P5D1500FS150A10	1.500	7.500	11.161	1.500	2.756	XCMT10
52505053	●	P5D1531FS150A10	1.531	7.656	11.317	1.500	2.756	XCMT10
52505016	●	P5D1563FS150A12	1.563	7.813	11.752	1.500	2.756	XCMT12
52505054	●	P5D1594FS150A12	1.594	7.969	11.907	1.500	2.756	XCMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

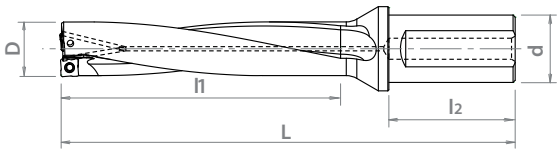
PXT

List 52505 (Continued)

OSG PHOENIX® P5D, Flat Shank

SPEED FEED	INSERTS	ACCS.	STEEL		2 FLUTE	PACKED
364	282-283	284				1 PIECE





EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Applicable Insert
52505017	●	P5D1625FS150A12	1.625	8.125	12.062	1.500	2.756	XCMT12
52505055	●	P5D1656FS150A12	1.656	8.281	12.217	1.500	2.756	XCMT12
52505018	●	P5D1688FS150A12	1.688	8.438	12.377	1.500	2.756	XCMT12
52505056	●	P5D1719FS150A12	1.719	8.594	12.532	1.500	2.756	XCMT12
52505019	●	P5D1750FS150A12	1.750	8.750	12.687	1.500	2.756	XCMT12
52505057	●	P5D1781FS150A13	1.781	8.906	12.842	1.500	2.756	XCMT13
52505058	●	P5D1813FS150A13	1.813	9.063	13.002	1.500	2.756	XCMT13
52505059	●	P5D1844FS150A13	1.844	9.219	13.157	1.500	2.756	XCMT13
52505020	●	P5D1875FS150A13	1.875	9.375	13.312	1.500	2.756	XCMT13
52505060	●	P5D1906FS150A13	1.906	9.531	13.467	1.500	2.756	XCMT13
52505061	●	P5D1938FS150A13	1.938	9.688	13.627	1.500	2.756	XCMT13
52505062	●	P5D1969FS150A14	1.969	9.844	13.782	1.500	2.756	XCMT14
52505021	●	P5D2000FS150A14	2.000	10.000	13.937	1.500	2.756	XCMT14
52505022	●	P5D2125FS150A14	2.125	10.625	14.562	1.500	2.756	XCMT14
52505023	●	P5D2250FS150A16	2.250	11.250	15.187	1.500	2.756	XCMT16
52505024	●	P5D2375FS150A16	2.375	11.875	15.812	1.500	2.756	XCMT16
52505025	●	P5D2500FS150A16	2.500	12.500	16.437	1.500	2.756	XCMT16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P5D-0484-FS-075-A-03

Series	Diameter	Body Type	Shank Diameter	Units	Insert Size

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

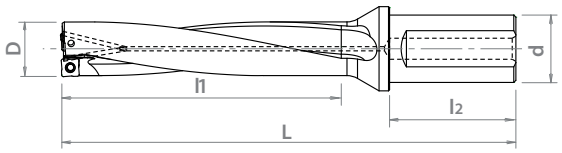
List 78027

OSG PHOENIX® P5D, Flat Shank



SPEED FEED	INSERTS	ACCS.	STEEL		2 FLUTE	PACKED
364	282-283	284				1 PIECE





EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7802780	●	P5D1200FS20M03	12.00	60.00	123.00	20.00	50.00	XCMT03
7802781	●	P5D1250FS20M03	12.50	62.50	125.50	20.00	50.00	XCMT03
7802782	●	P5D1300FS20M03	13.00	65.00	128.00	20.00	50.00	XCMT03
7802783	●	P5D1350FS20M03	13.50	67.50	130.50	20.00	50.00	XCMT03
7802784	●	P5D1400FS20M03	14.00	70.00	133.00	20.00	50.00	XCMT03
7802785	●	P5D1450FS20M03	14.50	72.50	135.50	20.00	50.00	XCMT03
7802717	●	P5D1500FS20M04	15.00	75.00	140.00	20.00	50.00	XCMT04
7802718	●	P5D1550FS20M04	15.50	78.00	143.00	20.00	50.00	XCMT04
7802719	●	P5D1600FS20M04	16.00	80.00	145.00	20.00	50.00	XCMT04
7802720	●	P5D1650FS20M04	16.50	83.00	148.00	20.00	50.00	XCMT04
7802721	●	P5D1700FS20M05	17.00	85.00	153.00	20.00	50.00	XCMT05
7802722	●	P5D1750FS20M05	17.50	88.00	156.00	20.00	50.00	XCMT05
7802790	●	P5D1750FS25M05	17.50	88.00	162.00	25.00	56.00	XCMT05
7802723	●	P5D1800FS25M05	18.00	90.00	164.00	25.00	56.00	XCMT05
7802724	●	P5D1850FS25M05	18.50	93.00	167.00	25.00	56.00	XCMT05
7802725	●	P5D1900FS25M06	19.00	95.00	169.00	25.00	56.00	XCMT06
7802726	●	P5D1950FS25M06	19.50	98.00	172.00	25.00	56.00	XCMT06
7802727	●	P5D2000FS25M06	20.00	100.00	174.00	25.00	56.00	XCMT06
7802728	●	P5D2050FS25M06	20.50	103.00	177.00	25.00	56.00	XCMT06
7802729	●	P5D2100FS25M07	21.00	105.00	184.00	25.00	56.00	XCMT07
7802730	●	P5D2150FS25M07	21.50	108.00	187.00	25.00	56.00	XCMT07
7802731	●	P5D2200FS25M07	22.00	110.00	189.00	25.00	56.00	XCMT07
7802732	●	P5D2250FS25M07	22.50	113.00	192.00	25.00	56.00	XCMT07
7802733	●	P5D2300FS25M07	23.00	115.00	194.00	25.00	56.00	XCMT07
7802734	●	P5D2350FS32M07	23.50	118.00	201.00	32.00	60.00	XCMT07
7802791	●	P5D2350FS25M07	23.50	118.00	197.00	25.00	56.00	XCMT07
7802735	●	P5D2400FS32M07	24.00	120.00	203.00	32.00	60.00	XCMT07
7802792	●	P5D2400FS25M07	24.00	120.00	199.00	25.00	56.00	XCMT07
7802736	●	P5D2450FS32M07	24.50	123.00	206.00	32.00	60.00	XCMT07
7802793	●	P5D2450FS25M07	24.50	123.00	202.00	25.00	56.00	XCMT07
7802737	●	P5D2500FS32M08	25.00	125.00	208.00	32.00	60.00	XCMT08
7802794	●	P5D2500FS25M08	25.00	125.00	204.00	25.00	56.00	XCMT08
7802738	●	P5D2550FS32M08	25.50	128.00	211.00	32.00	60.00	XCMT08
7802795	●	P5D2550FS25M08	25.50	128.00	207.00	25.00	56.00	XCMT08
7802739	●	P5D2600FS32M08	26.00	130.00	213.00	32.00	60.00	XCMT08
7802740	●	P5D2650FS32M08	26.50	133.00	216.00	32.00	60.00	XCMT08
7802741	●	P5D2700FS32M08	27.00	135.00	218.00	32.00	60.00	XCMT08
7802742	●	P5D2800FS32M08	28.00	140.00	223.00	32.00	60.00	XCMT08
7802743	●	P5D2850FS32M08	28.50	143.00	226.00	32.00	60.00	XCMT08
7802744	●	P5D2900FS32M09	29.00	145.00	228.00	32.00	60.00	XCMT09
7802745	●	P5D3000FS32M09	30.00	150.00	233.00	32.00	60.00	XCMT09
7802746	●	P5D3100FS32M09	31.00	155.00	238.00	32.00	60.00	XCMT09
7802796	●	P5D3100FS40M09	31.00	155.00	248.00	40.00	70.00	XCMT09
7802747	●	P5D3200FS32M09	32.00	160.00	243.00	32.00	60.00	XCMT09
7802797	●	P5D3200FS40M09	32.00	160.00	253.00	40.00	70.00	XCMT09
7802748	●	P5D3300FS40M09	33.00	165.00	258.00	40.00	70.00	XCMT09
7802749	●	P5D3350FS40M09	33.50	168.00	261.00	40.00	70.00	XCMT09
7802750	●	P5D3400FS40M10	34.00	170.00	263.00	40.00	70.00	XCMT10
7802751	●	P5D3500FS40M10	35.00	175.00	268.00	40.00	70.00	XCMT10
7802752	●	P5D3600FS40M10	36.00	180.00	273.00	40.00	70.00	XCMT10
7802753	●	P5D3700FS40M10	37.00	185.00	278.00	40.00	70.00	XCMT10
7802754	●	P5D3800FS40M10	38.00	190.00	283.00	40.00	70.00	XCMT10
7802755	●	P5D3900FS40M12	39.00	195.00	295.00	40.00	70.00	XCMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

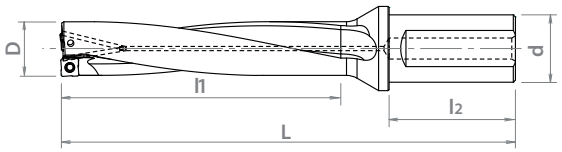
PXT

List 78027 (Continued)

OSG PHOENIX® P5D, Flat Shank

SPEED FEED 364 | INSERTS 282-283 | ACCS. 284 | STEEL | 2 FLUTE | PACKED 1 PIECE





EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7802756	●	P5D4000FS40M12	40.00	200.00	300.00	40.00	70.00	XCMT12
7802757	●	P5D4100FS40M12	41.00	205.00	305.00	40.00	70.00	XCMT12
7802758	●	P5D4200FS40M12	42.00	210.00	310.00	40.00	70.00	XCMT12
7802759	●	P5D4300FS40M12	43.00	215.00	315.00	40.00	70.00	XCMT12
7802760	●	P5D4400FS40M12	44.00	220.00	320.00	40.00	70.00	XCMT12
7802761	●	P5D4500FS40M13	45.00	225.00	325.00	40.00	70.00	XCMT13
7802762	●	P5D4600FS40M13	46.00	230.00	330.00	40.00	70.00	XCMT13
7802763	●	P5D4700FS40M13	47.00	235.00	335.00	40.00	70.00	XCMT13
7802764	●	P5D4800FS40M13	48.00	240.00	340.00	40.00	70.00	XCMT13
7802765	●	P5D4900FS40M13	49.00	245.00	345.00	40.00	70.00	XCMT13
7802766	●	P5D5000FS40M14	50.00	250.00	350.00	40.00	70.00	XCMT14
7802767	●	P5D5100FS40M14	51.00	255.00	355.00	40.00	70.00	XCMT14
7802768	●	P5D5200FS40M14	52.00	260.00	360.00	40.00	70.00	XCMT14
7802769	●	P5D5300FS40M14	53.00	265.00	365.00	40.00	70.00	XCMT14
7802770	●	P5D5400FS40M14	54.00	270.00	370.00	40.00	70.00	XCMT14
7802771	●	P5D5500FS40M14	55.00	275.00	375.00	40.00	70.00	XCMT14
7802772	●	P5D5600FS40M14	56.00	280.00	380.00	40.00	70.00	XCMT14
7802773	●	P5D5700FS40M16	57.00	285.00	385.00	40.00	70.00	XCMT16
7802774	●	P5D5800FS40M16	58.00	290.00	390.00	40.00	70.00	XCMT16
7802775	●	P5D5900FS40M16	59.00	295.00	395.00	40.00	70.00	XCMT16
7802776	●	P5D6000FS40M16	60.00	300.00	400.00	40.00	70.00	XCMT16
7802777	●	P5D6100FS40M16	61.00	305.00	405.00	40.00	70.00	XCMT16
7802778	●	P5D6200FS40M16	62.00	310.00	410.00	40.00	70.00	XCMT16
7802779	●	P5D6300FS40M16	63.00	315.00	415.00	40.00	70.00	XCMT16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

P5D-1200-FS-20-M-03

Series | Diameter | Body Type | Shank Diameter | Units | Insert Size

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	○

Material recommendation based on inserts compatible with this tool body.

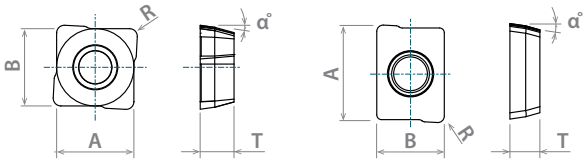
○ Good ◎ Best

List 78P5D

SPEED FEED 362-364 | PACKED 10 PIECE

OSG PHOENIX® PD Inserts





EDP Number		Designation	Number of Cutting Edges	Insert Size				Grade
				AxB (mm)	T (mm)	α	R (mm)	
7823098	●	XCMT031904ER-DM	2	6.1 x 4.5	1.9	8	0.4	XP9020
7823064	●	XCMT042204ER-DM	4	5 x 5	2.2	8	0.4	XP9020
7823065	●	XCMT052404ER-DM	4	5.83 x 5.83	2.4	8	0.4	XP9020
7823066	●	XCMT062706ER-DM	4	6.46 x 6.46	2.7	8	0.6	XP9020
7823067	●	XCMT073106ER-DM	4	7.11 x 7.11	3.1	8	0.6	XP9020
7823068	●	XCMT083508ER-DM	4	8.36 x 8.36	3.5	8	0.8	XP9020
7823069	●	XCMT094008ER-DM	4	9.62 x 9.62	4.0	8	0.8	XP9020
7823097	●	XCMT104608ER-DM	4	10.89 x 10.89	4.6	8	0.8	XP9020
7823071	●	XCMT125010ER-DM	4	12.57 x 12.57	5.0	8	1	XP9020
7823072	●	XCMT135212ER-DM	4	14.05 x 14.05	5.2	8	1.2	XP9020
7823073	●	XCMT145612ER-DM	4	15.58 x 15.58	5.6	8	1.2	XP9020
7823075	●	XCMT165912ER-DM	4	17.28 x 17.28	5.8	8	1.2	XP9020
7829098	●	XCMT031904ER-DM	2	6.1 x 4.5	1.9	8	0.4	XC9015
7829064	●	XCMT042204ER-DM	4	5 x 5	2.2	8	0.4	XC9015
7829065	●	XCMT052404ER-DM	4	5.83 x 5.83	2.4	8	0.4	XC9015
7829066	●	XCMT062706ER-DM	4	6.46 x 6.46	2.7	8	0.6	XC9015
7829067	●	XCMT073106ER-DM	4	7.11 x 7.11	3.1	8	0.6	XC9015
7829068	●	XCMT083508ER-DM	4	8.36 x 8.36	3.5	8	0.8	XC9015
7829069	●	XCMT094008ER-DM	4	9.62 x 9.62	4.0	8	0.8	XC9015
7829097	●	XCMT104608ER-DM	4	10.89 x 10.89	4.6	8	0.8	XC9015
7829071	●	XCMT125010ER-DM	4	12.57 x 12.57	5.0	8	1	XC9015
7829072	●	XCMT135212ER-DM	4	14.05 x 14.05	5.2	8	1.2	XC9015
7829073	●	XCMT145612ER-DM	4	15.58 x 15.58	5.6	8	1.2	XC9015
7829075	●	XCMT165912ER-DM	4	17.28 x 17.28	5.8	8	1.2	XC9015
7823163	●	XCMT031904ER-DR	2	6.1 x 4.5	1.9	8	0.4	XP1010
7823164	●	XCMT042204ER-DR	4	5 x 5	2.2	8	0.4	XP1010
7823165	●	XCMT052404ER-DR	4	5.83 x 5.83	2.4	8	0.4	XP1010
7823166	●	XCMT062706ER-DR	4	6.46 x 6.46	2.7	8	0.6	XP1010
7823167	●	XCMT073106ER-DR	4	7.11 x 7.11	3.1	8	0.6	XP1010
7823168	●	XCMT083508ER-DR	4	8.36 x 8.36	3.5	8	0.8	XP1010
7823169	●	XCMT094008ER-DR	4	9.62 x 9.62	4.0	8	0.8	XP1010
7823197	●	XCMT104608ER-DR	4	10.89 x 10.89	4.6	8	0.8	XP1010
7823171	●	XCMT125010ER-DR	4	12.57 x 12.57	5.0	8	1	XP1010
7823172	●	XCMT135212ER-DR	4	14.05 x 14.05	5.2	8	1.2	XP1010
7823173	●	XCMT145612ER-DR	4	15.58 x 15.58	5.6	8	1.2	XP1010
7823175	●	XCMT165912ER-DR	4	17.28 x 17.28	5.8	8	1.2	XP1010

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Grade XC9015 recommended for peripheral cutting edge only.

PXI

List 78P5D (Continued)

SPEED FEED 362-364 | PACKED 10 PIECE

OSG PHOENIX® PD Inserts

EDP Number		Designation	Number of Cutting Edges	Insert Size				Grade
				AxB (mm)	T (mm)	α	R (mm)	
7823263	●	XCMT031904ER-DN	2	6.1 x 4.5	1.9	8	0.4	CK110
7823264	●	XCMT042204ER-DN	4	5 x 5	2.2	8	0.4	CK110
7823265	●	XCMT052404ER-DN	4	5.83 x 5.83	2.4	8	0.4	CK110
7823266	●	XCMT062706ER-DN	4	6.46 x 6.46	2.7	8	0.6	CK110
7823267	●	XCMT073106ER-DN	4	7.11 x 7.11	3.1	8	0.6	CK110
7823268	●	XCMT083508ER-DN	4	8.36 x 8.36	3.5	8	0.8	CK110
7823269	●	XCMT094008ER-DN	4	9.62 x 9.62	4.0	8	0.8	CK110
7823297	●	XCMT104608ER-DN	4	10.89 x 10.89	4.6	8	0.8	CK110
7823271	●	XCMT125010ER-DN	4	12.57 x 12.57	5.0	8	1	CK110
7823272	●	XCMT135212ER-DN	4	14.05 x 14.05	5.2	8	1.2	CK110
7823273	●	XCMT145612ER-DN	4	15.58 x 15.58	5.6	8	1.2	CK110
7823275	●	XCMT165912ER-DN	4	17.28 x 17.28	5.8	8	1.2	CK110

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Grade XC9015 recommended for peripheral cutting edge only.

PXI

DESIGNATION EXPLANATION

XCMT 03 19 04 E R - DM - XP9020

Insert Shape	Clearance Angle	Tolerance	Insert Features	Cutting Edge Length	Thickness	Corner Radius	Cutting Edge Type	Cutting Direction	Chip Breaker	Grade

See Full Detail on Page 358-359

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XP9020	DM	Yes	◎	◎	○	○	○	○
XC9015	DM	Yes	◎		◎			
XP1010	DR	Yes	○		◎			
CK110	DN	Yes				◎		

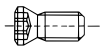
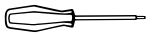
DM: Steel & Stainless Steel, DR: Cast Iron, DN: Non-Ferrous

○ Good ◎ Best

List 7808H

OSG PHOENIX® PD, Accessories

PACKED 1 PIECE | PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Recommended Tightening
 Clamping Screw	7808096	●	FS18536P (M1.8 x 3.6, Torx 6IP)	XCMT03	0.7 Nm
	7808139	●	FS20543P (M2 x 4.3, Torx 6IP)	XCMT04	0.7 Nm
				XCMT05	
	7808138	●	FS22550P (M2.2 x 5, Torx 7IP)	XCMT06	1.0 Nm
	7808136	●	FS25560P (M2.5 x 6, Torx 8IP)	XCMT07	1.6 Nm
	7808135	●	FS30570P (M3 x 7, Torx 9IP)	XCMT08	2.2 Nm
				XCMT09	
	7808137	●	FS35586P (M3.5 x 8.6, Torx 15IP)	XCMT10	3.2 Nm
				XCMT12	
	7808114	●	FS45510P (M4.5 x 10, Torx 20IP)	XCMT13	5.0 Nm
				XCMT14	
				XCMT16	
 Wrench	7808223	●	6IP-D (Torx 6IP)	XCMT03	
				XCMT04	
				XCMT05	
	7808224	●	7IP-D (Torx 7IP)	XCMT06	
	7808225	●	8IP-D (Torx 8IP)	XCMT07	
	7808226	●	9IP-D (Torx 9IP)	XCMT08	
	7808228	●	15IP-D (Torx 15IP)	XCMT10	
	7808229	●	20IP-D (Torx 20IP)	XCMT13	
				XCMT14	
				XCMT16	

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

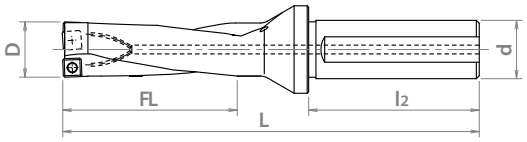
PXT

List 78001

OSG PHOENIX® PHP, Flat Shank

SPEED FEED	INSERTS	ACCS.	STEEL		2 FLUTE	PACKED
367	286	287				1 PIECE





EDP Number		Designation	Diameter D (mm)	Flute Length FL (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7800100	▲	PHP140FS20M04-3D	14.00	42.00	116.00	20.00	50.00	SCMT04
7800101	▲	PHP145FS20M04-3D	14.50	45.00	119.00	20.00	50.00	SCMT04
7800102	▲	PHP150FS20M04-3D	15.00	45.00	119.00	20.00	50.00	SCMT04
7800103	▲	PHP155FS20M04-3D	15.50	48.00	122.00	20.00	50.00	SCMT04
7800104	▲	PHP160FS20M04-3D	16.00	48.00	122.00	20.00	50.00	SCMT04
7800105	▲	PHP165FS20M05-3D	16.50	51.00	125.00	20.00	50.00	SCMT05
7800106	▲	PHP170FS20M05-3D	17.00	51.00	125.00	20.00	50.00	SCMT05
7800107	▲	PHP175FS25M05-3D	17.50	54.00	134.00	25.00	56.00	SCMT05
7800108	▲	PHP180FS25M05-3D	18.00	54.00	134.00	25.00	56.00	SCMT05
7800109	▲	PHP185FS25M06-3D	18.50	57.00	137.00	25.00	56.00	SCMT06
7800110	▲	PHP190FS25M06-3D	19.00	57.00	137.00	25.00	56.00	SCMT06
7800111	▲	PHP195FS25M06-3D	19.50	60.00	140.00	25.00	56.00	SCMT06
7800112	▲	PHP200FS25M06-3D	20.00	60.00	140.00	25.00	56.00	SCMT06
7800113	▲	PHP205FS25M06-3D	20.50	63.00	143.00	25.00	56.00	SCMT06
7800114	▲	PHP210FS25M06-3D	21.00	63.00	143.00	25.00	56.00	SCMT07
7800115	▲	PHP215FS25M07-3D	21.50	66.00	146.00	25.00	56.00	SCMT07
7800116	▲	PHP220FS25M07-3D	22.00	66.00	146.00	25.00	56.00	SCMT07
7800117	▲	PHP225FS25M07-3D	22.50	69.00	149.00	25.00	56.00	SCMT07
7800118	▲	PHP230FS25M07-3D	23.00	69.00	149.00	25.00	56.00	SCMT07
7800119	▲	PHP235FS32M07-3D	23.50	72.00	156.00	32.00	60.00	SCMT07
7800120	▲	PHP240FS32M07-3D	24.00	72.00	156.00	32.00	60.00	SCMT07
7800121	▲	PHP245FS32M08-3D	24.50	75.00	159.00	32.00	60.00	SCMT08
7800122	▲	PHP250FS32M08-3D	25.00	75.00	159.00	32.00	60.00	SCMT08
7800123	▲	PHP255FS32M08-3D	25.50	78.00	162.00	32.00	60.00	SCMT08
7800124	▲	PHP260FS32M08-3D	26.00	78.00	162.00	32.00	60.00	SCMT08
7800125	▲	PHP265FS32M08-3D	26.50	81.00	165.00	32.00	60.00	SCMT08
7800126	▲	PHP270FS32M08-3D	27.00	81.00	165.00	32.00	60.00	SCMT08
7800127	▲	PHP280FS32M08-3D	28.00	84.00	168.00	32.00	60.00	SCMT08
7800128	▲	PHP290FS32M10-3D	29.00	87.00	171.00	32.00	60.00	SCMT10
7800130	▲	PHP300FS32M10-3D	30.00	90.00	179.00	32.00	60.00	SCMT10
7800131	▲	PHP310FS32M10-3D	31.00	93.00	182.00	32.00	60.00	SCMT10
7800132	▲	PHP320FS32M10-3D	32.00	96.00	185.00	32.00	60.00	SCMT10
7800133	▲	PHP330FS40M10-3D	33.00	99.00	196.00	40.00	68.00	SCMT10
7800134	▲	PHP340FS40M12-3D	34.00	102.00	199.00	40.00	68.00	SCMT10
7800135	▲	PHP350FS40M12-3D	35.00	105.00	202.00	40.00	68.00	SCMT12
7800136	▲	PHP360FS40M12-3D	36.00	108.00	205.00	40.00	68.00	SCMT12
7800137	▲	PHP370FS40M12-3D	37.00	111.00	218.00	40.00	68.00	SCMT12
7800138	▲	PHP380FS40M12-3D	38.00	114.00	221.00	40.00	68.00	SCMT12
7800139	▲	PHP390FS40M12-3D	39.00	117.00	224.00	40.00	68.00	SCMT12
7800140	▲	PHP400FS40M12-3D	40.00	120.00	227.00	40.00	68.00	SCMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PHP-140-FS-20-M-04-3D

Series	Diameter	Body Type	Shank Diameter	Units	Insert Size	Drilling Depth
PHP	140	FS	20	M	04	3D

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	○	

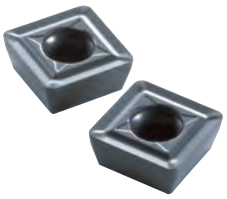
Material recommendation based on inserts compatible with this tool body.

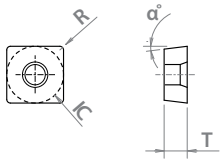
○ Good ◎ Best

List 78PHP

SPEED FEED	PACKED
367	10 PIECE

OSG PHOENIX® PHP Inserts





EDP Number		Designation	Number of Cutting Edges	Insert Size IC (mm)	T (mm)	α	R (mm)	Grade
7817001	▲	SCMT042204-DM	4	4.8	2.2	7	0.4	XC9025
7817002	▲	SCMT052404-DM	4	5.4	2.4	7	0.4	XC9025
7817003	▲	SCMT062806-DM	4	6.2	2.8	7	0.6	XC9025
7817004	▲	SCMT073206-DM	4	7.2	3.2	7	0.6	XC9025
7817005	▲	SCMT083608-DM	4	8.6	3.6	7	0.8	XC9025
7817006	▲	SCMT104208-DM	4	10	4.2	7	0.8	XC9025
7817007	▲	SCMT125008-DM	4	12.3	5.0	7	0.8	XC9025
7818001	▲	SCMT042204-DM	4	4.8	2.2	7	0.4	XP9040
7818002	▲	SCMT052404-DM	4	5.4	2.4	7	0.4	XP9040
7818003	▲	SCMT062806-DM	4	6.2	2.8	7	0.6	XP9040
7818004	▲	SCMT073206-DM	4	7.2	3.2	7	0.6	XP9040
7818005	▲	SCMT083608-DM	4	8.6	3.6	7	0.8	XP9040
7818006	▲	SCMT104208-DM	4	10	4.2	7	0.8	XP9040
7818007	▲	SCMT125008-DM	4	12.3	5.0	7	0.8	XP9040

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

S C M T 04 22 04 - DM - XP9040

Insert Shape · Clearance Angle · Tolerance · Insert Features · Cutting Edge Length · Thickness · Corner Radius · Chip Breaker · Grade

See Full Detail on Page 358-359

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC9025	DM	Yes	○	○	◎	○		
XP9040	DM	Yes	◎	◎		◎	○	

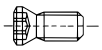
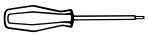
DM: Center Cutting Drill

○ Good ◎ Best

List 7808H

OSG PHOENIX® PHP, Accessories

PACKED	PACKED
1 PIECE	10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Recommended Tightening
 Clamping Screw	7808100	●	FS18538 (M1.8 x 3.8, Torx 6)	SCMT04	0.7 Nm
	7808102	●	FS20540 (M2 x 4, Torx 6)	SCMT05	0.7 Nm
	7808104	●	FS22550 (M2.2 x 5, Torx 7)	SCMT06	1.0 Nm
	7808108	●	FS25560 (M2.5 x 6, Torx 8)	SCMT07	1.6 Nm
	7808110	●	FS30573 (M3 x 7.3, Torx 8)	SCMT08	1.6 Nm
	7808111	●	FS35572 (M3.5 x 7.2, Torx 15)	SCMT10	3.2 Nm
	7808113	●	FS45510 (M4.5 x 10.5, Torx 20)	SCMT12	5.0 Nm
 Wrench	7808203	●	T6-D (Torx 6)	SCMT04 SCMT05	
	7808204	●	T7-D (Torx 7)	SCMT06	
	7808205	●	T8-D (Torx 8)	SCMT07 SCMT08	
	7808208	●	T15-D (Torx 15)	SCMT10	
	7808209	●	T20-D (Torx 20)	SCMT12	

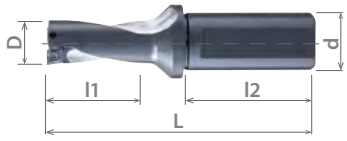
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

PXT

List 52513

NEW | SPEED FEED 368 | INSERTS 292 | ACCS. 293 | STEEL | 2 FLUTE | PACKED 1 PIECE

OSG PHOENIX® PDZ-2D, Flat Shank



EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Applicable Insert
52513002	●	PDZ0688FS075A05-2D	0.688	1.375	4.053	0.750	1.969	ZPNT05
52513003	●	PDZ0750FS100A06-2D	0.750	1.500	4.413	1.000	2.205	ZPNT06
52513004	●	PDZ0812FS100A06-2D	0.813	1.625	4.537	1.000	2.205	ZPNT06
52513005	●	PDZ0875FS100A06-2D	0.875	1.750	4.860	1.000	2.205	ZPNT06
52513006	●	PDZ0937FS125A07-2D	0.938	1.875	5.142	1.250	2.362	ZPNT07
52513007	●	PDZ1000FS125A07-2D	1.000	2.000	5.268	1.250	2.362	ZPNT07
52513008	●	PDZ1062FS125A08-2D	1.063	2.125	5.392	1.250	2.362	ZPNT08
52513009	●	PDZ1125FS125A08-2D	1.125	2.250	5.518	1.250	2.362	ZPNT08
52513010	●	PDZ1187FS125A08-2D	1.188	2.375	5.642	1.250	2.362	ZPNT08
52513011	●	PDZ1250FS125A09-2D	1.250	2.500	5.768	1.250	2.362	ZPNT09
52513012	●	PDZ1312FS150A09-2D	1.313	2.625	6.285	1.500	2.756	ZPNT09
52513013	●	PDZ1375FS150A09-2D	1.375	2.750	6.411	1.500	2.756	ZPNT09
52513014	●	PDZ1437FS150A10-2D	1.438	2.875	6.535	1.500	2.756	ZPNT10
52513015	●	PDZ1500FS150A10-2D	1.500	3.000	6.661	1.500	2.756	ZPNT10

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PDZ-0688-FS-075-A-05-2D

Series	Diameter	Body Type	Shank Diameter	Units	Insert Size	Drilling Depth
PDZ	0688	FS	075	A	05	2D

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

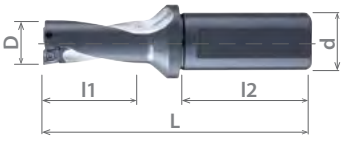
○ Good ◎ Best

List 78537

OSG PHOENIX® PDZ-2D, Flat Shank

NEW

SPEED FEED 368 | INSERTS 292 | ACCS. 293 | STEEL | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803776	●	PDZ1600FS20M05-2D	16.00	32.00	97.00	20.00	50.00	ZPNT05
7803777	●	PDZ1650FS20M05-2D	16.50	33.00	98.00	20.00	50.00	ZPNT05
7803778	●	PDZ1700FS20M05-2D	17.00	34.00	102.00	20.00	50.00	ZPNT05
7803779	●	PDZ1750FS25M05-2D	17.50	35.00	109.00	25.00	56.00	ZPNT05
7803780	●	PDZ1800FS25M05-2D	18.00	36.00	110.00	25.00	56.00	ZPNT05
7803781	●	PDZ1850FS25M05-2D	18.50	37.00	111.00	25.00	56.00	ZPNT05
7803782	●	PDZ1900FS25M06-2D	19.00	38.00	112.00	25.00	56.00	ZPNT06
7803783	●	PDZ1950FS25M06-2D	19.50	39.00	113.00	25.00	56.00	ZPNT06
7803784	●	PDZ2000FS25M06-2D	20.00	40.00	114.00	25.00	56.00	ZPNT06
7803785	●	PDZ2100FS25M06-2D	21.00	42.00	121.00	25.00	56.00	ZPNT06
7803786	●	PDZ2200FS25M06-2D	22.00	44.00	123.00	25.00	56.00	ZPNT06
7803787	●	PDZ2300FS25M07-2D	23.00	46.00	125.00	25.00	56.00	ZPNT07
7803788	●	PDZ2400FS25M07-2D	24.00	48.00	127.00	25.00	56.00	ZPNT07
7803790	●	PDZ2500FS32M07-2D	25.00	50.00	133.00	32.00	60.00	ZPNT07
7803791	●	PDZ2600FS32M07-2D	26.00	52.00	135.00	32.00	60.00	ZPNT07
7803792	●	PDZ2700FS32M08-2D	27.00	54.00	137.00	32.00	60.00	ZPNT08
7803793	●	PDZ2800FS32M08-2D	28.00	56.00	139.00	32.00	60.00	ZPNT08
7803794	●	PDZ2900FS32M08-2D	29.00	58.00	141.00	32.00	60.00	ZPNT08
7803795	●	PDZ3000FS32M08-2D	30.00	60.00	143.00	32.00	60.00	ZPNT08
7803796	●	PDZ3100FS32M08-2D	31.00	62.00	145.00	32.00	60.00	ZPNT08
7803797	●	PDZ3200FS32M09-2D	32.00	64.00	147.00	32.00	60.00	ZPNT09
7803798	●	PDZ3300FS40M09-2D	33.00	66.00	159.00	40.00	70.00	ZPNT09
7803799	●	PDZ3400FS40M09-2D	34.00	68.00	161.00	40.00	70.00	ZPNT09
7803800	●	PDZ3500FS40M10-2D	35.00	70.00	163.00	40.00	70.00	ZPNT10
7803801	●	PDZ3600FS40M10-2D	36.00	72.00	165.00	40.00	70.00	ZPNT10
7803802	●	PDZ3700FS40M10-2D	37.00	74.00	167.00	40.00	70.00	ZPNT10
7803803	●	PDZ3800FS40M10-2D	38.00	76.00	169.00	40.00	70.00	ZPNT10
7803804	●	PDZ3900FS40M13-2D	39.00	78.00	178.00	40.00	70.00	ZPNT13
7803805	●	PDZ4000FS40M13-2D	40.00	80.00	180.00	40.00	70.00	ZPNT13
7803806	●	PDZ4100FS40M13-2D	41.00	82.00	182.00	40.00	70.00	ZPNT13
7803807	●	PDZ4200FS40M13-2D	42.00	84.00	184.00	40.00	70.00	ZPNT13
7803808	●	PDZ4300FS40M13-2D	43.00	86.00	186.00	40.00	70.00	ZPNT13

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PDZ-1600-FS-20-M-05-2D

Series | Diameter | Body Type | Shank Diameter | Units | Insert Size | Drilling Depth

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

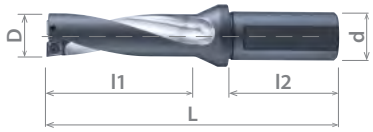
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52514

OSG PHOENIX® PDZ-3D, Flat Shank

NEW | SPEED FEED 368 | INSERTS 292 | ACCS. 293 | STEEL | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Applicable Insert
52514002	●	PDZ0688FS075A05-3D	0.688	2.063	4.741	0.750	1.969	ZPNT05
52514003	●	PDZ0750FS100A06-3D	0.750	2.250	5.163	1.000	2.205	ZPNT06
52514004	●	PDZ0812FS100A06-3D	0.813	2.438	5.350	1.000	2.205	ZPNT06
52514005	●	PDZ0875FS100A06-3D	0.875	2.625	5.735	1.000	2.205	ZPNT06
52514006	●	PDZ0937FS125A07-3D	0.938	2.813	6.080	1.250	2.362	ZPNT07
52514007	●	PDZ1000FS125A07-3D	1.000	3.000	6.268	1.250	2.362	ZPNT07
52514008	●	PDZ1062FS125A08-3D	1.063	3.188	6.455	1.250	2.362	ZPNT08
52514009	●	PDZ1125FS125A08-3D	1.125	3.375	6.643	1.250	2.362	ZPNT08
52514010	●	PDZ1187FS125A08-3D	1.188	3.563	6.830	1.250	2.362	ZPNT08
52514011	●	PDZ1250FS125A09-3D	1.250	3.750	7.018	1.250	2.362	ZPNT09
52514012	●	PDZ1312FS150A09-3D	1.313	3.938	7.598	1.500	2.756	ZPNT09
52514013	●	PDZ1375FS150A09-3D	1.375	4.125	7.786	1.500	2.756	ZPNT09
52514014	●	PDZ1437FS150A10-3D	1.438	4.313	7.973	1.500	2.756	ZPNT10
52514015	●	PDZ1500FS150A10-3D	1.500	4.500	8.161	1.500	2.756	ZPNT10

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PDZ-0688-FS-075-A-05-3D

- PDZ — Series
- 0688 — Diameter
- FS — Body Type
- 075 — Shank Diameter
- A — Units
- 05 — Insert Size
- 3D — Drilling Depth

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

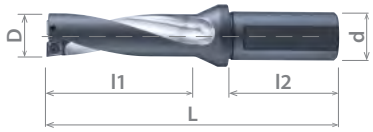
○ Good ◎ Best

List 78538

OSG PHOENIX® PDZ-3D, Flat Shank

NEW

SPEED FEED 368 | INSERTS 292 | ACCS. 293 | STEEL | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Applicable Insert
7803828	●	PDZ1600FS20M05-3D	16.00	48.00	113.00	20.00	50.00	ZPNT05
7803829	●	PDZ1650FS20M05-3D	16.50	50.00	115.00	20.00	50.00	ZPNT05
7803830	●	PDZ1700FS20M05-3D	17.00	51.00	119.00	20.00	50.00	ZPNT05
7803831	●	PDZ1750FS25M05-3D	17.50	53.00	127.00	25.00	56.00	ZPNT05
7803832	●	PDZ1800FS25M05-3D	18.00	54.00	128.00	25.00	56.00	ZPNT05
7803833	●	PDZ1850FS25M05-3D	18.50	56.00	130.00	25.00	56.00	ZPNT05
7803834	●	PDZ1900FS25M06-3D	19.00	57.00	131.00	25.00	56.00	ZPNT05
7803835	●	PDZ1950FS25M06-3D	19.50	59.00	133.00	25.00	56.00	ZPNT05
7803836	●	PDZ2000FS25M06-3D	20.00	60.00	134.00	25.00	56.00	ZPNT06
7803837	●	PDZ2100FS25M06-3D	21.00	63.00	142.00	25.00	56.00	ZPNT06
7803838	●	PDZ2200FS25M06-3D	22.00	66.00	145.00	25.00	56.00	ZPNT06
7803839	●	PDZ2300FS25M07-3D	23.00	69.00	148.00	25.00	56.00	ZPNT07
7803840	●	PDZ2400FS25M07-3D	24.00	72.00	151.00	25.00	56.00	ZPNT07
7803842	●	PDZ2500FS32M07-3D	25.00	75.00	158.00	32.00	60.00	ZPNT07
7803843	●	PDZ2600FS32M07-3D	26.00	78.00	161.00	32.00	60.00	ZPNT07
7803844	●	PDZ2700FS32M08-3D	27.00	81.00	164.00	32.00	60.00	ZPNT08
7803845	●	PDZ2800FS32M08-3D	28.00	84.00	167.00	32.00	60.00	ZPNT08
7803846	●	PDZ2900FS32M08-3D	29.00	87.00	170.00	32.00	60.00	ZPNT08
7803847	●	PDZ3000FS32M08-3D	30.00	90.00	173.00	32.00	60.00	ZPNT08
7803848	●	PDZ3100FS32M08-3D	31.00	93.00	176.00	32.00	60.00	ZPNT08
7803849	●	PDZ3200FS32M09-3D	32.00	96.00	179.00	32.00	60.00	ZPNT09
7803850	●	PDZ3300FS40M09-3D	33.00	99.00	192.00	40.00	70.00	ZPNT09
7803851	●	PDZ3400FS40M09-3D	34.00	102.00	195.00	40.00	70.00	ZPNT09
7803852	●	PDZ3500FS40M10-3D	35.00	105.00	198.00	40.00	70.00	ZPNT10
7803853	●	PDZ3600FS40M10-3D	36.00	108.00	201.00	40.00	70.00	ZPNT10
7803854	●	PDZ3700FS40M10-3D	37.00	111.00	204.00	40.00	70.00	ZPNT10
7803855	●	PDZ3800FS40M10-3D	38.00	114.00	207.00	40.00	70.00	ZPNT10
7803856	●	PDZ3900FS40M13-3D	39.00	117.00	217.00	40.00	70.00	ZPNT13
7803857	●	PDZ4000FS40M13-3D	40.00	120.00	220.00	40.00	70.00	ZPNT13
7803858	●	PDZ4100FS40M13-3D	41.00	123.00	223.00	40.00	70.00	ZPNT13
7803859	●	PDZ4200FS40M13-3D	42.00	126.00	226.00	40.00	70.00	ZPNT13
7803860	●	PDZ4300FS40M13-3D	43.00	129.00	229.00	40.00	70.00	ZPNT13

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PDZ-1600-FS-20-M-05-3D

Series | Diameter | Body Type | Shank Diameter | Units | Insert Size | Drilling Depth

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

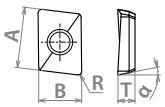
List 78PZAG

SPEED FEED	PACKED
368	10 PIECE

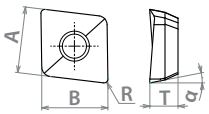
OSG PHOENIX® PZAG / PDZ / PMD Inserts



Type 1



Type 2



EDP Number		Designation	Number of Cutting Edges	Insert Size AxB (mm)	Insert Size T (mm)	Insert Size α	Insert Size R (mm)	Type	Grade
7814101	●	ZPNT040104ER	2	6.35 x 4.45	1.76	11	0.4	1	XP8030
7814102	●	ZPNT050204EN	2	5.9 x 5.9	2.25	11	0.4	2	XP8030
7814103	●	ZPNT060204EN	2	6.95 x 6.95	2.93	11	0.4	2	XP8030
7814104	●	ZPNT070304EN	2	7.84 x 7.84	3.87	11	0.4	2	XP8030
7814105	●	ZPNT080304EN	2	8.85 x 8.85	3.92	11	0.4	2	XP8030
7814106	●	ZPNT090404EN	2	9.94 x 9.94	4.65	11	0.4	2	XP8030
7814108	●	ZPNT100408EN	2	10.95 x 10.95	4.65	11	0.8	2	XP8030
7814109	●	ZPNT130504EN	2	13.92 x 13.92	5.46	11	0.4	2	XP8030
7814110	●	ZPNT130508EN	2	13.92 x 13.92	5.46	11	0.8	2	XP8030
7814111	●	ZPNT170608EN	2	17.85 x 17.85	6.31	11	0.8	2	XP8030
7815101	●	ZPNT040104ER	2	6.35 x 4.45	1.76	11	0.4	1	XC8035
7815102	●	ZPNT050204EN	2	5.9 x 5.9	2.25	11	0.4	2	XC8035
7815103	●	ZPNT060204EN	2	6.95 x 6.95	2.93	11	0.4	2	XC8035
7815104	●	ZPNT070304EN	2	7.84 x 7.84	3.87	11	0.4	2	XC8035
7815105	●	ZPNT080304EN	2	8.85 x 8.85	3.92	11	0.4	2	XC8035
7815106	●	ZPNT090404EN	2	9.94 x 9.94	4.65	11	0.4	2	XC8035
7815108	●	ZPNT100408EN	2	10.95 x 10.95	4.65	11	0.8	2	XC8035
7815109	●	ZPNT130504EN	2	13.92 x 13.92	5.46	11	0.4	2	XC8035
7815110	●	ZPNT130508EN	2	13.92 x 13.92	5.46	11	0.8	2	XC8035
7815111	●	ZPNT170608EN	2	17.85 x 17.85	6.31	11	0.8	2	XC8035

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: XC8035 recommended for peripheral cutting edge only.

PXI

⚠ Precautions when installing the insert

- The insert (XP8030) has a total of 4 working corners – 2 corners for the peripheral cutting edge and 2 corners for the center cutting edge.
- Use the peripheral cutting edge corner for the peripheral cutting edge and the center cutting edge corner for the center cutting edge.


Attached with peripheral cutting edge


Attached with center cutting edge



DESIGNATION EXPLANATION

ZPNT 04 02 04 ER-XC8035

Insert Shape · Clearance Angle · Tolerance · Insert Features · Cutting Edge Length · Thickness · Corner Radius · Cutting Edge Type · Cutting Direction · Grade

See Full Detail on Page 358-359

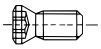
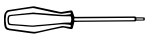
Insert Grade	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC8035	Yes	○	○	◎			
XP8030	Yes	◎	◎	○	○	○	○

○ Good ◎ Best

List 7808H

OSG PHOENIX® PDZ Accessories

PACKED 1 PIECE	PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Recommended Tightening
 Clamping Screw	7808139	●	FS20543P (M2 x 4.3, Torx 6IP)	ZPNT05	0.7 Nm
	7808138	●	FS22550P (M2.2 x 5, Torx 7IP)	ZPNT06	1.0 Nm
	7808136	●	FS25560P (M2.5 x 6, Torx 8IP)	ZPNT07	1.6 Nm
	7808135	●	FS30570P (M3 x 7, Torx 9IP)	ZPNT08, ZPNT09	2.2 Nm
	7808137	●	FS35586P (M3.5 x 8.6, Torx 15IP)	ZPNT10	3.2 Nm
	7808114	●	FS45510P (M4.5 x 10, Torx 20IP)	ZPNT13	5.0 Nm
 Wrench	7808223	●	6IP-D (Torx 6IP)	ZPNT05	
	7808224	●	7IP-D (Torx 7IP)	ZPNT06	
	7808225	●	8IP-D (Torx 8IP)	ZPNT07	
	7808226	●	9IP-D (Torx 9IP)	ZPNT08, ZPNT09	
	7808228	●	15IP-D (Torx 15IP)	ZPNT10	
	7808229	●	20IP-D (Torx 20IP)	ZPNT13	

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench sold separately

Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

PXT

List 52510

OSG PHOENIX® PZAG SA, Cylindrical

SPEED FEED 370 | INSERTS 298 | ACCS. 299 | STEEL | 2 FLUTE | PACKED 1 PIECE

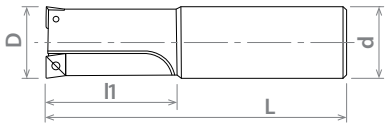


EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Neck Length L1 (in)	Overall Length L (in)	Shank Diameter d (in)	Min. Drill Hole Size (in)	Max Stepover for Plunging Ar Max (in)	Type	Applicable Insert
52510000	●	PZAG04R053SA075-2	0.531	0.797	1.063	3.813	0.750	0.216	0.157	1	ZPNT04
52510001	●	PZAG04R063SA075-2	0.625	0.938	1.250	4.000	0.750	0.310	0.157	1	ZPNT04
52510002	●	PZAG06R072SA075-2	0.719	1.078	1.438	4.188	0.750	0.246	0.236	1	ZPNT06
52510003	●	PZAG06R075SA075-2	0.750	1.125	1.500	4.250	0.750	0.278	0.236	1	ZPNT06
52510004	●	PZAG06R081SA100-2	0.813	1.219	1.625	4.625	1.000	0.340	0.236	1	ZPNT06
52510005	●	PZAG06R091SA100-2	0.906	1.359	1.813	4.813	1.000	0.434	0.236	1	ZPNT06
52510006	●	PZAG09R100SA100-2	1.000	1.500	2.000	5.000	1.000	0.291	0.354	1	ZPNT09
52510007	●	PZAG09R119SA125-2	1.188	1.781	2.375	5.525	1.250	0.479	0.354	1	ZPNT09
52510008	●	PZAG09R125SA125-2	1.250	1.875	2.500	5.650	1.250	0.541	0.354	1	ZPNT09
52510009	●	PZAG09R138SA125-2	1.375	2.063	2.750	5.900	1.250	0.666	0.354	2	ZPNT09
52510010	●	PZAG09R150SA125-2	1.500	2.250	3.000	6.150	1.250	0.791	0.354	2	ZPNT09
52510011	●	PZAG09R163SA125-2	1.625	2.438	3.250	6.400	1.250	0.916	0.354	2	ZPNT09
52510012	●	PZAG09R181SA125-2	1.813	2.719	3.625	6.775	1.250	1.104	0.354	2	ZPNT09

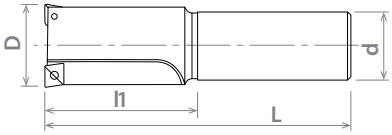
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



Type 2



DESIGNATION EXPLANATION

PZAG-04-R-053-SA-075-2

Series	Insert Size	Cutting Direction	Diameter	Body Type	Shank Diameter	Number of Flutes

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78321

OSG PHOENIX® PZAG SS, Cylindrical

SPEED FEED 370 | INSERTS 298 | ACCS. 299 | STEEL | 2 FLUTE | PACKED 1 PIECE

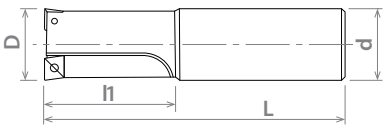


EDP Number		Designation	Diameter D (mm)	Drilling Depth l1 (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Min. Drill Hole Size (mm)	Max Stepover for Plunging Ar Max (mm)	Type	Applicable Insert
7832100	▲	PZAG04R014SS20-2	14.00	21.00	30.00	100.00	20.00	6.00	4.00	1	ZPNT04
7832101	▲	PZAG06R0175SS20-2	17.50	26.00	35.00	105.00	20.00	5.50	6.00	1	ZPNT06
7832102	▲	PZAG06R020SS20-2	20.00	30.00	40.00	110.00	20.00	8.00	6.00	1	ZPNT06
7832103	▲	PZAG06R023SS25-2	23.00	34.50	50.00	125.00	25.00	11.00	6.00	1	ZPNT06
7832104	▲	PZAG09R026SS25-2	26.00	39.00	55.00	130.00	25.00	8.00	9.00	2	ZPNT09
7832105	▲	PZAG09R029SS32-2	29.00	43.50	60.00	140.00	32.00	11.00	9.00	1	ZPNT09
7832106	▲	PZAG09R032SS32-2	32.00	48.00	65.00	145.00	32.00	14.00	9.00	1	ZPNT09
7832107	▲	PZAG09R035SS32-2	35.00	52.50	70.00	150.00	32.00	17.00	9.00	2	ZPNT09
7832108	▲	PZAG09R039SS32-2	39.00	58.50	80.00	160.00	32.00	21.00	9.00	2	ZPNT09
7832109	▲	PZAG09R043SS32-2	43.00	64.50	90.00	170.00	32.00	25.00	9.00	2	ZPNT09
7832110	▲	PZAG09R048SS32-2	48.00	72.00	100.00	180.00	32.00	30.00	9.00	2	ZPNT09

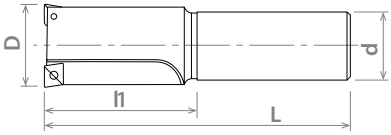
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



Type 2



DESIGNATION EXPLANATION

PZAG-04-R-014-SS-20-2

Series	Insert Size	Cutting Direction	Drill Diameter	Body Type	Shank Diameter	Number of Flutes

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52511

SPEED FEED 370 | INSERTS 298 | ACCS. 299 | STEEL | 4 FLUTE | PACKED 1 PIECE

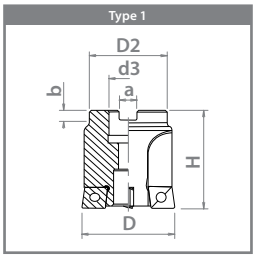
OSG PHOENIX® PZAG, Bore



EDP Number		Designation	Diameter D (in)	Drilling Depth l1 (in)	Body Height H (in)	Flange Diameter D2 (in)	Bore Diameter d3 (in)	Keyway Width a (in)	Keyway Depth b (in)	Min. Drill Hole Size (in)	Max Stepover for Plunging Ar Max (in)	Applicable Insert
52511000	●	PZAG13R200A075-4	2.000	1.300	2.480	1.772	0.750	0.315	0.197	1.016	0.492	ZPNT13
52511001	●	PZAG13R238A075-4	2.375	1.544	2.480	1.772	0.750	0.315	0.197	1.391	0.492	ZPNT13
52511002	●	PZAG13R250A075-4	2.500	1.625	2.480	1.772	0.750	0.315	0.197	1.516	0.492	ZPNT13
52511003	●	PZAG13R275A100-4	2.750	1.788	2.480	2.362	1.000	0.375	0.236	1.766	0.492	ZPNT13
52511004	●	PZAG17R300A100-4	3.000	1.950	2.480	2.362	1.000	0.375	0.236	1.740	0.630	ZPNT17
52511005	●	PZAG17R313A100-4	3.125	2.031	2.480	2.362	1.000	0.375	0.236	1.866	0.630	ZPNT17

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT



DESIGNATION EXPLANATION

PZAG-13-R-200-A-075-4

Series | Insert Size | Cutting Direction | Diameter | Body Type | Shank Diameter | Number of Flutes

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78421

OSG PHOENIX® PZAG, Bore

SPEED FEED 370 | INSERTS 298 | ACCS. 299 | STEEL | 4 FLUTE | PACKED 1 PIECE

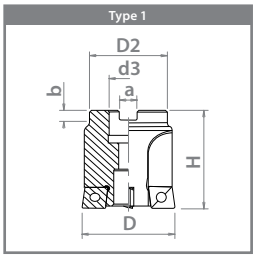


EDP Number		Designation	Diameter	Drilling Depth	Body Height	Flange Diameter	Bore Diameter	Keyway Width	Keyway Depth	Min. Drill Hole Size	Max Stepover for Plunging	Applicable Insert
			D (in)	l1 (mm)	H (in)	D2 (in)	d3 (in)	a (in)	b (in)	(in)	Ar Max (in)	
7832111	▲	PZAG13R054M22-4	54.00	35.00	63.00	45.00	22.00	10.40	6.30	29.00	12.50	ZPNT13
7832112	▲	PZAG13R058M22-4	58.00	38.00	63.00	45.00	22.00	10.40	6.30	33.00	12.50	ZPNT13
7832113	▲	PZAG13R062M22-4	62.00	41.00	63.00	45.00	22.00	10.40	6.30	37.00	12.50	ZPNT13
7832114	▲	PZAG13R067M22-4	67.00	44.00	63.00	45.00	22.00	10.40	6.30	42.00	12.50	ZPNT13
7832115	▲	PZAG13R072M22-4	72.00	47.00	63.00	45.00	22.00	10.40	6.30	47.00	12.50	ZPNT13
7832116	▲	PZAG17R076M22-4	76.00	50.00	63.00	45.00	22.00	10.40	6.30	44.00	16.00	ZPNT17
7832117	▲	PZAG17R082M22-4	82.00	54.00	63.00	45.00	22.00	10.40	6.30	50.00	16.00	ZPNT17

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



DESIGNATION EXPLANATION

PZAG-13-R-054-M-22-4

Series	Insert Size	Cutting Direction	Drill Diameter	Body Type	Shank Diameter	Number of Flutes

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

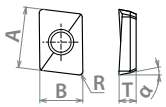
List 78PZAG

SPEED FEED	PACKED
370	10 PIECE

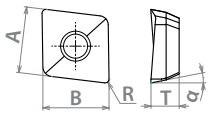
OSG PHOENIX® PZAG / PDZ / PMD Inserts



Type 1



Type 2



EDP Number		Designation	Number of Cutting Edges	Insert Size IC (mm)	Insert Size T (mm)	Insert Size α	Insert Size R (mm)	Type	Grade
7815101	●	ZPNT040104ER	2	6.35 x 4.45	1.76	11	0.4	1	XC8035
7815102	●	ZPNT050204EN	2	5.9 x 5.9	2.25	11	0.4	2	XC8035
7815103	●	ZPNT060204EN	2	6.95 x 6.95	2.93	11	0.4	2	XC8035
7815104	●	ZPNT070304EN	2	7.84 x 7.84	3.87	11	0.4	2	XC8035
7815105	●	ZPNT080304EN	2	8.85 x 8.85	3.92	11	0.4	2	XC8035
7815106	●	ZPNT090404EN	2	9.94 x 9.94	4.65	11	0.4	2	XC8035
7815108	●	ZPNT100408EN	2	10.95 x 10.95	4.65	11	0.8	2	XC8035
7815109	●	ZPNT130504EN	2	13.92 x 13.92	5.46	11	0.4	2	XC8035
7815110	●	ZPNT130508EN	2	13.92 x 13.92	5.46	11	0.8	2	XC8035
7815111	●	ZPNT170608EN	2	17.85 x 17.85	6.31	11	0.8	2	XC8035
7814101	●	ZPNT040104ER	2	6.35 x 4.45	1.76	11	0.4	1	XP8030
7814102	●	ZPNT050204EN	2	5.9 x 5.9	2.25	11	0.4	2	XP8030
7814103	●	ZPNT060204EN	2	6.95 x 6.95	2.93	11	0.4	2	XP8030
7814104	●	ZPNT070304EN	2	7.84 x 7.84	3.87	11	0.4	2	XP8030
7814105	●	ZPNT080304EN	2	8.85 x 8.85	3.92	11	0.4	2	XP8030
7814106	●	ZPNT090404EN	2	9.94 x 9.94	4.65	11	0.4	2	XP8030
7814108	●	ZPNT100408EN	2	10.95 x 10.95	4.65	11	0.8	2	XP8030
7814109	●	ZPNT130504EN	2	13.92 x 13.92	5.46	11	0.4	2	XP8030
7814110	●	ZPNT130508EN	2	13.92 x 13.92	5.46	11	0.8	2	XP8030
7814111	●	ZPNT170608EN	2	17.85 x 17.85	6.31	11	0.8	2	XP8030

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

⚠ Precautions when installing the insert

- The insert (XP8030) has a total of 4 working corners – 2 corners for the peripheral cutting edge and 2 corners for the center cutting edge.
- Use the peripheral cutting edge corner for the peripheral cutting edge and the center cutting edge corner for the center cutting edge.



Attached with peripheral cutting edge



Attached with center cutting edge



Edges for peripheral cutting

Edges for center cutting

DESIGNATION EXPLANATION

ZPNT 04 02 04 ER-XC8035



See Full Detail on Page 358-359

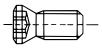
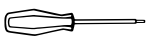
Insert Grade	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC8035	Yes	○	○	◎			
XP8030	Yes	◎	◎	○	○	○	○

○ Good ◎ Best

List 7808H

OSG PHOENIX® PZAG Accessories

PACKED 1 PIECE	PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Recommended Tightening
 Clamping Screw	7808096	●	FS18536P (M1.8 x 3.6, Torx 6IP)	ZPNT04	0.7 Nm
	7808138	●	FS22550P (M2.2 x 5, Torx 7IP)	ZPNT06	1.0 Nm
	7808135	●	FS30570P (M3 x 7, Torx 9IP)	ZPNT09	2.2 Nm
	7808114	●	FS45510P (M4.5 x 10, Torx 20IP)	ZPNT13 ZPNT17	5.0 Nm
 Wrench	7808223	●	6IP-D (Torx 6IP)	ZPNT04	
	7808224	●	7IP-D (Torx 7IP)	ZPNT06	
	7808226	●	9IP-D (Torx 9IP)	ZPNT09	
	7808229	●	20IP-D (Torx 20IP)	ZPNT13 ZPNT17	

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

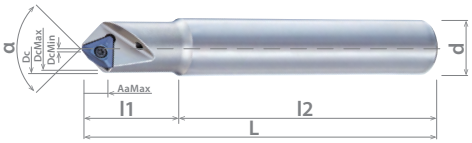
PXT

List 52512



SPEED FEED 371 | INSERTS 303 | ACCS. 304 | STEEL | 1 FLUTE | PACKED 1 PIECE

OSG PHOENIX® PLDS SA, Cylindrical



EDP Number		Designation	Diameter D (in)	Diameter Min Dmin (in)	Diameter Max Dmax (in)	Length of Cut Lc (in)	Neck Length L1 (in)	Overall Length L (in)	Shank Diameter d (in)	Shank Length l2 (in)	Point Angle α	Applicable Insert
52512000	●	PLDS11R002SA0625-90	0.567	0.098	0.531	0.228	1.250	4.500	0.625	3.250	90	TPKT11
52512001	●	PLDS11R002SA0625-L90	0.567	0.098	0.531	0.228	1.250	8.000	0.625	6.750	90	TPKT11
52512002	●	PLDS11R002SA0625-120	0.681	0.094	0.630	0.157	1.250	4.500	0.625	3.250	120	TPKT11
52512003	●	PLDS11R002SA0625-L120	0.681	0.094	0.630	0.157	1.250	8.000	0.625	6.750	120	TPKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PLDS-11-R-002-SA-0625-90

Series	Insert Size	Cutting Direction	Diameter	Body Type	Shank Diameter	Point Angle

See Full Detail on Page 360

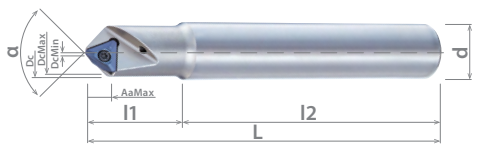
P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78034

OSG PHOENIX® PLDS SS, Cylindrical



SPEED FEED	INSERTS	ACCS.	STEEL	1 FLUTE	PACKED
371	303	304			1 PIECE

EDP Number		Designation	Diameter D (mm)	Diameter Min Dmin (mm)	Diameter Max Dmax (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Shank Length l2 (mm)	Point Angle α	Applicable Insert
7803401	▲	PLDS11R002SS16-90	14.40	2.50	13.50	5.80	30.00	110.00	16.00	80.00	90	TPKT11
7803402	▲	PLDS11R002SS16-L90	14.40	2.50	13.50	5.80	30.00	200.00	16.00	170.00	90	TPKT11
7803403	▲	PLDS11R002SS16-120	17.30	2.40	16.00	4.00	30.00	110.00	16.00	80.00	120	TPKT11
7803404	▲	PLDS11R002SS16-L120	17.30	2.40	16.00	4.00	30.00	200.00	16.00	170.00	120	TPKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PLDS-11-R-002-SS-16-90

Series	Insert Size	Cutting Direction	Diameter	Body Type	Shank Diameter	Point Angle

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

Material recommendation based on inserts compatible with this tool body.

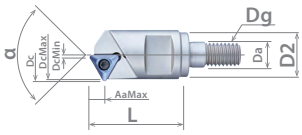
○ Good ◎ Best

List 78134



SPEED FEED	INSERTS	ACCS.	STEEL	1 FLUTE	PACKED
371	303	304			1 PIECE

OSG PHOENIX® PLDS SF Cylindrical



EDP Number		Designation	Diameter D (mm)	Diameter Min Dmin (mm)	Diameter Max Dmax (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Point Angle α	Flange Diameter D2 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Spanner Wrench	Applicable Insert
7803405	▲	PLDS11R002SF8-90	14.40	2.50	13.50	5.80	32.00	90.00	14.50	8.50	M8	10	TPKT11
7803406	▲	PLDS11R002SF8-120	17.30	2.40	16.00	4.00	32.00	120.00	14.50	8.50	M8	10	TPKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PLDS-11-R-002-SF-8-90

Series	Insert Size	Cutting Direction	Diameter	Body Type	Thread Size	Point Angle

See Full Detail on Page 360

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	○	○	○

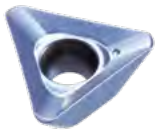
Material recommendation based on inserts compatible with this tool body.

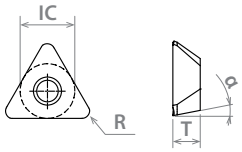
○ Good ◎ Best

List 78PLDS

SPEED FEED	PACKED
371	10 PIECE

OSG PHOENIX® PLDS Inserts





EDP Number		Designation	Number of Cutting Edges	Insert Size				Grade
				IC (mm)	T (mm)	α	R (mm)	
7814205	●	TPKT110308ER-DM	3	6.35	3.18	11	0.8	XP9020
7813205	●	TPKT110308ER-DM	3	6.35	3.18	11	0.8	XP2040

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

TPKT 11 03 08 E R - DM - XP9020

Insert Shape	Clearance Angle	Tolerance	Insert Features	Cutting Edge Length	Thickness	Corner Radius	Cutting Edge Type	Cutting Direction	Chip Breaker	Grade

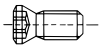
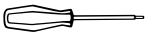
See Full Detail on Page 358-359

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XP9020	DM	Yes	◎	○	◎	○	○	○
XP2040	DM	Yes	○	◎			○	○

○ Good ◎ Best

List 7808H

OSG PHOENIX® PLDS Accessories

Appearance	EDP No.		Designation	Applicable Insert	Recommended Tightening	PACKED 1 PIECE	PACKED 10 PIECE
 Clamping Screw	7808138	●	FS22550P (M2.2 x 5, Torx 7IP)	TPKT11	1.0 Nm		
 Wrench	7808224	●	7IP-D (Torx 7IP)	TPKT11			

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

PXT

DRILLING
Technical



List 6500 - A Brand ADO: 3D
List 6510 - A Brand ADO: 5D
List 6520 - A Brand ADO: 8D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		High Heat Material					
								Ti-Alloy, Ti-6Al-4V		Fe-Base Material, A286		Ni-Base Material, Inconel	
Drilling Speed		260-395 SFM		260-395 SFM		130-230 SFM		100 - 180 SFM		80 - 130 SFM		65 - 110 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
2	-	15,870	0.002-0.004	15,870	0.002-0.004	8,740	0.002-0.004	6,790	0.002-0.003	5,080	0.001-0.002	4,250	0.001-0.002
3	-	10,580	0.002-0.005	10,580	0.002-0.005	5,820	0.002-0.005	4,530	0.002-0.003	3,390	0.002-0.002	2,840	0.001-0.002
-	1/8	10,000	0.003-0.005	10,000	0.003-0.005	5,500	0.003-0.005	4,280	0.002-0.004	3,200	0.002-0.003	2,680	0.002-0.002
4	-	7,940	0.003-0.006	7,940	0.003-0.006	4,370	0.003-0.006	3,400	0.002-0.004	2,540	0.002-0.003	2,130	0.002-0.002
-	3/16	6,670	0.004-0.007	6,670	0.004-0.007	3,670	0.004-0.007	2,850	0.003-0.005	2,130	0.003-0.004	1,790	0.002-0.003
6	-	5,290	0.005-0.009	5,290	0.005-0.009	2,910	0.005-0.009	2,269	0.004-0.005	1,690	0.004-0.005	1,420	0.002-0.004
-	1/4	5,000	0.006-0.009	5,000	0.006-0.009	2,750	0.006-0.009	2,140	0.004-0.006	1,600	0.004-0.006	1,340	0.002-0.004
8	-	3,970	0.006-0.011	3,970	0.006-0.011	2,180	0.006-0.011	1,700	0.005-0.007	1,270	0.005-0.006	1,060	0.003-0.005
-	3/8	3,330	0.008-0.012	3,330	0.008-0.012	1,830	0.008-0.012	1,430	0.005-0.008	1,070	0.005-0.007	890	0.004-0.005
10	-	3,170	0.008-0.012	3,170	0.008-0.012	1,750	0.008-0.012	1,360	0.006-0.009	1,020	0.006-0.008	850	0.004-0.006
-	7/16	2,860	0.008-0.012	2,860	0.008-0.012	1,570	0.008-0.012	1,220	0.007-0.010	910	0.007-0.009	770	0.004-0.007
12	-	2,650	0.008-0.012	2,650	0.008-0.012	1,460	0.008-0.012	1,130	0.007-0.011	850	0.007-0.009	710	0.005-0.007
-	1/2	2,500	0.008-0.012	2,500	0.008-0.012	1,380	0.008-0.012	1,070	0.008-0.012	800	0.008-0.010	670	0.005-0.008
14	-	2,270	0.009-0.014	2,270	0.009-0.014	1,250	0.009-0.014	970	0.008-0.013	730	0.008-0.011	610	0.005-0.008
-	5/8	2,000	0.010-0.014	2,000	0.010-0.014	1,100	0.010-0.014	860	0.009-0.013	640	0.006-0.009	540	0.005-0.008
16	–	2,000	0.010-0.014	2,000	0.010-0.014	1,100	0.010-0.014	860	0.009-0.013	640	0.006-0.009	540	0.005-0.008
18	-	1,760	0.011-0.015	1,760	0.011-0.015	1,090	0.011-0.015	750	0.010-0.014	560	0.008-0.011	470	0.005 -0.008
-	3/4	1,670	0.012-0.015	1,670	0.012-0.015	920	0.012-0.015	710	0.011-0.015	530	0.008-0.011	450	0.005-0.008
20	-	1,590	0.012-0.016	1,590	0.012-0.016	870	0.012-0.016	680	0.012-0.016	510	0.008-0.012	420	0.005-0.008

General Drilling Operations

Work Material		Cast Iron		Ductile Cast Iron		Special Alloy Steels, Hardened Steels							
Hardness						26-30 HRC		30-34 HRC		34-43 HRC		43-48 HRC	
Drilling Speed		260-395 SFM		195-330 SFM		195-295 SFM		130-200 SFM		130-160 SFM		82-115 HRC	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
2	-	15,870	0.002-0.004	12,700	0.002-0.004	11,890	0.002-0.004	8,000	0.002-0.003	7,040	0.002-0.003	4,770	0.001-0.002
3	-	10,580	0.002-0.005	8,470	0.002-0.005	7,920	0.002-0.005	5,330	0.002-0.003	4,690	0.002-0.003	3,180	0.002-0.002
-	1/8	10,000	0.003-0.005	8,000	0.003-0.005	7,490	0.003-0.005	5,040	0.002-0.004	4,430	0.002-0.004	3,010	0.002-0.003
4	-	7,940	0.003-0.006	6,350	0.003-0.006	5,940	0.003-0.006	4,000	0.003-0.004	3,520	0.003-0.004	2,390	0.002-0.003
-	3/16	6,670	0.004-0.007	5,330	0.004-0.007	4,990	0.004-0.007	3,360	0.003-0.005	2,950	0.003-0.005	2,000	0.003-0.004
6	-	5,290	0.005-0.009	4,230	0.005-0.009	3,960	0.005-0.009	2,700	0.005-0.006	2,340	0.005-0.006	1,590	0.004-0.005
-	1/4	5,000	0.006-0.009	4,000	0.006-0.009	3,740	0.006-0.010	2,520	0.005-0.007	2,220	0.005-0.007	1,500	0.004-0.006
8	-	3,970	0.006-0.011	3,170	0.006-0.011	2,970	0.006-0.011	2,000	0.006-0.008	1,760	0.006-0.008	1,190	0.005-0.007
-	3/8	3,330	0.008-0.012	2,670	0.008-0.012	2,500	0.007-0.012	1,680	0.008-0.009	1,480	0.008-0.009	1,000	0.006-0.008
10	-	3,170	0.008-0.012	2,540	0.008-0.012	2,380	0.008-0.012	1,600	0.008-0.010	1,410	0.008-0.010	950	0.007-0.009
-	7/16	2,860	0.008-0.012	2,290	0.008-0.012	2,140	0.008-0.012	1,440	0.009-0.011	1,270	0.009-0.011	860	0.007-0.009
12	-	2,650	0.008-0.012	2,120	0.008-0.012	1,980	0.008-0.012	1,330	0.009-0.012	1,170	0.009-0.012	800	0.007-0.009
-	1/2	2,500	0.008-0.012	2,000	0.008-0.012	1,870	0.008-0.012	1,260	0.010-0.013	1,110	0.010-0.013	750	0.008-0.010
14	-	2,270	0.009-0.014	1,810	0.009-0.014	1,700	0.009-0.014	1,140	0.011-0.014	1,000	0.011-0.014	680	0.008-0.011
-	5/8	2,000	0.010-0.014	1,600	0.010-0.014	1,500	0.010-0.014	1,010	0.012-0.015	890	0.012-0.015	600	0.009-0.013
16	–	2,000	0.010-0.014	1,600	0.010-0.014	1,500	0.010-0.014	1,010	0.012-0.015	890	0.012-0.015	600	0.009-0.013
18	-	1,760	0.011-0.015	1,410	0.011-0.015	1,320	0.011-0.015	890	0.014-0.018	780	0.014-0.018	530	0.010 -0.014
-	3/4	1,670	0.012-0.015	1,330	0.012-0.015	1,250	0.012-0.015	840	0.015-0.019	740	0.015-0.019	500	0.011-0.015
20	-	1,590	0.012-0.016	1,270	0.012-0.016	1,190	0.012-0.016	800	0.016-0.020	700	0.016-0.020	480	0.012-0.016

Note:

1. The indicated speeds and feeds are for drilling with water-soluble oil or MQL.
2. Suitable cutting fluid is water-soluble high density oil (less than 20 times dilution).
3. When using non-water-soluble oil or water-soluble oil (over 20 times dilution), reduce cutting speed by 30%.
4. These conditions are for drilling depth under 8 times the drill diameter.
5. 1D-2D step feeding may be required for drilling high hardened steels and mid-range (8D) work.

List 6530 - A Brand ADO: 10D
List 6535 - A Brand ADO: 15D
List 6540 - A Brand ADO: 20D
List 6550 - A Brand ADO: 30D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		High Heat Material					
								Ti-Alloy, Ti-6Al-4V		Fe-Base Material, A286		Ni-Base Material, Inconel	
Drilling Speed		260-395 SFM		260-395 SFM		130-230 SFM		100 - 180 SFM		80 - 130 SFM		65 - 110 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
2	-	15,870	0.002-0.004	15,870	0.002-0.004	8,740	0.002-0.004	6,790	0.001-0.003	5,080	0.001-0.002	4,250	0.001-0.002
3	-	10,580	0.002-0.005	10,580	0.002-0.005	5,820	0.002-0.005	4,530	0.002-0.003	3,390	0.002-0.002	2,840	0.001-0.002
-	1/8	10,000	0.003-0.005	10,000	0.003-0.005	5,500	0.003-0.005	4,280	0.002-0.003	3,200	0.002-0.003	2,680	0.002-0.002
4	-	7,940	0.003-0.006	7,940	0.003-0.006	4,370	0.003-0.006	3,400	0.002-0.004	2,540	0.002-0.003	2,130	0.002-0.002
-	3/16	6,670	0.004-0.007	6,670	0.004-0.007	3,670	0.004-0.007	2,850	0.003-0.004	2,130	0.002-0.004	1,790	0.002-0.003
6	-	5,290	0.005-0.009	5,290	0.005-0.009	2,910	0.005-0.009	2,269	0.004-0.005	1,690	0.004-0.005	1,420	0.002-0.004
-	1/4	5,000	0.005-0.010	5,000	0.005-0.010	2,750	0.005-0.010	2,140	0.004-0.006	1,600	0.004-0.006	1,340	0.002-0.005
8	-	3,970	0.006-0.011	3,970	0.006-0.011	2,180	0.006-0.011	1,700	0.005-0.007	1,270	0.005-0.006	1,060	0.003-0.005
-	3/8	3,330	0.007-0.012	3,330	0.007-0.012	1,830	0.007-0.012	1,430	0.005-0.008	1,070	0.005-0.007	890	0.003-0.005
10	-	3,170	0.008-0.012	3,170	0.008-0.012	1,750	0.008-0.012	1,360	0.006-0.009	1,020	0.006-0.008	850	0.004-0.006
-	7/16	2,860	0.008-0.012	2,860	0.008-0.012	1,570	0.008-0.012	1,220	0.007-0.010	910	0.007-0.009	770	0.004-0.007
12	-	2,650	0.008-0.012	2,650	0.008-0.012	1,460	0.008-0.012	1,130	0.007-0.011	850	0.007-0.009	710	0.005-0.007
-	1/2	2,500	0.008-0.012	2,500	0.008-0.012	1,380	0.008-0.012	1,070	0.008-0.012	800	0.008-0.010	670	0.005-0.008
-	9/16	2,220	0.009-0.014	2,220	0.009-0.014	1,220	0.009-0.014	950	0.008-0.013	710	0.008-0.011	600	0.005-0.008

Note:

1. The indicated speeds and feeds are for drilling with water-soluble oil or MQL. (We do not recommend mist drilling with stainless steels.)
2. Water-soluble oil (20-30 times dilution) is recommended.
3. When using non-water-soluble oil, set the cutting speed between 70-100% of the lowest limit.
4. Make a pilot hole before deep drilling; recommended operation is on pages 310-311.
5. A clogged oil hole can lead to breakage. Make sure that a filter is attached to the oil feeder.
6. Peck drilling of 1D-2D is strongly recommended in high hardness materials.

CONTINUED

List 6530 - A Brand ADO: 10D
List 6535 - A Brand ADO: 15D
List 6540 - A Brand ADO: 20D
List 6550 - A Brand ADO: 30D

General Drilling Operations

Work Material		Cast Iron		Ductile Cast Iron		Special Alloy Steels, Hardened Steels							
Hardness						26-30 HRC		30-34 HRC		34-43 HRC		43-48 HRC	
Drilling Speed		260-395 SFM		195-330 SFM		195-295 SFM		130-200 SFM		130-160 SFM		82-115 HRC	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
2	-	15,870	0.002-0.004	12,700	0.002-0.004	11,890	0.002-0.004	8,000	0.002-0.003	7,040	0.002-0.003	4,770	0.001-0.002
3	-	10,580	0.002-0.005	8,470	0.002-0.005	7,920	0.002-0.005	5,330	0.002-0.003	4,690	0.002-0.003	3,180	0.002-0.002
-	1/8	10,000	0.003-0.005	8,000	0.003-0.005	7,490	0.003-0.005	5,040	0.003-0.004	4,430	0.003-0.004	3,010	0.002-0.003
4	-	7,940	0.003-0.006	6,350	0.003-0.006	5,940	0.003-0.006	4,000	0.003-0.004	3,520	0.003-0.004	2,390	0.002-0.003
-	3/16	6,670	0.004-0.007	5,330	0.004-0.007	4,990	0.004-0.007	3,360	0.003-0.005	2,950	0.003-0.005	2,000	0.003-0.004
6	-	5,290	0.005-0.009	4,230	0.005-0.009	3,960	0.005-0.009	2,700	0.005-0.006	2,340	0.005-0.006	1,590	0.004-0.005
-	1/4	5,000	0.005-0.010	4,000	0.005-0.010	3,740	0.005-0.010	2,520	0.005-0.007	2,220	0.005-0.007	1,500	0.004-0.006
8	-	3,970	0.006-0.011	3,170	0.006-0.011	2,970	0.006-0.011	2,000	0.006-0.008	1,760	0.006-0.008	1,190	0.005-0.007
-	3/8	3,330	0.007-0.012	2,670	0.007-0.012	2,500	0.007-0.012	1,680	0.007-0.009	1,480	0.007-0.009	1,000	0.006-0.008
10	-	3,170	0.008-0.012	2,540	0.008-0.012	2,380	0.008-0.012	1,600	0.008-0.010	1,410	0.008-0.010	950	0.007-0.009
-	7/16	2,860	0.008-0.012	2,290	0.008-0.012	2,140	0.008-0.012	1,440	0.009-0.011	1,270	0.009-0.011	860	0.007-0.009
12	-	2,650	0.008-0.012	2,120	0.008-0.012	1,980	0.008-0.012	1,330	0.009-0.012	1,170	0.009-0.012	800	0.007-0.009
-	1/2	2,500	0.008-0.012	2,000	0.008-0.012	1,870	0.008-0.012	1,260	0.010-0.013	1,110	0.010-0.013	750	0.008-0.010
-	9/16	2,220	0.009-0.014	1,780	0.009-0.014	1,660	0.009-0.014	1,120	0.011-0.014	980	0.011-0.014	670	0.008-0.011

List 6560 - A Brand ADO: 40D
List 6570 - A Brand ADO: 50D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		Cast Iron	
Drilling Speed		195-295 SFM		195-295 SFM		130-195 SFM		195-295 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
3	-	7,500	0.002-0.005	7,500	0.002-0.005	5,300	0.002-0.005	7,500	0.002-0.005
-	1/8	7,100	0.003-0.005	7,100	0.003-0.005	5,000	0.003-0.005	7,100	0.003-0.005
4	-	5,600	0.003-0.006	5,600	0.003-0.006	4,000	0.003-0.006	5,600	0.003-0.006
-	3/16	4,700	0.004-0.008	4,700	0.004-0.008	3,300	0.004-0.008	4,700	0.004-0.008
6	-	3,700	0.005-0.009	3,700	0.005-0.009	2,700	0.005-0.009	3,700	0.005-0.009
-	1/4	3,500	0.005-0.010	3,500	0.005-0.010	2,500	0.005-0.010	3,500	0.005-0.010
8	-	2,800	0.006-0.011	2,800	0.006-0.011	2,000	0.006-0.011	2,800	0.006-0.011
-	3/8	2,400	0.008-0.013	2,400	0.008-0.013	1,700	0.008-0.013	2,400	0.008-0.013
10	-	2,300	0.008-0.014	2,300	0.008-0.014	1,600	0.008-0.014	2,300	0.008-0.014

General Drilling Operations

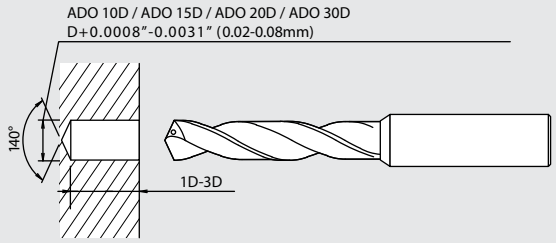
Work Material		Ductile Cast Iron		Special Alloy Steels, Hardened Steels			
Hardness				26-30 HRC		30-34 HRC	
Drilling Speed		165-260 SFM		165-260 SFM		130-230 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch						
3	-	6,400	0.002-0.005	6,400	0.002-0.005	5,300	0.002-0.004
-	1/8	6,000	0.003-0.005	6,000	0.003-0.005	5,000	0.003-0.005
4	-	4,800	0.003-0.006	4,800	0.003-0.006	4,000	0.003-0.006
-	3/16	4,000	0.004-0.008	4,000	0.004-0.008	3,300	0.004-0.007
6	-	3,200	0.005-0.009	3,200	0.005-0.009	2,700	0.005-0.008
-	1/4	3,000	0.005-0.010	3,000	0.005-0.010	2,500	0.005-0.009
8	-	2,400	0.006-0.011	2,400	0.006-0.011	2,000	0.006-0.009
-	3/8	2,000	0.008-0.013	2,000	0.008-0.013	1,700	0.008-0.011
10	-	1,900	0.008-0.014	1,900	0.008-0.014	1,600	0.008-0.012

Note:

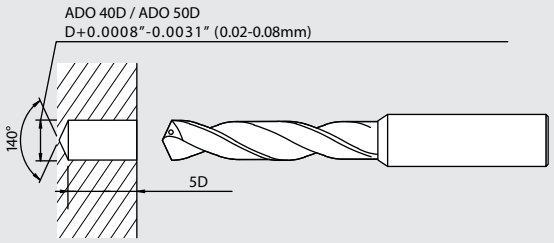
1. The indicated speeds and feeds are for drilling with water-soluble oil or MQL. (We do not recommend mist drilling with stainless steels.)
2. Water-soluble oil (20-30 times dilution) is recommended.
3. When using non-water-soluble oil, set the cutting speed between 70-100% of the lowest limit.
4. Make a pilot hole before deep drilling; recommended operation is on pages 310-311.
5. A clogged oil hole can lead to breakage. Make sure that a filter is attached to the oil feeder.
6. Peck drilling of 1D-2D is strongly recommended in high hardness materials.
7. If, after piloting with ADO-5D and drilling with ADO-40D/50D, hole condition or accuracy is poor or machining is difficult, ADO-20D/30D may be used as an intermediate drilling step. This three-step process may improve accuracy and condition as well as permit more aggressive parameters than stated above.

Deep Hole Operational Guidelines

1. Make a pilot hole. (For 10-30D)
For a pilot hole, select 0.0008"-0.0031" (0.02-0.08mm) larger size drill than ADO 10D, ADO 15D, ADO 20D and ADO 30D. If the needed pilot drill size is not available, we recommend using the same diameter drill from ADO 3D.

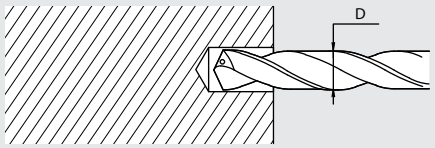


1. Make a pilot hole. (For 40 & 50D)
For a pilot hole, select 0.0008"-0.0031" (0.02-0.08mm) larger size drill than ADO 40D and ADO 50D. If the needed pilot drill size is not available, we recommend using the same diameter drill from ADO 5D or ADO-TRS.

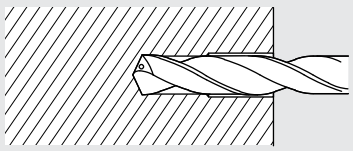


Remaining Steps are the Same for 10-50D

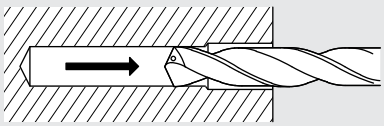
2. Insert the extra long drill into a pilot hole with zero or low revolution (below 500rpm).



3. Increase the revolution to the designated speed and start drilling.



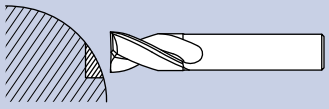
4. After drilling, move the drill away from the bottom of the hole, then reduce its speed while pulling it out of the hole.



Make sure to use an internal coolant supply when drilling.

Drilling a Curved Surface

When working on a curved surface, we recommend piloting with A Brand ADF flat drill.



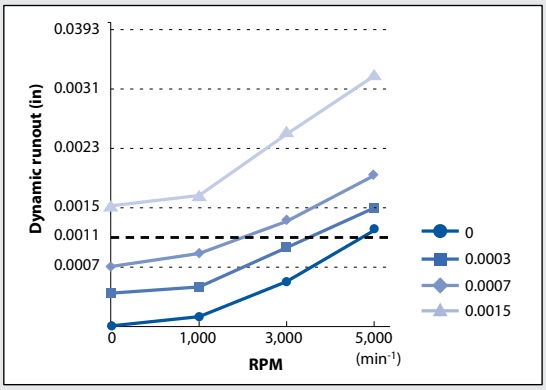
Improve Accuracy & Hole Condition

If, after piloting with ADO-5D and drilling with ADO-40D/50D, hole condition or accuracy is poor or machining is difficult, ADO-20D/30D may be used as an intermediate drilling step. This three-step process may improve accuracy and condition as well as permit more aggressive parameters.

Stable Drilling with Long Drills

The runout of a gripped cutting tool increases with the speed, as shown in the graph on the right. To ensure a higher level of work stability, OSG recommends making +0.0008"-0.0031" (+0.02-0.08mm) pilot holes and inserting long drills stopped or at low speeds.

The reason for this is made evident in the graph on the right. Increasing the speed increases the dynamic runout, posing a higher risk of the drill not fitting properly in the pilot hole. Therefore, reducing the speed and minimizing static runout is the recommended drilling method for long drills.



Static runout / RPM (min-1)	0"	0.0003"	0.0007"	0.0015"
1,000	0.0001	0.0005	0.0009	0.0018
3,000	0.0005	0.0010	0.0014	0.0025
5,000	0.0012	0.0015	0.0019	0.0034

Dynamic runout values for Ø6mm 30xD drill.

List 5200 - A Brand ADO-SUS: 3D
List 5210 - A Brand ADO-SUS: 5D
List 5220 - A Brand ADO-SUS: 8D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		300 Series Austenitic Stainless Steels				400 Series Ferritic Stainless Steels Martensitic Stainless Steels			
Hardness						≤15HRC		> 15 HRC		≤15HRC		> 15 HRC	
Drilling Speed		260-325 SFM		260-325 SFM		200-330 SFM		130-260 SFM		200-330 SFM		130-260 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
2	-	14,190	0.0013 - 0.003	14,190	0.0013 - 0.003	12,850	0.0013 - 0.003	9,460	0.0013 - 0.003	12,850	0.0013 - 0.003	9,460	0.0013 - 0.003
3	-	9,450	0.002 - 0.005	9,450	0.002 - 0.005	8,570	0.002 - 0.005	6,310	0.002 - 0.005	8,570	0.002 - 0.005	6,310	0.002 - 0.005
-	1/8	8,940	0.002 - 0.005	8,940	0.002 - 0.005	8,100	0.002 - 0.005	5,960	0.002 - 0.005	8,100	0.002 - 0.005	5,960	0.002 - 0.005
4	-	7,090	0.003 - 0.006	7,090	0.003 - 0.006	6,430	0.003 - 0.006	4,730	0.003 - 0.006	6,430	0.003 - 0.006	4,730	0.003 - 0.006
-	3/16	5,960	0.004 - 0.007	5,960	0.004 - 0.007	5,400	0.004 - 0.007	3,970	0.004 - 0.007	5,400	0.004 - 0.007	3,970	0.004 - 0.007
6	-	4,730	0.005 - 0.009	4,730	0.005 - 0.009	4,280	0.005 - 0.008	3,150	0.005 - 0.008	4,280	0.005 - 0.008	3,150	0.005 - 0.008
-	1/4	4,470	0.005 - 0.009	4,470	0.005 - 0.009	4,050	0.005 - 0.008	2,980	0.005 - 0.008	4,050	0.005 - 0.008	2,980	0.005 - 0.008
8	-	3,550	0.006 - 0.011	3,550	0.006 - 0.011	3,210	0.006 - 0.009	2,360	0.006 - 0.009	3,210	0.006 - 0.009	2,360	0.006 - 0.009
-	3/8	2,980	0.007 - 0.012	2,980	0.007 - 0.012	2,700	0.007 - 0.011	1,990	0.007 - 0.011	2,700	0.007 - 0.011	1,990	0.007 - 0.011
10	-	2,840	0.008 - 0.012	2,840	0.008 - 0.012	2,570	0.008 - 0.012	1,890	0.007 - 0.011	2,570	0.007 - 0.011	1,890	0.007 - 0.011
-	7/16	2,550	0.008 - 0.012	2,550	0.008 - 0.012	2,310	0.008 - 0.012	1,700	0.007 - 0.011	2,310	0.007 - 0.011	1,700	0.007 - 0.011
12	-	2,360	0.008 - 0.012	2,360	0.008 - 0.012	2,140	0.008 - 0.012	1,580	0.007 - 0.012	2,140	0.007 - 0.012	1,580	0.007 - 0.012
-	1/2	2,230	0.008 - 0.013	2,230	0.008 - 0.013	2,020	0.008 - 0.012	1,490	0.008 - 0.012	2,020	0.008 - 0.012	1,490	0.008 - 0.012
14	-	2,030	0.009 - 0.014	2,030	0.009 - 0.014	1,840	0.008 - 0.013	1,350	0.008 - 0.013	1,840	0.008 - 0.013	1,350	0.008 - 0.013
-	5/8	1,790	0.010 - 0.015	1,790	0.010 - 0.015	1,620	0.009 - 0.015	1,190	0.009 - 0.015	1,620	0.009 - 0.015	1,190	0.009 - 0.015
16	-	1,770	0.010 - 0.015	1,770	0.010 - 0.015	1,610	0.009 - 0.015	1,180	0.009 - 0.015	1,610	0.009 - 0.015	1,180	0.009 - 0.015
18	-	1,580	0.011 - 0.015	1,580	0.011 - 0.015	1,430	0.010 - 0.016	1,050	0.010 - 0.016	1,430	0.010 - 0.016	1,050	0.010 - 0.016
-	3/4	1,490	0.012 - 0.016	1,490	0.012 - 0.016	1,350	0.011 - 0.016	990	0.011 - 0.016	1,350	0.011 - 0.016	990	0.011 - 0.016
20	-	1,420	0.012 - 0.016	1,420	0.012 - 0.016	1,280	0.011 - 0.016	950	0.011 - 0.016	1,280	0.011 - 0.016	950	0.011 - 0.016

General Drilling Operations

Work Material		Duplex Stainles Steels				Precipitation Hardened Stainless Steels 15-5, 17-4		Ductile Cast Iron/ Cast Iron		Cast Aluminum		Titanium Alloy		Nickel Alloy*	
Hardness		≤ 30 HRC		> 30 HRC		≤ 45 HRC						30–35 HRC		38-45 HRC	
Drilling Speed		130–260 SFM		100–165 SFM		130 -200 SFM		195–330 SFM		325–700 SFM		100–165 SFM		30-100 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch														
2	-	9,460	0.0013 - 0.003	6,430	0.0013 - 0.003	8,000	0.0013 - 0.003	12,700	0.0013 - 0.003	24,900	0.002 - 0.004	6,430	0.0013 - 0.003	3,200	0.0011 - 0.0010
3	-	6,310	0.002 - 0.005	4,280	0.002 - 0.005	5,330	0.002 - 0.005	8,470	0.002 - 0.005	16,600	0.004 - 0.006	4,280	0.002 - 0.005	2,100	0.0017 - 0.0020
-	1/8	5,960	0.002 - 0.005	4,050	0.002 - 0.005	5,040	0.002 - 0.005	8,000	0.002 - 0.005	15,680	0.004 - 0.006	4,050	0.002 - 0.005	2,015	0.0018 - 0.0030
4	-	4,730	0.003 - 0.006	3,210	0.003 - 0.006	4,000	0.003 - 0.006	6,350	0.003 - 0.006	12,450	0.005 - 0.007	3,210	0.003 - 0.006	1,600	0.0023 - 0.0030
-	3/16	3,970	0.004 - 0.007	2,700	0.004 - 0.007	3,360	0.004 - 0.007	5,330	0.004 - 0.007	10,450	0.006 - 0.008	2,700	0.004 - 0.007	1,340	0.0028 - 0.0040
6	-	3,150	0.005 - 0.008	2,140	0.005 - 0.008	2,670	0.005 - 0.008	4,230	0.005 - 0.009	8,300	0.008 - 0.010	2,140	0.005 - 0.008	1,100	0.0035 - 0.0050
-	1/4	2,980	0.005 - 0.008	2,020	0.005 - 0.008	2,520	0.005 - 0.008	4,000	0.005 - 0.009	7,840	0.009 - 0.011	2,020	0.005 - 0.008	1,010	0.0037 - 0.0060
8	-	2,360	0.006 - 0.009	1,600	0.006 - 0.009	2,000	0.006 - 0.009	3,170	0.006 - 0.011	6,220	0.012 - 0.014	1,600	0.006 - 0.009	800	0.0047 - 0.0070
-	3/8	1,990	0.007 - 0.011	1,350	0.007 - 0.011	1,680	0.007 - 0.011	2,670	0.007 - 0.012	5,230	0.014 - 0.016	1,350	0.007 - 0.011	670	0.0056 - 0.0090
10	-	1,890	0.008 - 0.012	1,280	0.007 - 0.011	1,600	0.008 - 0.012	2,540	0.008 - 0.012	4,980	0.015 - 0.017	1,280	0.007 - 0.011	640	0.0059 - 0.0090
-	7/16	1,700	0.008 - 0.012	1,160	0.007 - 0.011	1,440	0.008 - 0.012	2,290	0.008 - 0.012	4,480	0.017 - 0.019	1,160	0.007 - 0.011	575	0.0065 - 0.0100
12	-	1,580	0.008 - 0.012	1,070	0.007 - 0.012	1,330	0.008 - 0.012	2,120	0.008 - 0.012	4,150	0.018 - 0.020	1,070	0.007 - 0.012	530	0.0070 - 0.0110
-	1/2	1,490	0.008 - 0.012	1,010	0.008 - 0.012	1,260	0.008 - 0.012	2,000	0.008 - 0.013	3,920	0.019 - 0.021	1,010	0.008 - 0.012	500	0.0075 - 0.0120
14	-	1,350	0.008 - 0.013	920	0.008 - 0.013	1,140	0.008 - 0.013	1,810	0.009 - 0.014	3,560	0.021 - 0.023	920	0.008 - 0.013	455	0.0082 - 0.0130
-	5/8	1,190	0.009 - 0.015	810	0.009 - 0.015	1,010	0.009 - 0.015	1,600	0.010 - 0.015	3,140	0.023 - 0.026	810	0.009 - 0.015	400	0.0093 - 0.0150
16	-	1,180	0.009 - 0.015	800	0.009 - 0.015	1,000	0.009 - 0.015	1,590	0.010 - 0.015	3,110	0.023 - 0.026	800	0.009 - 0.015	400	0.0094 - 0.0150
18	-	1,050	0.010 - 0.016	710	0.010 - 0.016	890	0.010 - 0.016	1,410	0.011 - 0.015	2,770	0.026 - 0.030	710	0.010 - 0.016	400	0.0106 - 0.0170
-	3/4	990	0.011 - 0.016	670	0.011 - 0.016	840	0.011 - 0.016	1,330	0.012 - 0.016	2,610	0.027 - 0.031	670	0.011 - 0.016	335	0.0112 - 0.0180
20	-	950	0.011 - 0.016	640	0.011 - 0.016	800	0.011 - 0.016	1,270	0.012 - 0.016	2,490	0.028 - 0.032	640	0.011 - 0.016	320	0.0118 - 0.0190

Note: *The above cutting conditions for Ni-based Alloys are applicable to hole depth under 3D.
When necessary, please consider step drilling.

List 6600 - A Brand ADO-TRS: 3D
List 6610 - A Brand ADO-TRS: 5D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 400SS, 17-4PH		Cast Iron		Ductile Cast Iron	
Drilling Speed		260-395 SFM		260-395 SFM		130-200 SFM		260-395 SFM		195-330 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
3	-	10,700	0.004 - 0.006	10,700	0.004 - 0.006	5,200	0.004 - 0.006	10,700	0.004 - 0.007	8,400	0.004 - 0.006
-	1/8	10,100	0.004 - 0.006	10,100	0.004 - 0.006	4,900	0.004 - 0.006	10,100	0.004 - 0.007	7,900	0.004 - 0.006
4	-	7,900	0.005 - 0.009	7,900	0.005 - 0.009	4,000	0.005 - 0.007	7,900	0.005 - 0.009	6,350	0.005 - 0.009
-	3/16	6,700	0.007 - 0.010	6,700	0.007 - 0.010	3,300	0.007 - 0.009	6,700	0.007 - 0.011	5,300	0.007 - 0.010
6	-	5,300	0.007 - 0.013	5,300	0.007 - 0.013	2,650	0.007 - 0.009	5,300	0.008 - 0.014	4,250	0.007 - 0.013
-	1/4	5,000	0.007 - 0.014	5,000	0.007 - 0.014	2,500	0.007 - 0.010	5,000	0.009 - 0.015	4,000	0.007 - 0.014
8	-	3,950	0.009 - 0.017	3,950	0.009 - 0.017	2,000	0.009 - 0.013	3,950	0.011 - 0.019	3,200	0.009 - 0.017
-	3/8	3,300	0.012 - 0.021	3,300	0.012 - 0.021	1,700	0.011 - 0.015	3,300	0.013 - 0.023	2,650	0.012 - 0.021
10	-	3,150	0.012 - 0.022	3,150	0.012 - 0.022	1,600	0.012 - 0.016	3,150	0.014 - 0.024	2,550	0.012 - 0.022
-	7/16	2,850	0.013 - 0.023	2,850	0.013 - 0.023	1,450	0.013 - 0.017	2,850	0.015 - 0.026	2,300	0.013 - 0.023
12	-	2,650	0.014 - 0.024	2,650	0.014 - 0.024	1,350	0.014 - 0.019	2,650	0.017 - 0.028	2,100	0.014 - 0.024
-	1/2	2,500	0.015 - 0.025	2,500	0.015 - 0.025	1,250	0.015 - 0.020	2,500	0.018 - 0.028	2,000	0.015 - 0.025
14	-	2,250	0.017 - 0.028	2,250	0.017 - 0.028	1,150	0.017 - 0.022	2,250	0.019 - 0.030	1,800	0.017 - 0.028
-	5/8	2,000	0.019 - 0.031	2,000	0.019 - 0.031	1,000	0.019 - 0.025	2,000	0.022 - 0.034	1,600	0.019 - 0.031
16	–	2,000	0.019 - 0.031	2,000	0.019 - 0.031	1,000	0.019 - 0.025	2,000	0.022 - 0.034	1,600	0.019 - 0.031
18	-	1,750	0.021 - 0.032	1,750	0.021 - 0.032	900	0.021 - 0.028	1,750	0.025 - 0.035	1,400	0.021 - 0.032
-	3/4	1,650	0.023 - 0.034	1,650	0.023 - 0.034	850	0.023 - 0.030	1,650	0.026 - 0.037	1,300	0.023 - 0.034
20	-	1,600	0.024 - 0.035	1,600	0.024 - 0.035	800	0.024 - 0.031	1,600	0.028 -0.039	1,250	0.024 - 0.035

General Drilling Operations

Work Material		Cast Aluminum		Special Alloy Steels, Hardened Steels					
Hardness				26-30 HRC		30-34 HRC		34-43 HRC	
Drilling Speed		260-660 SFM		195-295 SFM		160-230 SFM		130-160 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
3	-	14,900	0.004 - 0.009	7,900	0.004 - 0.006	6,500	0.004 - 0.006	4,700	0.004 - 0.005
-	1/8	14,100	0.005 - 0.009	7,500	0.004 - 0.006	6,100	0.004 - 0.006	4,400	0.004 - 0.005
4	-	11,150	0.006 - 0.012	5,590	0.005 - 0.008	4,750	0.005 - 0.008	3,500	0.005 - 0.007
-	3/16	9,400	0.007 - 0.014	5,000	0.006 - 0.009	4,100	0.006 - 0.009	3,000	0.006 - 0.008
6	-	7,450	0.009 - 0.019	3,950	0.007 - 0.012	3,150	0.007 - 0.012	2,350	0.007 - 0.009
-	1/4	7,000	0.010 - 0.020	3,750	0.007 - 0.012	3,000	0.007 - 0.012	2,200	0.007 - 0.010
8	-	5,600	0.013 - 0.025	2,950	0.009 - 0.016	2,350	0.009 - 0.016	1,750	0.009 - 0.013
-	3/8	4,700	0.015 - 0.030	2,500	0.011 - 0.019	2,000	0.011 - 0.019	1,450	0.011 - 0.015
10	-	4,450	0.016 - 0.031	2,400	0.012 - 0.020	1,900	0.012 - 0.020	1,400	0.012 - 0.016
-	7/16	4,000	0.017 - 0.035	2,150	0.013 - 0.022	1,700	0.013 - 0.022	1,250	0.013 - 0.017
12	-	3,700	0.019 - 0.038	2,000	0.014 - 0.024	1,550	0.014 - 0.024	1,150	0.014 - 0.019
-	1/2	3,500	0.020 - 0.040	1,850	0.015 - 0.024	1,500	0.015 - 0.024	1,100	0.015 - 0.020
14	-	3,200	0.022 - 0.044	1,700	0.017 - 0.025	1,350	0.017 - 0.025	1,000	0.017 - 0.022
-	5/8	2,800	0.025 - 0.050	1,500	0.019 - 0.025	1,200	0.019 - 0.025	900	0.019 - 0.025
16	–	2,800	0.025 - 0.050	1,500	0.019 - 0.025	1,200	0.019 - 0.025	900	0.019 - 0.025
18	-	2,500	0.028 - 0.057	1,300	0.021 - 0.028	1,050	0.021 - 0.028	800	0.021 - 0.028
-	3/4	2,350	0.030 - 0.060	1,250	0.023 - 0.030	1,000	0.023 - 0.030	750	0.023 - 0.030
20	-	2,250	0.031 - 0.063	1,200	0.024 - 0.031	950	0.024 - 0.031	700	0.024 - 0.031

List 6501 - A Brand ADO-MICRO: 2D
List 6502 - A Brand ADO-MICRO: 5D

General Drilling Operations

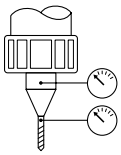
Work Material	Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		300 Series Austenitic Stainless Steels		400 Series Ferritic Stainless Steels Martensitic Stainless Steels		High Heat Material			
									Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed	65-195 SFM		65-195 SFM		65-195 SFM		80-145 SFM		130-195 SFM		15-50 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
0.7	18,200	0.0003-0.0008	18,200	0.0006-0.0011	13,600	0.0003-0.0008	15,900	0.0003-0.0008	22,700	0.0004-0.0007	4,500	0.0002-0.0006
1	12,700	0.0004-0.0012	12,700	0.0008-0.0016	9,500	0.0004-0.0012	11,100	0.0004-0.0012	15,900	0.0006-0.001	3,200	0.0002-0.0008
1.5	8,500	0.0006-0.0018	8,500	0.0012-0.0024	6,400	0.0006-0.0018	7,400	0.0006-0.0018	10,600	0.001-0.0015	2,100	0.0003-0.0012
2	6,400	0.0008-0.0024	6,400	0.0016-0.0031	4,800	0.0008-0.0024	5,600	0.0008-0.0024	8,000	0.0012-0.002	1,600	0.0004-0.0016

General Drilling Operations

Work Material	Cast Iron		Ductile Cast Iron		Aluminum Alloy 5025,7075		Cast Aluminum		Special Alloy Steels, Hardened Steels			
Hardness									26-30 HRC		30-34 HRC	
Drilling Speed	130-195 SFM		100-165 SFM		65-195 SFM		65-195 SFM		100-130 SFM		100-130 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
0.7	22,700	0.0006-0.0011	18,200	0.0006-0.0011	18,200	0.0003-0.0008	22,700	0.0006-0.0017	15,900	0.0006-0.0011	11,500	0.0006-0.0011
1	15,900	0.0008-0.0016	12,700	0.0008-0.0016	12,700	0.0004-0.0012	15,900	0.0008-0.0024	11,100	0.0008-0.0016	8,000	0.0008-0.0016
1.5	10,600	0.0012-0.0024	8,500	0.0012-0.0024	8,500	0.0006-0.0018	10,600	0.0012-0.0035	7,400	0.0012-0.0024	5,300	0.0012-0.0024
2	8,000	0.0016-0.0031	6,400	0.0016-0.0031	6,400	0.0008-0.0024	8,000	0.0016-0.0047	5,600	0.0016-0.0031	4,000	0.0016-0.0031

Note:

1. This cutting condition chart is based on the usage of **water-soluble coolant and internal supply**.
2. Please use quality water-soluble coolant with a dilution factor of approximately 20 times, e.g. 5% concentration.
3. Please use a precision filter (rating of 3µm to 5µm) to prevent the oil holes from clogging.
4. Although the recommended coolant pressure is 3 MPa or more, please adjust accordingly if the level of flow volume is unsatisfactory due to the type and concentration of cutting fluid used.
5. For accurate mounting, acceptable deflection of the body cylindrical part at the shank end should be **less than 0.002µm**, as shown in the illustrated figure.
6. For work materials with poor chip evacuation, please perform step drilling as required.
7. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.



List 6503 - A Brand ADO-MICRO: 12D
List 6504 - A Brand ADO-MICRO: 20D
List 6505 - A Brand ADO-MICRO: 30D

General Drilling Operations

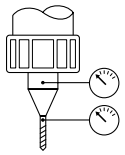
Work Material	Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		300 Series Austenitic Stainless Steels		400 Series Ferritic Stainless Steels Martensitic Stainless Steels		High Heat Material			
									Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed	65-195 SFM		65-195 SFM		65-195 SFM		80-145 SFM		130-195 SFM		15-50 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
1	12,700	0.0004-0.0012	12,700	0.0008-0.0016	9,500	0.0004-0.0012	11,100	0.0004-0.0012	15,900	0.0006-0.001	3,200	0.0002-0.0008
1.5	8,500	0.0006-0.0018	8,500	0.0012-0.0024	6,400	0.0006-0.0018	7,400	0.0006-0.0018	10,600	0.001-0.0015	2,100	0.0003-0.0012
2	6,400	0.0008-0.0024	6,400	0.0016-0.0031	4,800	0.0008-0.0024	5,600	0.0008-0.0024	8,000	0.0012-0.002	1,600	0.0004-0.0016

General Drilling Operations

Work Material	Cast Iron		Ductile Cast Iron		Aluminum Alloy 5025,7075		Cast Aluminum		Special Alloy Steels, Hardened Steels			
Hardness									26-30 HRC		30-34 HRC	
Drilling Speed	130-195 SFM		100-165 SFM		65-195 SFM		100-230 SFM		100-130 SFM		65-100 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
1	15,900	0.0008-0.0016	12,700	0.0008-0.0016	12,700	0.0004-0.0012	15,900	0.0008-0.0024	11,100	0.0008-0.0016	8,000	0.0008-0.0016
1.5	10,600	0.0012-0.0024	8,500	0.0012-0.0024	8,500	0.0006-0.0018	10,600	0.0012-0.0035	7,400	0.0012-0.0024	5,300	0.0012-0.0024
2	8,000	0.0016-0.0031	6,400	0.0016-0.0031	6,400	0.0008-0.0024	8,000	0.0016-0.0047	5,600	0.0016-0.0031	4,000	0.0016-0.0031

Note:

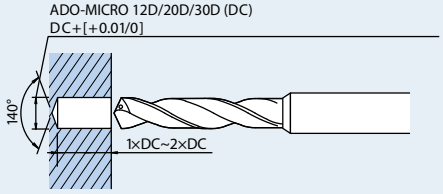
1. This cutting condition chart is based on the usage of **water-soluble coolant and internal supply**.
2. Please use quality water-soluble coolant with a dilution factor of approximately 20 times, e.g. 5% concentration.
3. Please use a precision filter (rating of 3μm to 5μm) to prevent the oil holes from clogging.
4. Although the recommended coolant pressure is 3 MPa or more, please adjust accordingly if the level of flow volume is unsatisfactory due to the type and concentration of cutting fluid used.
5. For accurate mounting, acceptable deflection of the body cylindrical part at the shank end should be **less than 0.002μm**, as shown in the illustrated figure.
6. For work materials with poor chip evacuation, please perform step drilling as required.
7. For holes deeper than 12D, please use a 2D type drill to prepare a pilot hole prior to processing.
8. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.



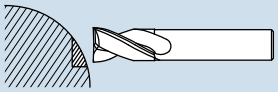
Deep Hold Drilling Proceedures
ADO-MICRO 12D/20D/30D

1. Make a Pilot Hole with the ADO-MICRO 2D.

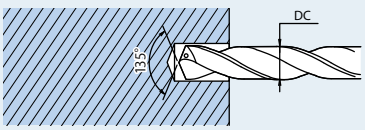
The ADO-MICRO 2D (140° point angle) is the recommended polio hole drills of the ADO-MICRO 12D/20D/30D



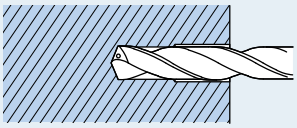
When working on a curved surface, use the ADF (carbide flat drill) to counterbore a flat surface before drilling a pilot hole.



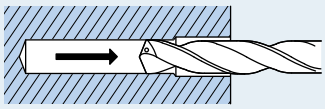
2. Insert the long drill into a pilot hole with a low revolution of 500 to 1,000 RPM.



3. Increase the revolution to the designated speed and start drilling.



4. After drilling, move the drill away from the bottom of the hole; then reduce its speed to 500 to 1,000 RPM while continuing to retract.



List 6300 - A Brand AD: 2D
List 6310 - A Brand AD: 4D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		High Heat Material					
						Ti-Alloy, Ti-6Al-4V		Fe-Base Material, A286		Ni-Base Material, Inconel	
Drilling Speed		210-315 SFM		210-315 SFM		80-145 SFM		65-100 SFM		50-90 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
2	-	12,700	0.002-0.004	12,700	0.002-0.004	5,460	0.002-0.003	4,000	0.001-0.002	3,390	0.001-0.002
3	-	8,470	0.002-0.005	8,470	0.002-0.005	3,640	0.002-0.003	2,670	0.002-0.002	2,260	0.001-0.002
-	1/8	8,000	0.002-0.005	8,000	0.002-0.005	3,440	0.002-0.003	2,520	0.002-0.003	2,140	0.001-0.002
4	-	6,350	0.003-0.006	6,350	0.003-0.006	2,730	0.002-0.004	2,000	0.002-0.003	1,700	0.002-0.002
-	3/16	5,330	0.003-0.006	5,330	0.003-0.006	2,290	0.003-0.005	1,680	0.002-0.004	1,420	0.002-0.003
6	-	4,230	0.005-0.009	4,230	0.005-0.009	1,820	0.004-0.005	1,330	0.004-0.005	1,130	0.002-0.004
-	1/4	4,000	0.005-0.009	4,000	0.005-0.009	1,720	0.004-0.006	1,260	0.004-0.005	1,070	0.002-0.004
8	-	3,170	0.006-0.011	3,170	0.006-0.011	1,360	0.005-0.007	1,000	0.005-0.006	850	0.003-0.005
-	3/8	2,670	0.007-0.012	2,670	0.007-0.012	1,150	0.005-0.008	840	0.006-0.008	710	0.004-0.006
10	-	2,540	0.008-0.012	2,540	0.008-0.012	1,090	0.006-0.009	800	0.006-0.008	680	0.004-0.006
-	7/16	2,290	0.008-0.012	2,290	0.008-0.012	980	0.007-0.010	720	0.007-0.009	610	0.004-0.007
12	-	2,120	0.008-0.012	2,120	0.008-0.012	910	0.007-0.011	670	0.007-0.009	560	0.005-0.007
-	1/2	2,000	0.008-0.012	2,000	0.008-0.012	860	0.008-0.011	630	0.008-0.009	530	0.005-0.008
14	-	1,810	0.009-0.014	1,810	0.009-0.014	780	0.008-0.013	570	0.008-0.011	480	0.005-0.008
-	5/8	1,600	0.010-0.014	1,600	0.010-0.014	690	0.009-0.013	500	0.008-0.011	430	0.005-0.008
16	–	1,600	0.010-0.014	1,600	0.010-0.014	690	0.009-0.013	500	0.008-0.011	430	0.005-0.008
18	-	1,410	0.011-0.015	1,410	0.011-0.015	610	0.010-0.014	440	0.008-0.011	380	0.005-0.008
-	3/4	1,330	0.012-0.016	1,330	0.012-0.016	570	0.011-0.015	420	0.008-0.012	360	0.005-0.008
20	-	1,270	0.012-0.016	1,270	0.012-0.016	550	0.012-0.016	400	0.008-0.012	340	0.005-0.008

General Drilling Operations

Work Material		Cast Iron		Ductile Cast Iron		Special Alloy Steels, Hardened Steels							
Hardness						26-30 HRC		30-34 HRC		34-43 HRC		43-48 HRC	
Drilling Speed		210-315 SFM		156-265 SFM		155-235 SFM		100-160 SFM		100-130 SFM		65-95 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
2	-	12,700	0.002-0.004	10,190	0.002-0.004	9,460	0.002-0.004	6,310	0.002-0.003	5,570	0.002-0.003	3,890	0.001-0.002
3	-	8,470	0.002-0.005	6,790	0.002-0.005	6,310	0.002-0.005	4,210	0.002-0.003	3,720	0.002-0.003	2,590	0.002-0.002
-	1/8	8,000	0.002-0.005	6,420	0.003-0.005	5,960	0.002-0.005	3,980	0.002-0.003	3,510	0.002-0.003	2,450	0.002-0.003
4	-	6,350	0.003-0.006	5,100	0.003-0.006	4,730	0.003-0.006	3,160	0.003-0.004	2,780	0.003-0.004	1,940	0.002-0.003
-	3/16	5,330	0.003-0.006	4,280	0.004-0.007	3,980	0.003-0.006	2,650	0.003-0.005	2,340	0.003-0.005	1,630	0.003-0.004
6	-	4,230	0.005-0.009	3,400	0.005-0.009	3,150	0.005-0.009	2,100	0.005-0.006	1,860	0.005-0.006	1,290	0.004-0.005
-	1/4	4,000	0.005-0.009	3,210	0.006-0.009	2,980	0.005-0.009	1,990	0.005-0.007	1,760	0.005-0.007	1,220	0.004-0.006
8	-	3,170	0.006-0.011	2,550	0.006-0.011	2,360	0.006-0.011	1,580	0.006-0.008	1,390	0.006-0.008	970	0.005-0.007
-	3/8	2,670	0.007-0.012	2,140	0.008-0.012	1,990	0.007-0.012	1,320	0.008-0.009	1,170	0.008-0.009	820	0.006-0.008
10	-	2,540	0.008-0.012	2,040	0.008-0.012	1,890	0.008-0.012	1,260	0.008-0.010	1,110	0.008-0.010	780	0.007-0.009
-	7/16	2,290	0.008-0.012	1,830	0.008-0.012	1,700	0.008-0.012	1,140	0.009-0.011	1,000	0.009-0.011	700	0.007-0.009
12	-	2,120	0.008-0.012	1,700	0.008-0.012	1,580	0.008-0.012	1,050	0.009-0.012	930	0.009-0.012	650	0.007-0.009
-	1/2	2,000	0.008-0.012	1,600	0.008-0.012	1,490	0.008-0.012	990	0.010-0.012	880	0.010-0.012	610	0.008-0.010
14	-	1,810	0.009-0.014	1,460	0.009-0.014	1,350	0.009-0.014	900	0.011-0.014	800	0.011-0.014	550	0.008-0.011
-	5/8	1,600	0.010-0.014	1,280	0.010-0.014	1,190	0.010-0.014	790	0.012-0.015	700	0.012-0.015	490	0.009-0.012
16	–	1,600	0.010-0.014	1,280	0.010-0.014	1,190	0.010-0.014	790	0.012-0.015	700	0.012-0.015	490	0.009-0.012
18	-	1,410	0.011-0.015	1,130	0.011-0.015	1,050	0.011-0.015	700	0.014-0.018	620	0.014-0.018	430	0.010-0.014
-	3/4	1,330	0.012-0.016	1,070	0.012-0.016	990	0.012-0.016	660	0.015-0.019	680	0.015-0.019	410	0.011-0.015
20	-	1,270	0.012-0.016	1,020	0.012-0.016	940	0.012-0.016	630	0.016-0.020	560	0.016-0.020	390	0.012-0.016

Note:

1. The indicated speeds and feeds are for drilling with water-soluble oil.
2. Suitable cutting fluid is water-soluble high density oil (less than 20 times dilution).
3. When using non-water-soluble oil or water-soluble oil (over 20 times dilution), reduce cutting speed by 30%.
4. These conditions are for drilling depth under 3 times the drill diameter.
5. For machines that cannot achieve the speeds indicated in the table please set rotation as high as possible. Tool life may be reduced.

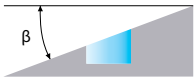
List 5720 - A Brand ADFO: 3D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		Cast Iron		Ductile Cast Iron		Aluminum Alloy 5052,7075	
Hardness				28-35 HRC									
Drilling Speed		200-330 SFM		100-300 SFM		130-200 SFM		200-400 SFM		165-260 SFM		265-650 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
3	-	10,650	0.002 - 0.004	7,530	0.002 - 0.004	5,300	0.002 - 0.004	10,650	0.002 - 0.004	8,570	0.002 - 0.004	17,000	0.002 - 0.004
-	1/8	10,080	0.002 - 0.004	7,120	0.002 - 0.004	5,040	0.002 - 0.004	10,080	0.002 - 0.004	8,100	0.002 - 0.004	16,040	0.002 - 0.004
4	-	8,000	0.002 - 0.005	5,650	0.002 - 0.005	4,000	0.002 - 0.005	8,000	0.002 - 0.005	6,430	0.002 - 0.005	12,730	0.002 - 0.005
-	3/16	6,720	0.002 - 0.006	4,750	0.002 - 0.006	3,360	0.002 - 0.006	6,720	0.002 - 0.006	5,400	0.002 - 0.006	10,690	0.002 - 0.006
6	-	5,300	0.002 - 0.007	3,770	0.002 - 0.007	2,660	0.002 - 0.007	5,300	0.002 - 0.007	4,280	0.002 - 0.007	8,490	0.002 - 0.007
-	1/4	5,040	0.003 - 0.008	3,560	0.003 - 0.008	2,520	0.003 - 0.008	5,040	0.003 - 0.008	4,050	0.003 - 0.008	8,020	0.003 - 0.008
8	-	4,000	0.003 - 0.009	2,830	0.003 - 0.009	2,000	0.003 - 0.009	4,000	0.003 - 0.009	3,210	0.003 - 0.009	6,370	0.003 - 0.009
-	3/8	3,360	0.004 - 0.011	2,370	0.004 - 0.011	1,680	0.004 - 0.011	3,360	0.004 - 0.011	2,700	0.004 - 0.011	5,350	0.004 - 0.011
10	-	3,200	0.004 - 0.012	2,260	0.004 - 0.012	1,600	0.004 - 0.012	3,200	0.004 - 0.012	2,570	0.004 - 0.012	5,100	0.004 - 0.012
-	7/16	2,880	0.004 - 0.013	2,030	0.004 - 0.013	1,440	0.004 - 0.013	2,880	0.004 - 0.013	2,310	0.004 - 0.013	4,580	0.004 - 0.013
12	-	2,650	0.005 - 0.014	1,880	0.005 - 0.014	1,330	0.005 - 0.014	2,650	0.005 - 0.014	2,140	0.005 - 0.014	4,240	0.005 - 0.014
-	1/2	2,520	0.005 - 0.015	1,780	0.005 - 0.015	1,260	0.005 - 0.015	2,520	0.005 - 0.015	2,020	0.005 - 0.015	4,010	0.005 - 0.015
14	-	2,290	0.006 - 0.017	1,620	0.006 - 0.017	1,140	0.006 - 0.017	2,290	0.006 - 0.017	1,840	0.006 - 0.017	3,640	0.006 - 0.017
-	5/8	2,010	0.006 - 0.019	1,420	0.006 - 0.019	1,010	0.006 - 0.019	2,010	0.006 - 0.019	1,620	0.006 - 0.019	3,210	0.006 - 0.019
16	-	2,000	0.006 - 0.019	1,410	0.006 - 0.019	1,000	0.006 - 0.019	2,000	0.006 - 0.019	1,610	0.006 - 0.019	3,180	0.006 - 0.019
18	-	1,775	0.007 - 0.021	1,260	0.007 - 0.021	890	0.007 - 0.021	1,775	0.007 - 0.021	1,430	0.007 - 0.021	2,830	0.007 - 0.021
-	3/4	1,680	0.008 - 0.023	1,190	0.008 - 0.023	840	0.008 - 0.023	1,680	0.008 - 0.023	1,350	0.008 - 0.023	2,670	0.008 - 0.023
20	-	1,600	0.008 - 0.024	1,130	0.008 - 0.024	800	0.008 - 0.024	1,600	0.008 - 0.024	1,280	0.008 - 0.024	2,550	0.008 - 0.024

General Drilling Operations

Work Material		Cast Aluminum		Hardened Steel- Pre Hardened Steels		Plastic Mold Steels	
Hardness				Up to 50 HRC		Up to 40 HRC	
Drilling Speed		265-650 SFM		65-100 SFM		65-130 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch						
3	-	17,000	0.002 - 0.004	2,670	0.001 - 0.004	3,150	0.002 - 0.004
-	1/8	16,040	0.002 - 0.004	2,520	0.001 - 0.004	2,980	0.002 - 0.004
4	-	12,730	0.002 - 0.005	2,000	0.002 - 0.005	2,360	0.002 - 0.005
-	3/16	10,690	0.002 - 0.006	1,680	0.002 - 0.006	1,980	0.002 - 0.006
6	-	8,490	0.002 - 0.007	1,330	0.002 - 0.007	1,580	0.002 - 0.007
-	1/4	8,020	0.003 - 0.008	1,260	0.003 - 0.008	1,490	0.003 - 0.008
8	-	6,370	0.003 - 0.009	1,000	0.003 - 0.009	1,180	0.003 - 0.009
-	3/8	5,350	0.004 - 0.011	840	0.004 - 0.011	990	0.004 - 0.011
10	-	5,100	0.004 - 0.012	800	0.004 - 0.012	950	0.004 - 0.012
-	7/16	4,580	0.004 - 0.013	720	0.004 - 0.013	850	0.004 - 0.013
12	-	4,240	0.005 - 0.014	670	0.005 - 0.014	790	0.005 - 0.014
-	1/2	4,010	0.005 - 0.015	630	0.005 - 0.015	740	0.005 - 0.015
14	-	3,640	0.006 - 0.017	570	0.006 - 0.017	680	0.006 - 0.017
-	5/8	3,210	0.006 - 0.019	500	0.006 - 0.019	600	0.006 - 0.019
16	-	3,180	0.006 - 0.019	500	0.006 - 0.019	590	0.006 - 0.019
18	-	2,830	0.007 - 0.021	450	0.007 - 0.021	530	0.007 - 0.021
-	3/4	2,670	0.008 - 0.023	420	0.008 - 0.023	500	0.008 - 0.023
20	-	2,550	0.008 - 0.024	400	0.008 - 0.024	470	0.008 - 0.024



Note:

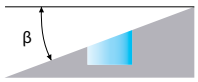
1. The table above assumes a milled-flat surface and water soluble coolant.
2. Use a rigid and precise machine and holder.
3. Please minimize overhang length as much as possible during machining.
4. Adjust the rotational speed and feed in accordance with conditions such as the machining shape, machine rigidity, or work holding.
5. Please set up the drill so that the runout of the cutting edge is under 0.0008".
6. Please select a cutting fluid that is most suitable for the work material with minimal smoke formation.
7. In the case of dry machining, please use air blow to remove chips to prevent clogging.
   - Please do not machine stainless steel dry.
8. When machining an inclined plane, adjust the rotational speed and feed in accordance with the angle of the incline (β).
   - When the machining incline angle (β) is less than 30°, please reduce the feed to 40-60%.
   - When the machining incline angle (β) is over 30°, please reduce the speed to 60-80% , the feed to 20-40%.
9. Please use step drilling when drilling in pre-drilled holes to improve chip separation.
10. If it is necessary to ensure the locating precision of the hole to be machined, adjust the rotational speed and feed as indicated above (in accordance with the machining precision requirement).
11. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

List 5700 - A Brand ADF: 2D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		Cast Iron		Ductile Cast Iron	
Hardness				28-35 HRC							
Drilling Speed		100-330 SFM		100-300 SFM		35-100 SFM		100-400 SFM		100-260 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
0.2	–	25,000	0.00004 - 0.0002	25,000	0.00004 - 0.0002	25,000	0.00004 - 0.00015	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00024
–	1/64	25,000	0.00004 - 0.0002	25,000	0.00004 - 0.0002	20,000	0.00004 - 0.00015	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00024
0.5	–	25,000	0.0001 - 0.0006	25,000	0.0001 - 0.0006	15,900	0.00012 - 0.0004	25,000	0.00012 - 0.0006	25,000	0.00012 - 0.0006
–	1/32	22,000	0.0001 - 0.0006	20,200	0.0001 - 0.0006	10,000	0.00012 - 0.0004	25,000	0.00012 - 0.0006	20,100	0.00012 - 0.0006
1	–	17,500	0.0002 - 0.0012	15,900	0.0002 - 0.0012	8,000	0.0002 - 0.0008	22,500	0.0002 - 0.0012	15,900	0.0002 - 0.0012
–	3/64	14,700	0.0002 - 0.0012	13,500	0.0002 - 0.0012	6,700	0.0002 - 0.0008	21,400	0.0002 - 0.0012	14,200	0.0002 - 0.0012
1.5	–	13,800	0.0003 - 0.0018	12,700	0.0003 - 0.0018	5,300	0.0003 - 0.0012	17,000	0.0003 - 0.0018	11,500	0.0003 - 0.0018
–	1/16	13,100	0.0003 - 0.0018	12,200	0.0003 - 0.0018	5,000	0.0003 - 0.0012	16,000	0.0003 - 0.0018	10,700	0.0003 - 0.0018
2	-	12,850	0.0012 - 0.002	9,700	0.0012 - 0.002	3,980	0.0012 - 0.002	14,550	0.0016 - 0.002	10,310	0.0016 - 0.002
3	-	8,570	0.002 - 0.003	6,470	0.002 - 0.003	2,650	0.002 - 0.003	9,700	0.002 - 0.004	6,870	0.002 - 0.004
-	1/8	8,100	0.002 - 0.003	6,110	0.002 - 0.003	2,500	0.002 - 0.003	9,170	0.002 - 0.004	6,500	0.002 - 0.004
4	-	6,430	0.002 - 0.004	4,850	0.002 - 0.004	1,990	0.002 - 0.004	7,280	0.003 - 0.005	5,150	0.003 - 0.005
-	3/16	5,400	0.002 - 0.004	4,070	0.002 - 0.004	1,670	0.002 - 0.004	6,110	0.003 - 0.005	4,330	0.003 - 0.005
6	-	4,280	0.004 - 0.006	3,230	0.004 - 0.006	1,325	0.004 - 0.006	4,850	0.005 - 0.007	3,440	0.005 - 0.007
-	1/4	4,050	0.004 - 0.006	3,060	0.004 - 0.006	1,250	0.004 - 0.006	4,580	0.005 - 0.007	3,250	0.005 - 0.007
8	-	3,210	0.005 - 0.008	2,430	0.005 - 0.008	995	0.005 - 0.008	3,640	0.006 - 0.009	2,580	0.006 - 0.009
-	3/8	2,700	0.005 - 0.008	2,040	0.005 - 0.008	835	0.005 - 0.008	3,060	0.006 - 0.009	2,160	0.006 - 0.009
10	-	2,570	0.006 - 0.010	1,940	0.006 - 0.010	795	0.006 - 0.010	2,910	0.008 - 0.012	2,060	0.008 - 0.012
-	7/16	2,300	0.006 - 0.010	1,750	0.006 - 0.010	715	0.006 - 0.010	2,620	0.008 - 0.012	1,860	0.008 - 0.012
12	-	2,140	0.007 - 0.012	1,620	0.007 - 0.012	660	0.007 - 0.012	2,430	0.009 - 0.014	1,720	0.009 - 0.014
-	1/2	2,020	0.007 - 0.012	1,530	0.007 - 0.012	625	0.007 - 0.012	2,290	0.009 - 0.014	1,620	0.009 - 0.014
14	-	1,840	0.008 - 0.014	1,390	0.008 - 0.014	570	0.008 - 0.014	2,080	0.011 - 0.017	1,470	0.011 - 0.017
-	5/8	1,620	0.009 - 0.016	1,220	0.009 - 0.016	500	0.009 - 0.016	1,830	0.013 - 0.019	1,300	0.013 - 0.019
16	-	1,610	0.009 - 0.016	1,210	0.009 - 0.016	440	0.009 - 0.016	1,820	0.013 - 0.019	1,290	0.013 - 0.019
18	-	1,430	0.011 - 0.018	1,080	0.011 - 0.018	420	0.011 - 0.018	1,620	0.014 - 0.021	1,150	0.014 - 0.021
-	3/4	1,350	0.012 - 0.020	1,020	0.012 - 0.020	400	0.012 - 0.020	1,530	0.016 - 0.024	1,090	0.016 - 0.024
20	-	1,280	0.012 - 0.020	970	0.012 - 0.020	500	0.012 - 0.020	1,450	0.016 - 0.024	1,030	0.016 - 0.024

Note:



1. The speeds and feeds in the table above apply when drilling on a flat surface with water-soluble coolant.
2. When using non-water soluble oil or water-emulsifiable (over 20 times dilution), reduce cutting speed by 30%.
3. Use a rigid and precise machine and holder.
4. Please minimize tool overhang as much as possible during machining.
5. Adjust the rotational speed and the feed rate in accordance with conditions such as the machining shape, machine rigidity, or work holding.
6. Please set up the drill so that the runout of the cutting edge is under 0.0004 in.
7. When machining an inclined plane,adjust the rotational speed and the feed rate in accordance with the angle of the incline (β).
   - When the machining incline angle(β) is less than 30°, please reduce the feed to 40-60%.
   - When the machining incline angle(β) is over 30°, please reduce the speed to 60-80% , the feed to 40-60%.
8. Please use step drilling in pilot holes to improve cutting chip separation.
9. If it is necessary to ensure the locating precision of the hole to be machined, adjust the rotational speed and the feed rate as indicated above (in accordance with the machining precision requirement).

General Drilling Operations

Work Material		Aluminum Alloy 5052,7075		Cast Aluminum		Hardened Steel-Pre Hardened Steel		Plastic Mold Steels	
Hardness						Up to 50 HRC		Up to 40 HRC	
Drilling Speed		100-650 SFM		100-650 SFM		65-100 SFM		65-130 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
0.2	–	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00016	25,000	0.00004 - 0.00016
–	1/64	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00024	20,000	0.00004 - 0.00016	24,400	0.00004 - 0.00016
0.5	–	25,000	0.00012 - 0.0006	25,000	0.00012 - 0.0006	15,900	0.00012 - 0.0004	19,000	0.00012 - 0.0004
–	1/32	25,000	0.00012 - 0.0006	25,000	0.00012 - 0.0006	10,000	0.00012 - 0.0004	12,200	0.00012 - 0.0004
1	–	25,000	0.0002 - 0.0012	25,000	0.0002 - 0.0012	7,950	0.0002 - 0.0008	9,550	0.0002 - 0.0008
–	3/64	25,000	0.0002 - 0.0012	25,000	0.0002 - 0.0012	6,700	0.0002 - 0.0008	8,150	0.0002 - 0.0008
1.5	–	25,000	0.0003 - 0.0018	25,000	0.0003 - 0.0018	5,300	0.0003 - 0.0012	6,350	0.0003 - 0.0012
–	1/16	25,000	0.0003 - 0.0018	25,000	0.0003 - 0.0018	5,000	0.0003 - 0.0012	6,100	0.0003 - 0.0012
2	-	22,200	0.0004 - 0.002	22,200	0.0004 - 0.002	4,000	0.0008 - 0.002	4,720	0.0012 - 0.002
3	-	14,800	0.001 - 0.004	14,800	0.001 - 0.004	2,660	0.001 - 0.002	3,150	0.0018 - 0.002
-	1/8	13,980	0.001 - 0.004	13,980	0.001 - 0.004	2,520	0.001 - 0.002	2,980	0.0018 - 0.002
4	-	11,100	0.001 - 0.005	11,100	0.001 - 0.005	2,000	0.002 - 0.003	2,360	0.002 - 0.003
-	3/16	9,320	0.001 - 0.005	9,320	0.001 - 0.005	1,680	0.002 - 0.003	1,980	0.002 - 0.003
6	-	7,400	0.001 - 0.007	7,400	0.001 - 0.007	1,330	0.002 - 0.005	1,570	0.004 - 0.005
-	1/4	6,990	0.001 - 0.007	6,990	0.001 - 0.007	1,260	0.002 - 0.005	1,490	0.004 - 0.005
8	-	5,550	0.002 - 0.009	5,550	0.002 - 0.009	1,000	0.003 - 0.006	1,180	0.005 - 0.006
-	3/8	4,660	0.002 - 0.009	4,660	0.002 - 0.009	840	0.003 - 0.006	990	0.005 - 0.006
10	-	4,440	0.002 - 0.012	4,440	0.002 - 0.012	800	0.004 - 0.008	950	0.006 - 0.008
-	7/16	3,990	0.002 - 0.012	3,990	0.002 - 0.012	720	0.004 - 0.008	850	0.006 - 0.008
12	-	3,700	0.002 - 0.014	3,700	0.002 - 0.014	670	0.005 - 0.009	790	0.007 - 0.009
-	1/2	3,500	0.002 - 0.014	3,500	0.002 - 0.014	630	0.005 - 0.009	744	0.007 - 0.009
14	-	3,170	0.003 - 0.017	3,170	0.003 - 0.017	570	0.006 - 0.011	670	0.008 - 0.011
-	5/8	2,800	0.003 - 0.019	2,800	0.003 - 0.019	500	0.006 - 0.013	590	0.009 - 0.013
16	-	2,790	0.003 - 0.019	2,790	0.003 - 0.019	500	0.006 - 0.013	590	0.009 - 0.013
18	-	2,470	0.004 - 0.021	2,470	0.004 - 0.021	450	0.007 - 0.014	520	0.011 - 0.014
-	3/4	2,330	0.004 - 0.024	2,330	0.004 - 0.024	420	0.008 - 0.016	500	0.012 - 0.016
20	-	2,250	0.004 - 0.024	2,250	0.004 - 0.024	400	0.008 - 0.016	470	0.012 - 0.016

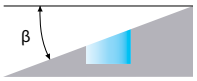
List 5705 - A Brand ADFLS: 2D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		Cast Iron		Ductile Cast Iron		Aluminum Alloy 5052,7075	
Hardness				28-35 HRC									
Drilling Speed		200-330 SFM		100-300 SFM		65-140 SFM		200-400 SFM		165-260 SFM		265-650 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
2	-	12,850	0.0012 - 0.002	9,700	0.0012 - 0.002	4,980	0.0012 - 0.002	14,550	0.0016 - 0.002	10,310	0.0016 - 0.002	22,200	0.0004 - 0.002
3	-	8,570	0.002 - 0.003	6,470	0.002 - 0.003	3,320	0.002 - 0.003	9,700	0.002 - 0.004	6,870	0.002 - 0.004	14,800	0.001 - 0.004
-	1/8	8,100	0.002 - 0.003	6,110	0.002 - 0.003	3,140	0.002 - 0.003	9,170	0.002 - 0.004	6,500	0.002 - 0.004	13,980	0.001 - 0.004
4	-	6,430	0.002 - 0.004	4,850	0.002 - 0.004	2,890	0.002 - 0.004	7,280	0.003 - 0.005	5,150	0.003 - 0.005	11,100	0.001 - 0.005
-	3/16	5,400	0.002 - 0.004	4,070	0.002 - 0.004	2,090	0.002 - 0.004	6,110	0.003 - 0.005	4,330	0.003 - 0.005	9,320	0.001 - 0.005
6	-	4,280	0.004 - 0.006	3,230	0.004 - 0.006	1,660	0.004 - 0.006	4,850	0.005 - 0.007	3,440	0.005 - 0.007	7,400	0.001 - 0.007
-	1/4	4,050	0.004 - 0.006	3,060	0.004 - 0.006	1,570	0.004 - 0.006	4,580	0.005 - 0.007	3,250	0.005 - 0.007	6,990	0.001 - 0.007
8	-	3,210	0.005 - 0.008	2,430	0.005 - 0.008	1,240	0.005 - 0.008	3,640	0.006 - 0.009	2,580	0.006 - 0.009	5,550	0.002 - 0.009
-	3/8	2,700	0.005 - 0.008	2,040	0.005 - 0.008	1,040	0.005 - 0.008	3,060	0.006 - 0.009	2,160	0.006 - 0.009	4,660	0.002 - 0.009
10	-	2,570	0.006 - 0.010	1,940	0.006 - 0.010	1,000	0.006 - 0.010	2,910	0.008 - 0.012	2,060	0.008 - 0.012	4,440	0.002 - 0.012
-	7/16	2,300	0.006 - 0.010	1,750	0.006 - 0.010	900	0.006 - 0.010	2,620	0.008 - 0.012	1,860	0.008 - 0.012	3,990	0.002 - 0.012
12	-	2,140	0.007 - 0.012	1,620	0.007 - 0.012	830	0.007 - 0.012	2,430	0.009 - 0.014	1,720	0.009 - 0.014	3,700	0.002 - 0.014
-	1/2	2,020	0.007 - 0.012	1,530	0.007 - 0.012	780	0.007 - 0.012	2,290	0.009 - 0.014	1,620	0.009 - 0.014	3,500	0.002 - 0.014
14	-	1,840	0.008 - 0.014	1,390	0.008 - 0.014	710	0.008 - 0.014	2,080	0.011 - 0.017	1,470	0.011 - 0.017	3,170	0.003 - 0.017
-	5/8	1,620	0.009 - 0.016	1,220	0.009 - 0.016	630	0.009 - 0.016	1,830	0.013 - 0.019	1,300	0.013 - 0.019	2,800	0.003 - 0.019
16	-	1,610	0.009 - 0.016	1,210	0.009 - 0.016	620	0.009 - 0.016	1,820	0.013 - 0.019	1,290	0.013 - 0.019	2,790	0.003 - 0.019
18	-	1,430	0.011 - 0.018	1,080	0.011 - 0.018	550	0.011 - 0.018	1,620	0.014 - 0.021	1,150	0.014 - 0.021	2,470	0.004 - 0.021
-	3/4	1,350	0.012 - 0.020	1,020	0.012 - 0.020	520	0.012 - 0.020	1,530	0.016 - 0.024	1,090	0.016 - 0.024	2,330	0.004 - 0.024
20	-	1,280	0.012 - 0.020	970	0.012 - 0.020	500	0.012 - 0.020	1,450	0.016 - 0.024	1,030	0.016 - 0.024	2,250	0.004 - 0.024

General Drilling Operations

Work Material		Cast Aluminum		Hardened Steel-Pre Hardened Steel		Plastic Mold Steels	
Hardness				Up to 50 HRC		Up to 40 HRC	
Drilling Speed		265-650 SFM		65-100 SFM		65-130 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch						
2	-	22,200	0.0004 - 0.002	4,000	0.0008 - 0.002	4,720	0.0012 - 0.002
3	-	14,800	0.001 - 0.004	2,660	0.001 - 0.002	3,150	0.0018 - 0.002
-	1/8	13,980	0.001 - 0.004	2,520	0.001 - 0.002	2,980	0.0018 - 0.002
4	-	11,100	0.001 - 0.005	2,000	0.002 - 0.003	2,360	0.002 - 0.003
-	3/16	9,320	0.001 - 0.005	1,680	0.002 - 0.003	1,980	0.002 - 0.003
6	-	7,400	0.001 - 0.007	1,330	0.002 - 0.005	1,570	0.004 - 0.005
-	1/4	6,990	0.001 - 0.007	1,260	0.002 - 0.005	1,490	0.004 - 0.005
8	-	5,550	0.002 - 0.009	1,000	0.003 - 0.006	1,180	0.005 - 0.006
-	3/8	4,660	0.002 - 0.009	840	0.003 - 0.006	990	0.005 - 0.006
10	-	4,440	0.002 - 0.012	800	0.004 - 0.008	950	0.006 - 0.008
-	7/16	3,990	0.002 - 0.012	720	0.004 - 0.008	850	0.006 - 0.008
12	-	3,700	0.002 - 0.014	670	0.005 - 0.009	790	0.007 - 0.009
-	1/2	3,500	0.002 - 0.014	630	0.005 - 0.009	744	0.007 - 0.009
14	-	3,170	0.003 - 0.017	570	0.006 - 0.011	670	0.008 - 0.011
-	5/8	2,800	0.003 - 0.019	500	0.006 - 0.013	590	0.009 - 0.013
16	-	2,790	0.003 - 0.019	500	0.006 - 0.013	590	0.009 - 0.013
18	-	2,470	0.004 - 0.021	450	0.007 - 0.014	520	0.011 - 0.014
-	3/4	2,330	0.004 - 0.024	420	0.008 - 0.016	500	0.012 - 0.016
20	-	2,250	0.004 - 0.024	400	0.008 - 0.016	470	0.012 - 0.016



Note:

1. The speeds and feeds in the table above apply when drilling on a flat surface with water-soluble coolant.
2. When using non-water soluble oil or water-emulsifiable (over 20 times dilution), reduce cutting speed by 30%.
3. Use a rigid and precise machine and holder.
4. Please minimize tool overhang as much as possible during machining.
5. Adjust the rotational speed and the feed rate in accordance with conditions such as the machining shape, machine rigidity, or work holding.
6. Please set up the drill so that the runout of the cutting edge is under 0.0004 in.
7. When machining an inclined plane,adjust the rotational speed and the feed rate in accordance with the angle of the incline (β).
   - When the machining incline angle(β) is less than 30°, please reduce the feed to 40-60%.
   - When the machining incline angle(β) is over 30°, please reduce the speed to 60-80% , the feed to 40-60%.
8. Please use step drilling in pilot holes to improve cutting chip separation.
9. If it is necessary to ensure the locating precision of the hole to be machined, adjust the rotational speed and the feed rate as indicated above (in accordance with the machining precision requirement).

List 5190 - A Brand AD-LDS

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Cast Iron		Cast Aluminum Alloy		Special Alloy Steels, Hardened Steels			
Hardness										26-30 HRC		30-34 HRC	
Drilling Speed		200-260 SFM		100-165 SFM		200-325 SFM		260-525 SFM		65-90 SFM		50-75 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	inch												
0.5	-	25,000	0.0002-0.0008	25,000	0.0002-0.0008	25,000	0.0002-0.0006	25,000	0.0008-0.0020	15,000	0.0002-0.0008	12,000	0.0002-0.0008
1.0	-	22,300	0.0004-0.0012	12,600	0.0004-0.0012	25,000	0.0004-0.0012	25,000	0.001-0.004	7,500	0.0004-0.0012	6,000	0.0004-0.0012
2.0	-	11,000	0.001-0.002	6,300	0.001-0.002	12,500	0.001-0.002	19,150	0.002-0.008	3,800	0.001-0.002	3,000	0.001-0.002
3.0	-	7,500	0.001-0.003	4,200	0.001-0.003	8,400	0.002-0.003	12,600	0.004-0.009	2,500	0.001-0.003	2,000	0.001-0.003
4.0	-	5,700	0.002-0.004	3,150	0.002-0.004	6,300	0.003-0.005	9,500	0.005-0.010	1,900	0.002-0.004	1,500	0.002-0.004
6.0	-	3,800	0.002-0.005	2,100	0.002-0.005	4,200	0.005-0.007	6,300	0.005-0.011	1,250	0.002-0.005	1,000	0.002-0.005
-	1/4	3,500	0.002-0.005	2,030	0.002-0.005	4,000	0.005-0.007	6,000	0.005-0.011	1,180	0.002-0.005	950	0.002-0.005
8.0	-	2,800	0.003-0.006	1,575	0.003-0.006	3,200	0.005-0.008	4,730	0.007-0.012	940	0.003-0.006	750	0.003-0.006
-	3/8	2,340	0.004-0.007	1,350	0.004-0.007	2,670	0.007-0.010	4,000	0.009-0.014	785	0.004-0.007	630	0.004-0.007
10.0	-	2,300	0.004-0.007	1,250	0.004-0.007	2,500	0.007-0.010	3,800	0.009-0.014	750	0.004-0.007	600	0.004-0.007
12.0	-	1,900	0.005-0.008	1,050	0.005-0.008	2,100	0.008-0.012	3,150	0.010-0.016	625	0.005-0.008	500	0.005-0.008
-	1/2	1,760	0.005-0.008	1,000	0.005-0.008	2,000	0.008-0.012	3,000	0.010-0.016	590	0.005-0.008	470	0.005-0.008
-	5/8	1,400	0.006-0.011	800	0.006-0.011	1,600	0.009-0.013	3,400	0.012-0.019	470	0.006-0.011	380	0.006-0.011
16.0	-	1,400	0.006-0.011	800	0.006-0.011	1,600	0.009-0.013	2,400	0.012-0.019	470	0.006-0.011	380	0.006-0.011
-	3/4	1,170	0.008-0.013	680	0.008-0.013	1,330	0.010-0.016	2,000	0.016-0.024	390	0.008-0.013	315	0.008-0.013
20.0	-	1,150	0.008-0.013	630	0.008-0.013	1,300	0.010-0.016	1,900	0.016-0.024	375	0.008-0.013	300	0.008-0.013
25.0	-	900	0.010-0.018	500	0.010-0.018	1,000	0.012-0.019	1,500	0.020-0.030	300	0.010-0.018	240	0.010-0.018

1. The indicated speeds and feeds are for drilling with water soluble oil.
2. When using non-water soluble oil, reduce the drilling speed by 20%.
3. When centering on a curved or inclined surface, reduce the feed rate accordingly.
4. For machines that cannot achieve the speeds indicated in the table, please set rotation as high as possible.

List 5630 - EXOPRO® Mega Muscle®: 10D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Cast Iron		Ductile Cast Iron		Cast Aluminum	
Drilling Speed		260-395 SFM		200-295 SFM		260-395 SFM		195-330 SFM		260-660 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
5	-	6,350	0.007 - 0.009	5,750	0.007 - 0.009	6,350	0.007 - 0.011	5,100	0.007 - 0.009	8,900	0.008 - 0.016
6	-	5,300	0.008 - 0.011	4,800	0.008 - 0.011	5,300	0.008 - 0.014	4,200	0.008 - 0.011	7,400	0.009 - 0.019
-	1/4	5,000	0.009 - 0.012	4,550	0.009 - 0.012	5,000	0.009 - 0.016	4,000	0.007 - 0.012	7,000	0.010 - 0.020
8	-	4,000	0.011 - 0.015	3,600	0.011 - 0.015	4,000	0.011 - 0.018	3,200	0.009 - 0.015	5,600	0.013 - 0.025
-	3/8	3,300	0.012 - 0.017	3,050	0.012 - 0.017	3,300	0.012 - 0.020	2,700	0.012 - 0.017	4,700	0.015 - 0.030
10	-	3,200	0.013 - 0.019	2,900	0.013 - 0.019	3,200	0.013 - 0.023	2,500	0.012 - 0.019	4,500	0.016 - 0.031
-	7/16	2,900	0.014 - 0.021	2,600	0.014 - 0.021	2,900	0.014 - 0.025	2,300	0.013 - 0.021	4,000	0.017 - 0.035
12	-	2,700	0.016 - 0.023	2,400	0.016 - 0.023	2,700	0.016 - 0.028	2,100	0.014 - 0.023	3,700	0.019 - 0.038
-	1/2	2,500	0.016 - 0.024	2,250	0.016 - 0.024	2,500	0.016 - 0.028	2,000	0.015 - 0.024	3,500	0.020 - 0.040
14	-	2,300	0.017 - 0.026	2,050	0.017 - 0.026	2,300	0.017 - 0.029	1,800	0.017 - 0.026	3,200	0.022 - 0.044
-	5/8	2,000	0.018 - 0.029	1,800	0.018 - 0.029	2,000	0.018 - 0.030	1,600	0.019 - 0.029	2,800	0.025 - 0.050

General Drilling Operations

Work Material		Special Alloy Steels, Hardened Steels		
Hardness		26-30 HRC	30-34 HRC	
Drilling Speed		195-295 SFM	160-230 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch				
5	-	4,750	0.006 - 0.007	3,750	0.005 - 0.007
6	-	4,000	0.007 - 0.010	3,200	0.007 - 0.010
-	1/4	3,700	0.007 - 0.010	3,000	0.007 - 0.010
8	-	3,000	0.009 - 0.014	2,400	0.009 - 0.014
-	3/8	2,500	0.011 - 0.017	2,000	0.011 - 0.017
10	-	2,400	0.012 - 0.018	1,900	0.012 - 0.018
-	7/16	2,100	0.013 - 0.020	1,700	0.013 - 0.020
12	-	2,000	0.014 - 0.022	1,600	0.014 - 0.022
-	1/2	1,900	0.015 - 0.022	1,500	0.015 - 0.022
14	-	1,700	0.017 - 0.023	1,350	0.017 - 0.023
-	5/8	1,500	0.019 - 0.024	1,200	0.018 - 0.023

List 5950Ni - EXOPRO® WHO-Ni: 3D
List 5955Ni - EXOPRO® WHO-Ni: 5D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Cast Iron		Ductile Cast Iron		Ni-Base Material, Inconel	
Hardness										38-43 HRC	
Drilling Speed		260-395 SFM		260-395 SFM		260-395 SFM		195-330 SFM		35-100 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
3	-	10,600	0.002 - 0.005	10,600	0.002 - 0.005	10,600	0.002 - 0.005	8,500	0.002 - 0.005	2,150	0.001 - 0.002
-	1/8	10,000	0.002 - 0.005	10,000	0.002 - 0.005	10,000	0.002 - 0.005	8,000	0.002 - 0.005	2,050	0.001 - 0.002
4	-	7,900	0.003 - 0.006	7,900	0.003 - 0.006	7,900	0.003 - 0.006	6,350	0.003 - 0.006	1,625	0.001 - 0.003
-	3/16	6,650	0.004 - 0.008	6,650	0.004 - 0.008	6,650	0.004 - 0.008	5,300	0.004 - 0.008	1,350	0.002 - 0.004
6	-	5,300	0.005 - 0.009	5,300	0.005 - 0.009	5,300	0.005 - 0.009	4,200	0.005 - 0.009	1,100	0.002 - 0.005
-	1/4	5,000	0.005 - 0.009	5,000	0.005 - 0.009	5,000	0.005 - 0.009	4,000	0.005 - 0.009	1,025	0.002 - 0.005
8	-	4,000	0.006 - 0.011	4,000	0.006 - 0.011	4,000	0.006 - 0.011	3,200	0.006 - 0.011	800	0.003 - 0.006
-	3/8	3,350	0.007 - 0.012	3,350	0.007 - 0.012	3,350	0.007 - 0.012	2,700	0.007 - 0.012	680	0.003 - 0.007
10	-	3,200	0.008 - 0.012	3,200	0.008 - 0.012	3,200	0.008 - 0.012	2,550	0.008 - 0.012	650	0.004 - 0.008
-	7/16	2,850	0.008 - 0.012	2,850	0.008 - 0.012	2,850	0.008 - 0.012	2,300	0.008 - 0.012	585	0.004 - 0.009
12	-	2,650	0.008 - 0.012	2,650	0.008 - 0.012	2,650	0.008 - 0.012	2,100	0.008 - 0.012	550	0.005 - 0.009
-	1/2	2,500	0.008 - 0.012	2,500	0.008 - 0.012	2,500	0.008 - 0.012	2,000	0.008 - 0.012	500	0.005 - 0.010

General Drilling Operations

Work Material		Special Alloy Steels, Hardened Steels					
Hardness		35-40 HRC		40-45 HRC		45-56 HRC	
Drilling Speed		130-160 SFM		115-150 SFM		65-100 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch						
3	-	4,700	0.002 - 0.003	4,250	0.001 - 0.002	2,650	0.001 - 0.002
-	1/8	4,400	0.002 - 0.003	4,025	0.001 - 0.002	2,500	0.001 - 0.002
4	-	3,500	0.003 - 0.004	3,200	0.001 - 0.003	2,000	0.001 - 0.003
-	3/16	2,950	0.004 - 0.005	2,700	0.002 - 0.004	1,650	0.002 - 0.004
6	-	2,350	0.005 - 0.006	2,100	0.002 - 0.005	1,300	0.002 - 0.005
-	1/4	2,200	0.005 - 0.006	2,000	0.002 - 0.005	1,250	0.002 - 0.005
8	-	1,750	0.006 - 0.008	1,600	0.003 - 0.006	1,000	0.003 - 0.006
-	3/8	1,475	0.007 - 0.009	1,350	0.003 - 0.007	850	0.003 - 0.007
10	-	1,400	0.008 - 0.010	1,300	0.004 - 0.008	800	0.004 - 0.008
-	7/16	1,250	0.009 - 0.011	1,150	0.004 - 0.009	715	0.004 - 0.009
12	-	1,200	0.009 - 0.012	1,050	0.005 - 0.009	660	0.005 - 0.009
-	1/2	1,100	0.010 - 0.013	1,000	0.005 - 0.010	625	0.005 - 0.010

List 7501 - EXOPRO® AERO-STAD
List 7520 - EXOPRO® AERO-LHX
List 7500 - EXOPRO® AERO-D-REAM
List 257 - CARBIDE AERO-D-REAM

Work Material	Carbon & Glass Fiber Reinforced Plastics	
Cutting Speed	165 - 260 SFM	
Drill Diameter (in)	Speed RPM	Feed IPR
#40	8,000	0.0008 - 0.0020
#30	6,100	0.0008 - 0.0030
#20	4,900	0.0012 - 0.0030
#11	4,100	0.0012 - 0.0030
#2	3,550	0.0014 - 0.0040
1/4	3,100	0.0016 - 0.0040
5/16	3,170	0.0016 - 0.0040
3/8	2,100	0.0020 - 0.0040
7/16	1,790	0.0020 - 0.0040
1/2	1,570	0.0020 - 0.0040

1. Coolant is not needed, however, make sure dust is efficiently collected.
2. Peck drilling is not needed if drilling depth is less than 3D.
3. The machinability of CFRP depends on physical makeup and percentage of contents, both speed & feed may need adjustments depending on material.
4. Feed rate can be and should be adjusted depending on surface layer makeup.
5. Feed rates can be increased when an approved coolant is utilized.
6. Please contact OSG for specific application questions.

List 7530 - EXOPRO® AERO-S

Work Material	Carbon & Glass Fiber Reinforced Plastics		CFRP + Aluminum Stack	
Cutting Speed	165 - 260 SFM		200-400 SFM	
Drill Diameter (in)	Speed RPM	Feed IPR	Speed RPM	Feed IPR
#40	8,000	0.0008 - 0.0020	11,700	0.0010 - 0.0030
#30	6,100	0.0008 - 0.0030	8,900	0.0030 - 0.0040
#20	4,900	0.0012 - 0.0030	7,100	0.0040 - 0.0050
#11	4,100	0.0012 - 0.0030	6,000	0.0040 - 0.0050
#2	3,550	0.0014 - 0.0040	5,200	0.0050 - 0.0060
1/4	3,100	0.0016 - 0.0040	4,500	0.0060 - 0.0070
5/16	3,170	0.0016 - 0.0040	3,600	0.0070 - 0.0080
3/8	2,100	0.0020 - 0.0040	3,000	0.0090 - 0.0100
7/16	1,790	0.0020 - 0.0040	2,600	0.0100 - 0.0110
1/2	1,570	0.0020 - 0.0040	2,300	0.0120 - 0.0130

1. Feed rates can and should be adjusted depending on stack makeup, with higher feed rates in the composite portion and lower feeds in the metal portion.
2. Peck drilling may be necessary for enhanced quality and proper chip evacuation.
3. There are many factors that can effect successful stack drilling; please contact OSG about your specific application for best recommendation.

List 7532 - EXOPRO® AERO-H
List 5732 - EXOCARB® AERO-H

Work Material	Carbon & Glass Fiber Reinforced Plastics		CFRP + Aluminum Stack		CFRP + Titanium Stack		CFRP + CRES Stack	
Cutting Speed	165 - 260 SFM		200-400 SFM		40-60 SFM		30-50 SFM	
Drill Dia. (in)	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
#40	8,000	0.0008 - 0.0020	11,700	0.0010 - 0.0030	1,900	0.0002 - 0.0007	1,550	0.0002 - 0.0007
#30	6,100	0.0008 - 0.0030	8,900	0.0030 - 0.0040	1,500	0.0004 - 0.0009	1,150	0.0004 - 0.0009
#20	4,900	0.0012 - 0.0030	7,100	0.0040 - 0.0050	1,225	0.0006 - 0.0011	950	0.0006 - 0.0011
#11	4,100	0.0012 - 0.0030	6,000	0.0040 - 0.0050	1,000	0.0007 - 0.0012	800	0.0007 - 0.0012
#2	3,550	0.0014 - 0.0040	5,200	0.0050 - 0.0060	875	0.0009 - 0.0014	675	0.0009 - 0.0014
1/4	3,100	0.0016 - 0.0040	4,500	0.0060 - 0.0070	750	0.0010 - 0.0015	600	0.0010 - 0.0015
5/16	3,170	0.0016 - 0.0040	3,600	0.0070 - 0.0080	625	0.0013 - 0.0018	475	0.0013 - 0.0018
3/8	2,100	0.0020 - 0.0040	3,000	0.0090 - 0.0100	500	0.0016 - 0.0021	400	0.0016 - 0.0021
7/16	1,790	0.0020 - 0.0040	2,600	0.0100 - 0.0110	425	0.0019 - 0.0024	350	0.0019 - 0.0024
1/2	1,570	0.0020 - 0.0040	2,300	0.0120 - 0.0130	375	0.0023 - 0.0028	275	0.0023 - 0.0028

1. Feed rates can and should be adjusted depending on stack makeup, with higher feed rates in the composite portion and lower feeds in the metal portion.
2. Peck drilling may be necessary for enhanced quality and proper chip evacuation.
3. There are many factors that can effect successful stack drilling; please contact OSG about your specific application for best recommendation.

List HP700 - HY-PRO® CARB NEPTUNE®

Work Material	Carbon & Glass Fiber Reinforced Plastics		CFRP + Aluminum Stack		CFRP + Titanium Stack		CFRP + CRES Stack	
Cutting Speed	150-300 SFM		200-400 SFM		40-60 SFM		30-50 SFM	
Drill Diameter (in)	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
#40	8,900	0.001-0.002	11,690	0.001-0.003	1,900	0.0002-0.0007	1,550	0.0002-0.0007
#30	6,700	0.001-0.002	9,000	0.003-0.004	1,500	0.0004-0.0009	1,190	0.0004-0.0009
#20	5,250	0.001-0.002	7,000	0.004-0.005	1,180	0.0006-0.0011	950	0.0006-0.0011
#11	4,500	0.001-0.002	6,000	0.004-0.005	1,000	0.0007-0.0012	800	0.0007-0.0012
1/4	3,350	0.001-0.003	4,500	0.006-0.007	750	0.0010-0.0015	600	0.0009-0.0014

List 5171 - EXOCARB® WH70

Work Material	Hardened Steels			
	D2-S7 55-60 HRC		D2, CPM-9V 60-70 HRC	
Drilling Speed	33-52 SFM		26-42 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR
2	2,080	0.001 - 0.002	1,670	0.001 - 0.002
3	1,375	0.001 - 0.002	1,100	0.001 - 0.002
4	1,030	0.001 - 0.002	825	0.001 - 0.002
5	825	0.001 - 0.002	660	0.001 - 0.002
6	680	0.001 - 0.002	550	0.001 - 0.002
7	590	0.001 - 0.002	470	0.001 - 0.002
8	515	0.001 - 0.002	410	0.001 - 0.002
9	450	0.001 - 0.002	360	0.001 - 0.002
10	410	0.001 - 0.002	260	0.001 - 0.002
11	375	0.001 - 0.002	300	0.001 - 0.002
12	340	0.001 - 0.002	275	0.001 - 0.002
14	290	0.001 - 0.002	235	0.001 - 0.002
15	270	0.001 - 0.002	220	0.001 - 0.002
16	260	0.001 - 0.002	205	0.001 - 0.002
17	240	0.001 - 0.002	195	0.001 - 0.002
18	230	0.001 - 0.002	180	0.001 - 0.002

1. Use a water soluble oil with high density (5 to 10 times dilution).
2. Tight clamping is critical.
3. For drilling depth > 3D, use a step feed.
4. For materials susceptible to chip packing in the flute, apply a step feed.

List 5172 - EXOCARB® XH

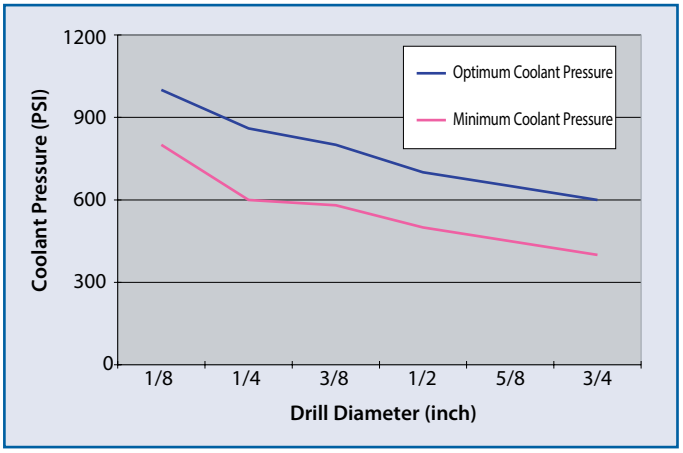
Work Material	Broken Taps & Drills
Drilling Speed	65-80 SFM
Drill Dia. mm	Speed RPM
2	3,190 - 3,930
3	2,100 - 2,590
4	1,580 - 1,940
5	1,260 - 1,550
6	1,050 - 1,290
7	900 - 1,110
8	790 - 970
9	700 - 860
10	630 - 780
11	570 - 705
12	530 - 650

1. Use a drilling speed of 65-80 SFM.
2. Hand feed of 0.0005~0.001 in/rev is normal.
3. Use a rigid holder.
4. Select a high quality cutting oil and apply in sufficient amounts.
5. This tool should not be used to drill soft steels, aluminum alloys or other soft materials.
6. Resharpening should be done periodically.
7. For through hole processing of heat treated steels, use a spare piece of material underneath the material being drilled as this will prevent breakage caused by sudden torque.
8. Cannot be used to remove forming taps.

List 5275 - EXOCARB® MAX-OIL-AL: 15D-30D

Work Material	Aluminum Alloy 2025, 5052		Aluminum Alloy Casting		Copper Alloy C1020	
Drilling Speed	200-390 SFM		260-650 SFM		190-400 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
3	9,500	0.0035 – 0.0059	14,700	0.0035 - 0.0059	9,500	0.0020 - 0.0035
4	7,150	0.0047 – 0.0079	11,000	0.0047 - 0.0079	7,150	0.0024 - 0.0039
5	5,700	0.0059 – 0.0098	8,800	0.0059 - 0.0098	5,700	0.0024 - 0.0039
6	4,770	0.0071 – 0.0118	7,350	0.0071 - 0.0118	4,770	0.0024 - 0.0039
8	3,575	0.0079 – 0.0157	5,500	0.0079 - 0.0157	3,575	0.0031 - 0.0059
10	2,850	0.0098 – 0.0197	4,400	0.0098 - 0.0197	2,850	0.0031 - 0.0059

Recommended Coolant Pressure



List 5310 - EXOCARB® MAX-MINI FHL-GDTS

Work Material	Hardened Steel, Pre-Hardened Steels			Tool Steels H13, D2			Stainless Steels 440		
Drilling Speed	130-160 SFM			110-150 SFM			100-130 SFM		
Drill Dia. mm	Speed RPM	Feed IPR	Pecking (In)	Speed RPM	Feed IPR	Pecking (In)	Speed RPM	Feed IPR	Pecking (In)
1.0	14,000	0.0008-0.0020	0.0008-0.0020	13,000	0.0008-0.0020	0.0008-0.0020	11,000	0.0008-0.0020	0.0008-0.0020
1.1	13,000	0.0008-0.0020	0.0008-0.0020	12,000	0.0008-0.0020	0.0008-0.0020	10,000	0.0008-0.0020	0.0008-0.0020
1.2	12,000	0.0008-0.0020	0.0008-0.0020	11,000	0.0008-0.0020	0.0008-0.0020	9,000	0.0008-0.0020	0.0008-0.0020
1.3	11,000	0.0008-0.0020	0.0008-0.0020	10,000	0.0008-0.0020	0.0008-0.0020	8,600	0.0008-0.0020	0.0008-0.0020
1.4	10,000	0.0008-0.0020	0.0008-0.0020	9,000	0.0008-0.0020	0.0008-0.0020	8,000	0.0008-0.0020	0.0008-0.0020
1.5	9,500	0.0008-0.0020	0.0008-0.0020	8,500	0.0008-0.0020	0.0008-0.0020	7,400	0.0008-0.0020	0.0008-0.0020
1.6	9,000	0.0008-0.0020	0.0008-0.0020	8,000	0.0008-0.0020	0.0008-0.0020	7,000	0.0008-0.0020	0.0008-0.0020
1.7	8,400	0.0008-0.0020	0.0008-0.0020	7,500	0.0008-0.0020	0.0008-0.0020	6,600	0.0008-0.0020	0.0008-0.0020
1.8	8,000	0.0008-0.0020	0.0008-0.0020	7,100	0.0008-0.0020	0.0008-0.0020	6,200	0.0008-0.0020	0.0008-0.0020
1.9	7,500	0.0008-0.0020	0.0008-0.0020	6,700	0.0008-0.0020	0.0008-0.0020	5,900	0.0008-0.0020	0.0008-0.0020
2.0	7,200	0.0008-0.0020	0.0008-0.0020	6,400	0.0008-0.0020	0.0008-0.0020	5,600	0.0008-0.0020	0.0008-0.0020
2.5	5,700	0.0008-0.0020	0.0008-0.0020	5,100	0.0008-0.0020	0.0008-0.0020	4,500	0.0008-0.0020	0.0008-0.0020
3.0	4,800	0.0008-0.0020	0.0008-0.0020	4,200	0.0008-0.0020	0.0008-0.0020	3,700	0.0008-0.0020	0.0008-0.0020

1. Please use in a machine with precise spindle rotation. Tight clamping is critical.
2. The indicated speeds and feeds are for drilling with water-soluble fluid.
3. Please use water-soluble high density fluid (less than 20 times dilution).
4. We recommend the pilot hole operation prior to EXOCARB® MAX-MINI (List 5310).
5. The run out with a drill in the spindle should be less than 0.0001".
6. OSG's Shrink Fit System is the recommended tool holder for these drills.

For machines that cannot achieve the speeds indicated in the above table, please set rotation as high as possible. Tool life may be decreased.

List 5315 - EXOCARB® MAX-MINI UVM-LDS
List 5320 - EXOCARB® MAX-MINI UVM-DRL: 5D
List 5325 - EXOCARB® MAX-MINI UVM-DRL: 10D

Work Material	Stainless Steels 300SS, 400SS, 17-4PH			Special Alloy Steels, Hardened Steels			Aluminum Alloys, Cast Aluminum		
Drilling Speed	2-20 SFM			2-20 SFM			2-30 SFM		
Drill Dia. mm	Speed RPM	Feed IPR	Pecking (In)	Speed RPM	Feed IPR	Pecking (In)	Speed RPM	Feed IPR	Pecking (In)
0.02	25,000	0.00004 - 0.00006	0.00008	25,000	0.00004 - 0.00006	0.00008	25,000	0.0002 - 0.0004	0.00008
0.03	25,000	0.00004 - 0.00006	0.00012	25,000	0.00004 - 0.00006	0.00012	25,000	0.0002 - 0.0004	0.00012
0.04	25,000	0.00004 - 0.00006	0.00016	25,000	0.00004 - 0.00006	0.00016	25,000	0.0002 - 0.0004	0.00016
0.05	21,350	0.00004 - 0.00006	0.00020	21,350	0.00004 - 0.00006	0.00020	25,000	0.0002 - 0.0004	0.00020
0.06	17,790	0.00004 - 0.00006	0.00024	17,790	0.00004 - 0.00006	0.00024	25,000	0.0002 - 0.0004	0.00024
0.07	15,250	0.00004 - 0.00006	0.00027	15,250	0.00004 - 0.00006	0.00027	22,180	0.0002 - 0.0004	0.00027
0.08	13,340	0.00004 - 0.00006	0.00031	13,340	0.00004 - 0.00006	0.00031	19,400	0.0002 - 0.0004	0.00031
0.09	11,860	0.00004 - 0.00006	0.00035	11,860	0.00004 - 0.00006	0.00035	17,250	0.0002 - 0.0004	0.00035
0.10	10,670	0.00004 - 0.00006	0.00040	10,670	0.00004 - 0.00006	0.00040	15,520	0.0002 - 0.0004	0.00040

Work Material	High Heat Material					
	Ti-Alloy			Inconel, Waspaloy		
Drilling Speed	2-7 SFM			2-5 SFM		
Drill Dia. mm	Speed RPM	Feed IPR	Pecking (In)	Speed RPM	Feed IPR	Pecking (In)
0.02	21,830	0.000012 - 0.000028	0.00008	15,650	0.000012 - 0.000028	0.00008
0.03	14,550	0.000012 - 0.000028	0.00012	10,430	0.000012 - 0.000028	0.00012
0.04	10,910	0.000012 - 0.000028	0.00016	7,820	0.000012 - 0.000028	0.00016
0.05	8,730	0.000012 - 0.000028	0.00020	6,260	0.000012 - 0.000028	0.00020
0.06	7,280	0.000012 - 0.000028	0.00024	5,210	0.000012 - 0.000028	0.00024
0.07	6,240	0.000012 - 0.000028	0.00027	4,470	0.000012 - 0.000028	0.00027
0.08	5,460	0.000012 - 0.000028	0.00031	3,910	0.000012 - 0.000028	0.00031
0.09	4,850	0.000012 - 0.000028	0.00035	3,480	0.000012 - 0.000028	0.00035
0.10	4,370	0.000012 - 0.000028	0.00040	3,130	0.000012 - 0.000028	0.00040

1. Please use in a machine with precise spindle rotation. Tight clamping is critical.
2. The indicated feeds and speeds are for drilling with water-soluble fluid.
3. Please use water-soluble high density fluid (less than 20 times dilution).
4. Please utilize pecking cycle as specified in table.
5. The run out with a drill in the spindle should be less than 0.0001".
6. OSG's Shrink Fit System is the recommended tool holder for these drills.

For machines that cannot achieve the speeds indicated in the above table, please set rotation as high as possible. Tool life may be decreased.

List 5330 - EXOCARB® MAX-MINI WX-MS

General Drilling Operations

Work Material	Carbon Steels 1010, 1050		Alloy Steels 4140, 4130		Austenitic Stainless Steels 304, 316		Martensitic, Ferritic Stainless Steels 420, 430, 430F, 440		Precipitation Hardened Stainless Steels 17-4, 15-5	
Drilling Speed	65-260 SFM		65-180 SFM		50-100 SFM		65-120 SFM		50-100 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
0.2	25,000	0.00008	25,000	0.00008	25,000	0.00008	25,000	0.00008	25,000	0.00008
0.3	25,000	0.00012	25,000	0.00012	24,250	0.00012	25,000	0.00012	24,250	0.00012
0.5	25,000	0.0003	20,000	0.0003	15,000	0.0003	15,000	0.0003	15,000	0.0003
1.0	15,000	0.0008	11,000	0.0008	7,250	0.0004	6,400	0.0004	7,250	0.0004
1.5	10,000	0.0008 - 0.0016	8,400	0.0008 - 0.0016	4,800	0.0005 - 0.0012	4,800	0.0005 - 0.0012	4,800	0.0005 - 0.0012
2.0	8,000	0.0012 - 0.0019	6,500	0.0012 - 0.0019	3,600	0.0006 - 0.0016	4,000	0.0006 - 0.0016	3,600	0.0006 - 0.0016
3.0	5,500	0.0016 - 0.0028	4,500	0.0016 - 0.0028	2,400	0.0009 - 0.0024	3,000	0.0009 - 0.0024	2,400	0.0009 - 0.0024
4.0	4,000	0.0024 - 0.0040	3,200	0.0024 - 0.0040	1,800	0.0012 - 0.0031	2,500	0.0012 - 0.0031	1,800	0.0012 - 0.0031
5.0	3,200	0.0027 - 0.0047	2,600	0.0027 - 0.0047	1,450	0.0016 - 0.004	2,000	0.0016 - 0.004	1,450	0.0016 - 0.004

General Drilling Operations

Work Material	Cast Iron		Aluminum Alloy 6061, 7075		Cast Aluminum		Copper, Copper Alloys C1020, S2600		Titanium 6AL4V (30 HRC)	
Drilling Speed	65-260 SFM		100-260 SFM		100-200 SFM		65-150 SFM		30-120 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
0.2	25,000	0.00008	25,000	0.0001	25,000	0.00008	25,000	0.00008	25,000	0.00008
0.3	25,000	0.00012	25,000	0.0003	25,000	0.0001	25,000	0.00012	24,250	0.0001
0.5	25,000	0.0003	25,000	0.0006	25,000	0.0003	20,000	0.0003	15,000	0.0002
1.0	15,000	0.0008	15,000	0.0012	14,500	0.0004	10,000	0.0004	7,250	0.0004
1.5	10,000	0.0008 - 0.0016	10,000	0.0012 - 0.0031	10,000	0.0005 - 0.0012	4,800	0.0005 - 0.0012	4,800	0.0005 - 0.0013
2.0	8,000	0.0012 - 0.0019	8,000	0.0016 - 0.0040	8,000	0.0006 - 0.0016	4,000	0.0006 - 0.0016	3,600	0.0012 - 0.0015
3.0	5,500	0.0016 - 0.0028	6,500	0.0024 - 0.0059	6,500	0.0009 - 0.0024	3,000	0.0009 - 0.0024	2,400	0.0016 - 0.0018
4.0	4,000	0.0024 - 0.0040	5,000	0.0031 - 0.0079	5,000	0.0012 - 0.0031	2,500	0.0012 - 0.0031	1,800	0.0016 - 0.0026
5.0	3,200	0.0027 - 0.0047	4,000	0.0040 - 0.0098	4,000	0.0016 - 0.0040	2,000	0.0016 - 0.0040	1,450	0.0027 - 0.0039

1. Please use in a machine with precise spindle rotation. Tight clamping is critical.
2. The indicated feeds and speeds are for drilling with water-soluble fluid.
3. Please use water-soluble high density fluid (less than 20 times dilution).
4. These tables are applicable for less than 3xD deep drilling operations.
   When drilling deeper than 3xD, please peck every 0.25-0.5xD accordingly.
5. The run out with a drill in the spindle should be less than 0.0001".
6. OSG's Shrink Fit System is the recommended tool holder for these drills.

For machines that cannot achieve the speeds indicated in the above table, please set rotation as high as possible. Tool life may be decreased.

List 5340 - EXOCARB® MAX-MINI MRS

General Drilling Operations

Work Material	Carbon Steels 1015, 1050		Alloy Steels 4140, 4130		Austenitic Stainless Steels 304, 316		Martensitic, Ferritic Stainless Steels 420, 430, 430F, 440		Precipitation Hardened Stainless Steels 17-4, 15-5	
Drilling Speed	65-260 SFM		65-180 SFM		50-130 SFM		65-165 SFM		50-130 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
0.5	25,000	0.0003	23,300	0.0003	17,465	0.0002 - 0.0006	22,300	0.0002 - 0.0006	17,465	0.0002 - 0.0006
1.0	15,700	0.0008	11,600	0.0008	8,730	0.0004 - 0.0012	11,150	0.0004 - 0.0012	8,730	0.0004 - 0.0012
1.5	10,000	0.0008 - 0.0016	7,750	0.0008 - 0.0016	5,820	0.0006 - 0.0018	7,440	0.0006 - 0.0018	5,820	0.0006 - 0.0018
2.0	8,000	0.0012 - 0.0019	5,800	0.0012 - 0.0019	4,365	0.0008 - 0.0024	5,580	0.0008 - 0.0024	4,365	0.0008 - 0.0024
2.5	6,400	0.0014 - 0.0025	4,660	0.0014 - 0.0025	3,500	0.0009 - 0.0030	4,460	0.0009 - 0.0030	3,500	0.0009 - 0.0030
3.0	5,500	0.0016 - 0.0028	3,900	0.0016 - 0.0028	2,900	0.0012 - 0.0035	3,720	0.0012 - 0.0035	2,900	0.0012 - 0.0035

General Drilling Operations

Work Material	Aluminum Alloy 6061, 7075		Cast Aluminum		Copper, Copper Alloys C1020, S2600		Special Alloy Steels, Hardened Steels		Titanium 6AL4V	
Drilling Speed	100-260 SFM		100-200 SFM		65-150 SFM		65-120 SFM		30 HRC	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
0.5	25,000	0.0006	25,000	0.0003	21,000	0.0003	17,500	0.0003	15,000	0.0002
1.0	16,000	0.0012	14,500	0.0004	10,600	0.0004	8,800	0.0008	7,250	0.0004
1.5	10,000	0.0012 - 0.0031	9,700	0.0005 - 0.0012	7,100	0.0005 - 0.0012	5,850	0.0012 - 0.0019	4,800	0.0005 - 0.0013
2.0	8,000	0.0016 - 0.0040	7,300	0.0006 - 0.0016	5,300	0.0006 - 0.0016	4,400	0.0016 - 0.0024	3,600	0.0012 - 0.0015
2.5	6,400	0.0020 - 0.0049	5,800	0.0007 - 0.0020	4,270	0.0007 - 0.0020	3,500	0.0020 - 0.0030	3,000	0.0014 - 0.0017
3.0	5,300	0.0024 - 0.0059	4,800	0.0009 - 0.0024	3,560	0.0009 - 0.0024	2,900	0.0024 - 0.0035	2,400	0.0016 - 0.0018

1. Please use in a machine with precise spindle rotation. Tight clamping is critical.
2. The indicated feeds and speeds are for drilling with water-soluble fluid.
3. Please use water-soluble high density fluid (less than 20 times dilution).
4. These tables are applicable for less than 3xD deep drilling operations.
   When drilling deeper than 3xD, please peck every 0.25-0.5xD accordingly.
5. The run out with a drill in the spindle should be less than 0.0001".
6. OSG's Shrink Fit System is the recommended tool holder for these drills.

For machines that cannot achieve the speeds indicated in the above table, please set rotation as high as possible.
Tool life may be decreased.

List HP253 - HY-PRO® CARB: 3D Coolant-Through
List HP255 - HY-PRO® CARB: 5D Coolant-Through
List HP258 - HY-PRO® CARB: 8D Coolant-Through

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		Cast Iron		Ductile Cast Iron		Aluminum Alloy	
Drilling Speed		310-455 SFM		265-380 SFM		145-220 SFM		285-420 SFM		215-350 SFM		260-450 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
3	-	12,370	0.002-0.005	10,430	0.002-0.005	5,900	0.002-0.004	11,400	0.002-0.005	9,140	0.002-0.005	11,480	0.003-0.005
-	1/8	11,690	0.002-0.005	9,860	0.002-0.005	5,580	0.002-0.004	10,770	0.002-0.005	8,630	0.002-0.005	10,850	0.003-0.005
4	-	9,280	0.003-0.006	7,820	0.003-0.006	4,430	0.003-0.005	8,550	0.003-0.006	6,850	0.003-0.006	8,610	0.004-0.006
-	3/16	7,790	0.004-0.007	6,570	0.004-0.007	3,720	0.004-0.006	7,180	0.004-0.007	5,760	0.004-0.007	7,230	0.005-0.007
6	-	6,190	0.005-0.009	5,220	0.005-0.009	2,950	0.005-0.007	5,700	0.005-0.009	4,570	0.005-0.009	5,740	0.006-0.008
-	1/4	5,840	0.005-0.010	4,930	0.005-0.010	2,790	0.006-0.008	5,390	0.005-0.010	4,320	0.005-0.010	5,420	0.007-0.009
8	-	4,640	0.006-0.011	3,910	0.006-0.011	2,210	0.006-0.009	4,280	0.006-0.011	3,430	0.006-0.011	4,310	0.008-0.010
-	3/8	3,900	0.007-0.011	3,290	0.007-0.011	1,860	0.007-0.009	3,590	0.007-0.011	2,880	0.007-0.011	3,620	0.009-0.011
10	-	3,710	0.008-0.012	3,130	0.008-0.012	1,770	0.008-0.010	3,420	0.008-0.012	2,740	0.008-0.012	3,440	0.011-0.013
-	7/16	3,340	0.008-0.012	2,820	0.008-0.012	1,590	0.008-0.010	3,080	0.008-0.012	2,470	0.008-0.012	3,100	0.012-0.014
12	-	3,090	0.008-0.012	2,610	0.008-0.012	1,480	0.008-0.010	2,850	0.008-0.012	2,280	0.008-0.012	2,870	0.013-0.015
-	1/2	2,920	0.008-0.013	2,460	0.008-0.013	1,390	0.008-0.010	2,690	0.008-0.013	2,160	0.008-0.013	2,710	0.014-0.016
14	-	2,650	0.009-0.014	2,240	0.009-0.014	1,260	0.009-0.011	2,440	0.009-0.014	1,960	0.009-0.014	2,460	0.016-0.018
-	5/8	2,340	0.010-0.014	1,970	0.010-0.014	1,120	0.010-0.012	2,150	0.010-0.014	1,730	0.010-0.014	2,170	0.018-0.020
16	–	2,340	0.010-0.014	1,970	0.010-0.014	1,120	0.010-0.012	2,150	0.010-0.014	1,730	0.010-0.014	2,170	0.018-0.020
18	-	2,060	0.011-0.015	1,740	0.011-0.015	980	0.011-0.013	1,900	0.011-0.015	1,520	0.011-0.015	1,910	0.020-0.022
-	3/4	1,950	0.011-0.015	1,640	0.011-0.015	930	0.011-0.013	1,800	0.011-0.015	1,440	0.011-0.015	1,810	0.021-0.023
20	-	1,860	0.012-0.016	1,560	0.012-0.016	890	0.012-0.014	1,710	0.012-0.016	1,370	0.012-0.016	1,720	0.022-0.024

CONTINUED



General Drilling Operations

Work Material		Cast Aluminum		Copper		Special Alloy Steels, Hardened Steels							
Hardness						26-30 HRC		30-34 HRC		34-43 HRC		43-48 HRC	
Drilling Speed		325- 700 SFM		230-380 SFM		185-295 SFM		130-210 SFM		120-180 SFM		80-110 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
3	-	16,580	0.004-0.006	9,860	0.003-0.005	7,760	0.002-0.005	5,500	0.002-0.003	4,850	0.002-0.003	3,090	0.001-0.002
-	1/8	15,660	0.004-0.006	9,320	0.003-0.005	7,330	0.002-0.005	5,200	0.002-0.003	4,560	0.002-0.003	2,930	0.001-0.003
4	-	12,430	0.005-0.007	7,400	0.004-0.006	5,820	0.003-0.006	4,120	0.003-0.004	3,640	0.003-0.004	2,320	0.002-0.003
-	3/16	10,440	0.006-0.008	6,210	0.005-0.007	4,890	0.004-0.007	3,460	0.004-0.005	3,040	0.004-0.005	1,950	0.002-0.004
6	-	8,290	0.008-0.010	4,930	0.006-0.008	3,880	0.005-0.009	2,750	0.005-0.006	2,410	0.005-0.006	1,550	0.002-0.004
-	1/4	7,830	0.009-0.011	4,660	0.007-0.009	3,670	0.005-0.010	2,600	0.005-0.007	2,290	0.005-0.007	1,460	0.003-0.005
8	-	6,220	0.012-0.014	3,700	0.008-0.010	2,910	0.006-0.011	2,060	0.006-0.008	1,810	0.006-0.008	1,160	0.003-0.005
-	3/8	5,220	0.013-0.015	3,110	0.009-0.011	2,440	0.007-0.011	1,730	0.007-0.009	1,520	0.007-0.009	980	0.003-0.005
10	-	4,970	0.015-0.017	2,960	0.011-0.013	2,330	0.008-0.012	1,650	0.008-0.010	1,450	0.008-0.010	930	0.004-0.006
-	7/16	4,470	0.016-0.018	2,660	0.012-0.014	2,090	0.008-0.012	1,480	0.008-0.011	1,300	0.008-0.011	840	0.004-0.006
12	-	4,140	0.018-0.020	2,470	0.013-0.015	1,940	0.008-0.012	1,370	0.009-0.012	1,210	0.009-0.012	770	0.005-0.007
-	1/2	3,920	0.019-0.021	2,330	0.014-0.016	1,830	0.008-0.013	1,300	0.010-0.013	1,140	0.010-0.013	730	0.005-0.007
14	-	3,550	0.021-0.023	2,110	0.016-0.018	1,660	0.009-0.014	1,180	0.011-0.014	1,030	0.011-0.014	660	0.006-0.008
-	5/8	3,130	0.022-0.024	1,860	0.018-0.020	1,470	0.010-0.014	1,040	0.012-0.015	900	0.013-0.016	580	0.006-0.008
16	–	3,130	0.022-0.024	1,860	0.018-0.020	1,470	0.010-0.014	1,040	0.012-0.015	900	0.013-0.016	580	0.006-0.008
18	-	2,760	0.026-0.030	1,640	0.020-0.022	1,290	0.011-0.015	920	0.014-0.018	810	0.015-0.018	520	0.007 -0.009
-	3/4	2,610	0.027 -0.031	1,550	0.021-0.023	1,220	0.011-0.015	870	0.015-0.019	760	0.015-0.019	490	0.007-0.009
20	-	2,490	0.028-0.032	1,480	0.022-0.024	1,160	0.012-0.016	820	0.016-0.020	720	0.016-0.020	460	0.008-0.011

List HP243 - HY-PRO® CARB: 3D
List HP245 - HY-PRO® CARB: 5D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		Cast Iron		Ductile Cast Iron		Aluminum Alloy	
Drilling Speed		240-350 SFM		230-325 SFM		130-200 SFM		240-385 SFM		175-300 SFM		200-380 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
1	-	25,000	0.001-0.002	25,000	0.001-0.002	16,010	0.001-0.002	25,000	0.001-0.002	23,090	0.001-0.002	25,000	0.001-0.002
-	1/16	18,030	0.001-0.002	16,930	0.001-0.002	10,080	0.001-0.002	19,620	0.001-0.002	14,550	0.001-0.002	17,720	0.001-0.002
2	-	14,310	0.002-0.003	13,430	0.001-0.003	8,010	0.001-0.003	15,130	0.001-0.003	11,540	0.001-0.003	14,070	0.002-0.003
-	3/32	12,020	0.002-0.004	11,280	0.002-0.004	6,720	0.002-0.003	13,080	0.002-0.004	9,700	0.002-0.004	11,820	0.002-0.004
3	-	9,540	0.002-0.005	8,960	0.002-0.005	5,340	0.002-0.004	10,090	0.002-0.005	7,700	0.002-0.005	9,380	0.003-0.005
-	1/8	9,010	0.003-0.005	8,460	0.003-0.005	5,040	0.003-0.004	9,810	0.002-0.005	7,270	0.003-0.005	8,860	0.004-0.005
4	-	7,160	0.003-0.006	6,720	0.003-0.006	4,000	0.003-0.005	7,560	0.003-0.006	5,770	0.003-0.006	7,040	0.004-0.006
-	3/16	6,010	0.004-0.008	5,640	0.004-0.008	3,360	0.004-0.006	6,540	0.004-0.007	4,850	0.004-0.007	5,910	0.005-0.007
6	-	4,770	0.005-0.009	4,480	0.005-0.009	2,670	0.005-0.007	5,040	0.005-0.009	3,850	0.005-0.009	4,690	0.006-0.008
-	1/4	4,510	0.005-0.010	4,230	0.005-0.010	2,520	0.006-0.008	4,910	0.005-0.010	3,640	0.005-0.010	4,430	0.007-0.009
8	-	3,580	0.006-0.011	3,360	0.006-0.011	2,000	0.006-0.009	3,780	0.006-0.011	2,890	0.006-0.011	3,520	0.008-0.010
-	3/8	3,010	0.007-0.011	2,820	0.007-0.011	1,680	0.007-0.009	3,270	0.007-0.011	2,420	0.007-0.011	2,950	0.009-0.011
10	-	2,860	0.008-0.012	2,680	0.008-0.012	1,600	0.008-0.010	3,030	0.008-0.012	2,310	0.008-0.012	2,810	0.011-0.013
-	7/16	2,580	0.008-0.012	2,420	0.008-0.012	1,440	0.008-0.010	2,800	0.008-0.012	2,080	0.008-0.012	2,530	0.012-0.014
12	-	2,380	0.008-0.012	2,240	0.008-0.012	1,330	0.008-0.010	2,520	0.008-0.012	1,920	0.008-0.012	2,340	0.013-0.015
-	1/2	2,250	0.009-0.013	2,120	0.009-0.013	1,260	0.008-0.011	2,450	0.008-0.013	1,820	0.008-0.013	2,210	0.014-0.016
14	-	2,040	0.009-0.014	1,920	0.009-0.014	1,140	0.009-0.011	2,160	0.009-0.014	1,650	0.009-0.014	2,010	0.016-0.018
-	5/8	1,810	0.010-0.014	1,690	0.010-0.014	1,010	0.010-0.012	1,960	0.010-0.014	1,450	0.010-0.014	1,770	0.018-0.020
16	–	1,810	0.010-0.014	1,690	0.010-0.014	1,010	0.010-0.012	1,960	0.010-0.014	1,450	0.010-0.014	1,770	0.018-0.020
18	-	1,590	0.011-0.015	1,490	0.011-0.015	890	0.011-0.013	1,682	0.011-0.015	1,280	0.011-0.015	1,560	0.020-0.022
-	3/4	1,500	0.012-0.015	1,410	0.012-0.015	840	0.011-0.013	1,580	0.011-0.015	1,210	0.012-0.015	1,480	0.021 -0.023
20	-	1,430	0.012-0.016	1,340	0.012-0.016	800	0.012-0.014	1,514	0.012-0.016	1,150	0.012-0.016	1,410	0.022-0.024

CONTINUED



General Drilling Operations

Work Material		Cast Aluminum		Copper		Special Alloy Steels, Hardened Steels							
Hardness						26-30 HRC		30-34 HRC		34-43 HRC		43-48 HRC	
Drilling Speed		260- 640 SFM		190-320 SFM		160-240 SFM		110-185 SFM		100-150 SFM		75-100 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
1	-	25,000	0.002-0.003	24,740	0.001-0.002	19,400	0.001-0.002	14,260	0.001-0.002	12,130	0.001-0.001	8,440	0.0005-0.001
-	1/16	25,000	0.002-0.003	15,580	0.001-0.002	12,220	0.001-0.002	8,980	0.001-0.002	7,640	0.001-0.002	5,320	0.0005-0.001
2	-	21,831	0.003-0.004	12,370	0.002-0.003	9,700	0.001-0.003	7,130	0.001-0.003	6,060	0.001-0.002	4,220	0.001-0.001
-	3/32	18,336	0.004-0.005	10,390	0.002-0.004	8,150	0.002-0.004	5,990	0.002-0.003	5,090	0.002-0.003	3,540	0.001-0.002
3	-	14,550	0.004-0.006	8,250	0.003-0.005	6,470	0.002-0.005	4,750	0.002-0.003	4,040	0.002-0.003	2,810	0.001-0.002
-	1/8	13,750	0.005-0.006	7,790	0.003-0.005	6,110	0.003-0.005	4,490	0.003-0.004	3,820	0.003-0.004	2,660	0.002-0.003
4	-	10,920	0.005-0.007	6,180	0.004-0.006	4,850	0.003-0.006	3,560	0.003-0.004	3,030	0.003-0.004	2,110	0.002-0.003
-	3/16	9,170	0.006-0.008	5,190	0.005-0.007	4,070	0.004-0.008	2,990	0.004-0.005	2,550	0.004-0.005	1,770	0.002-0.003
6	-	7,270	0.008-0.010	4,120	0.006-0.008	3,230	0.005-0.009	2,380	0.005-0.006	2,020	0.005-0.006	1,410	0.002-0.004
-	1/4	6,870	0.010-0.012	3,890	0.007-0.009	3,050	0.005-0.010	2,240	0.006-0.007	1,910	0.006-0.007	1,330	0.002-0.004
8	-	5,460	0.012-0.014	3,090	0.008-0.010	2,420	0.006-0.011	1,780	0.006-0.008	1,520	0.006-0.008	1,050	0.003-0.005
-	3/8	4,580	0.013-0.015	2,590	0.009-0.011	2,040	0.007-0.011	1,490	0.007-0.009	1,270	0.007-0.009	880	0.003-0.005
10	-	4,360	0.015-0.017	2,470	0.011-0.013	1,940	0.008-0.012	1,420	0.008-0.010	1,210	0.008-0.010	840	0.004-0.006
-	7/16	3,930	0.016-0.018	2,220	0.012-0.014	1,740	0.008-0.012	1,280	0.008-0.011	1,090	0.009-0.011	760	0.004-0.006
12	-	3,640	0.018-0.020	2,060	0.013-0.015	1,620	0.008-0.012	1,190	0.009-0.012	1,010	0.009-0.012	700	0.005-0.007
-	1/2	3,440	0.019-0.021	1,950	0.014-0.016	1,530	0.009-0.013	1,120	0.010-0.013	950	0.010-0.013	660	0.005-0.007
14	-	3,120	0.021-0.023	1,770	0.016-0.018	1,390	0.009-0.014	1,020	0.011-0.014	860	0.011-0.014	600	0.006-0.008
-	5/8	2,750	0.022-0.026	1,560	0.018-0.020	1,220	0.010-0.014	900	0.012-0.016	760	0.013-0.016	530	0.006-0.008
16	–	2,750	0.022-0.026	1,560	0.018-0.020	1,220	0.010-0.014	900	0.012-0.016	760	0.013-0.016	530	0.006-0.008
18	-	2,420	0.026-0.030	1,370	0.020-0.022	1,080	0.011-0.015	790	0.014-0.018	670	0.015-0.018	470	0.007 -0.009
-	3/4	2,290	0.027-0.031	1,300	0.021-0.023	1,020	0.012-0.015	750	0.015-0.019	640	0.016-0.019	440	0.008-0.010
20	-	2,180	0.028-0.032	1,240	0.022-0.024	970	0.012-0.016	710	0.016-0.020	610	0.016-0.020	420	0.008-0.011

List 215, 220D, 200 & 233*

General Drilling Operations

Work Material		Mild Steels, Carbon Steels		Alloy Tool Steels, Tool Steels		Cast Iron		Aluminum	
Hardness				Up to 30 HRC					
Drilling Speed		280-320 SFM		250-270 SFM		250-350 SFM		550-650 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
1	-	25,000	0.0010 - 0.0012	25,000	0.0003 - 0.0005	25,000	0.0007 - 0.0009	25,000	0.0006 - 0.0008
-	1/16	18,300	0.0016 - 0.0018	15,900	0.0004 - 0.0006	18,300	0.0011 - 0.0013	25,000	0.0010 - 0.0012
2	-	14,600	0.0020 - 0.0022	12,600	0.0006 - 0.0008	14,600	0.0014 - 0.0016	25,000	0.0013 - 0.0015
-	3/32	12,200	0.0024 - 0.0026	10,600	0.0007 - 0.0009	12,200	0.0017 - 0.0019	24,400	0.0015 - 0.0017
3	-	9,700	0.0027 - 0.0029	8,400	0.0012 - 0.0014	9,700	0.0021 - 0.0023	19,400	0.0020 - 0.0022
-	1/8	9,200	0.0028 - 0.0030	7,950	0.0012 - 0.0015	9,200	0.0022 - 0.0024	18,300	0.0022 - 0.0024
4	-	7,300	0.0030 - 0.0032	6,300	0.0013 - 0.0015	7,300	0.0023 - 0.0025	14,500	0.0029 - 0.0031
-	3/16	6,100	0.0035 - 0.0037	5,300	0.0015 - 0.0017	6,100	0.0027 - 0.0029	12,200	0.0034 - 0.0036
6	-	4,850	0.0040 - 0.0042	4,200	0.0020 - 0.0022	4,850	0.0037 - 0.0039	9,700	0.0045 - 0.0047
-	1/4	4,600	0.0042 - 0.0044	3,950	0.0021 - 0.0023	4,600	0.0039 - 0.0041	9,150	0.0047 - 0.0049
8	-	3,650	0.0048 - 0.0050	3,150	0.0024 - 0.0026	3,650	0.0044 - 0.0046	7,250	0.0054 - 0.0056
-	3/8	3,050	0.0065 - 0.0067	2,650	0.0033 - 0.0035	3,050	0.0047 - 0.0049	6,100	0.0066 - 0.0068
10	-	2,900	0.0067 - 0.0069	2,500	0.0033 - 0.0036	2,900	0.0048 - 0.0050	5,800	0.0068 - 0.0070
-	7/16	2,600	0.0068 - 0.0070	2,250	0.0034 - 0.0036	2,600	0.0049 - 0.0051	5,200	0.0072 - 0.0074
12	-	2,400	0.0074 - 0.0076	2,100	0.0034 - 0.0036	2,400	0.0054 - 0.0056	4,800	0.0078 - 0.0080
-	1/2	2,250	0.0078 - 0.0080	1,950	0.0035 - 0.0036	2,250	0.0057 - 0.0059	4,550	0.0082 - 0.0084

General Drilling Operations

Work Material		Titanium Alloys (Annealed)		Inconel, Titanium Alloys (Solution Treated and Aged)		Hardened Steels, Prehardened Steels			
Hardness						30-38 HRC		38-45 HRC	
Drilling Speed		120-140 SFM		50-70 SFM		210-230 SFM		160-180 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
1	-	12,600	0.0003 - 0.0005	5,800	0.0002 - 0.0004	20,850	0.0002 - 0.0004	16,500	0.0002 - 0.0004
-	1/16	8,000	0.0004 - 0.0006	3,700	0.0003 - 0.0005	13,150	0.0004 - 0.0006	10,400	0.0004 - 0.0006
2	-	6,300	0.0006 - 0.0008	2,900	0.0004 - 0.0006	10,400	0.0005 - 0.0007	8,250	0.0005 - 0.0007
-	3/32	5,300	0.0007 - 0.0009	2,400	0.0005 - 0.0007	8,750	0.0007 - 0.0009	6,950	0.0007 - 0.0009
3	-	4,200	0.0010 - 0.0012	1,900	0.0008 - 0.0010	6,950	0.0011 - 0.0013	5,500	0.0011 - 0.0013
-	1/8	4,000	0.0011 - 0.0012	1,850	0.0008 - 0.0010	6,600	0.0012 - 0.0014	5,200	0.0012 - 0.0014
4	-	3,150	0.0011 - 0.0013	1,450	0.0009 - 0.0010	5,200	0.0013 - 0.0015	4,100	0.0013 - 0.0015
-	3/16	2,650	0.0013 - 0.0015	1,200	0.0010 - 0.0012	4,400	0.0015 - 0.0017	3,450	0.0015 - 0.0017
6	-	2,100	0.0015 - 0.0017	950	0.0013 - 0.0015	3,500	0.0023 - 0.0025	2,750	0.0023 - 0.0025
-	1/4	2,000	0.0016 - 0.0018	900	0.0014 - 0.0015	3,300	0.0024 - 0.0026	2,600	0.0024 - 0.0026
8	-	1,550	0.0018 - 0.0020	730	0.0015 - 0.0017	2,600	0.0028 - 0.0030	2,050	0.0028 - 0.0030
-	3/8	1,300	0.0023 - 0.0025	600	0.0018 - 0.0020	2,200	0.0039 - 0.0041	1,700	0.0039 - 0.0041
10	-	1,250	0.0024 - 0.0026	580	0.0019 - 0.0021	2,130	0.0040 - 0.0042	1,650	0.0040 - 0.0042
-	7/16	1,140	0.0025 - 0.0026	520	0.0019 - 0.0021	1,920	0.0041 - 0.0043	1,450	0.0041 - 0.0043
12	-	1,050	0.0025 - 0.0027	490	0.0020 - 0.0022	1,780	0.0041 - 0.0043	1,350	0.0041 - 0.0043
-	1/2	990	0.0026 - 0.0027	460	0.0020 - 0.0022	1,680	0.0042 - 0.0043	1,300	0.0042 - 0.0043

*When using our List 233 three flute drills, we recommend the same RPM but feed rates should be increased by 25-35%.

CONTINUED

List 215, 220D, 200 & 233* (Continued)

Aerospace Operations

Work Material		Graphite Composite		Epoxy Fiber		Acrylic Plastics		Graphite Composite Titanium Stack	
Drilling Speed		200-220 SFM		200-220 SFM		150-170 SFM		12-20 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
3	–	6,800	0.0017-0.0022	6,800	0.0017-0.0022	5,200	0.0017-0.0022	520	0.0008-0.0013
–	1/8	6,400	0.0015-0.0025	6,400	0.0015-0.0025	4,900	0.0015-0.0025	490	0.0010-0.0015
4	–	5,100	0.0020-0.0030	5,100	0.0020-0.0030	3,900	0.0020-0.0030	390	0.0010-0.0020
–	3/16	4,250	0.0025-0.0035	4,250	0.0025-0.0035	3,250	0.0025-0.0035	325	0.0015-0.0025
6	–	3,400	0.0035-0.0045	3,400	0.0035-0.0045	2,580	0.0035-0.0045	260	0.0015-0.0025
–	1/4	3,200	0.0035-0.0045	3,200	0.0035-0.0045	2,450	0.0035-0.0045	245	0.0020 -0.0030
8	–	2,550	0.0045-0.0055	2,550	0.0045-0.0055	1,950	0.0045-0.0055	195	0.0025-0.0035
–	3/8	2,140	0.0055-0.0065	2,140	0.0055-0.0065	1,630	0.0055-0.0065	165	0.0030-0.0040
10	–	2,030	0.0055-0.0065	2,030	0.0055-0.0065	1,550	0.0055-0.0065	155	0.0035-0.0045
–	7/16	1,830	0.0060-0.0070	1,830	0.0060-0.0070	1,400	0.0060-0.0070	140	0.0035-0.0045
12	–	1,700	0.0065-0.0075	1,700	0.0065-0.0075	1,280	0.0065-0.0075	130	0.0040-0.0050
–	1/2	1,600	0.0065-0.0075	1,600	0.0065-0.0075	1,200	0.0065-0.0075	120	0.0040-0.0050

The chart above is for materials typically used in aircraft structures. Speeds may be less than optimal because of limitations in the portable machine tools utilized.
*When using our List 233 three flute drills we recommend the same RPM but feed rates should be increased by 25-35%.

Hole Depth Diameters	Reduce Spindle Speed	Reduce Feed Rate
3 x Dia.	10%	10%
4 x Dia.	20%	10%
5 x Dia.	30%	20%
6 x Dia.	35%	20%
8 x Dia.	40%	20%

When drilling deep holes, the recommended speeds and feeds should be reduced proportionately based on the hole depth. To the left are guidelines for reducing the speeds and feeds.

List 300D

General Drilling Operations

Work Material		Mild Steels, Carbon Steels		Alloy Tool Steels, Tool Steels		Cast Iron		Aluminum	
Hardness				Up to 30 HRC					
Drilling Speed		200-230 SFM		160-190 SFM		250-350 SFM		370-470 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
1	-	20,850	0.0010-0.0014	16,950	0.0010-0.0014	25,000	0.0007-0.0012	25,000	0.0008-0.0013
-	1/16	13,150	0.0015-0.0021	10,700	0.0015-0.0021	18,340	0.0012-0.0017	25,000	0.0012-0.0018
2	-	10,400	0.0022-0.0028	8,500	0.0022-0.0028	14,550	0.0017-0.0023	20,350	0.0017-0.0022
-	3/32	8,750	0.0026-0.0033	7,150	0.0026-0.0033	12,220	0.0022-0.0028	17,100	0.0023-0.0027
3	-	6,950	0.0033-0.0040	5,650	0.0032-0.0040	9,700	0.0032-0.0038	13,550	0.0027-0.0033
-	1/8	6,550	0.0034-0.0042	5,350	0.0033-0.0042	9,170	0.0035-0.0042	12,800	0.0028-0.0036
4	-	5,200	0.0040-0.0050	4,250	0.0040-0.0050	7,280	0.0044-0.0052	10,200	0.0034-0.0044
-	3/16	4,400	0.0048-0.0058	3,550	0.0045-0.0055	6,110	0.0056-0.0064	8,550	0.0040-0.0050
6	-	3,450	0.0060-0.0070	2,830	0.0057-0.0067	4,850	0.0070-0.0080	6,800	0.0051-0.0061
-	1/4	3,300	0.0062-0.0072	2,670	0.0060-0.0070	4,580	0.0070-0.0080	6,400	0.0055-0.0065
8	-	2,600	0.0076-0.0086	2,120	0.0070-0.0080	3,640	0.0080-0.0090	5,100	0.0065-0.0075
-	3/8	2,200	0.0090-0.0100	1,780	0.0082-0.0092	3,060	0.0100-0.0110	4,250	0.0075-0.0085
10	-	2,050	0.0095-0.0105	1,690	0.0087-0.0097	2,910	0.0110-0.0120	4,050	0.0080-0.0090
-	7/16	1,850	0.0105-0.0115	1,520	0.0090-0.0100	2,620	0.0120-0.0130	3,650	0.0090-0.0100
12	-	1,700	0.0115-0.0125	1,400	0.0105-0.0115	2,430	0.0130-0.0140	3,350	0.0095-0.0105
-	1/2	1,600	0.0120-0.0130	1,320	0.0108-0.0118	2,290	0.0133-0.0143	3,150	0.0100-0.0112

General Drilling Operations

Work Material		Titanium Alloys (Annealed)		Inconel, Titanium Alloys		Hardened Steels, Prehardened Steels			
Hardness						30-38 HRC		38-45 HRC	
Drilling Speed		75-90 SFM		45-50 SFM		135-155 SFM		100-120 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
1	-	7,950	0.0008-0.0013	4,650	0.0008-0.0013	14,050	0.0010-0.0014	10,650	0.0008-0.0013
-	1/16	5,000	0.0012-0.0018	2,950	0.0012-0.0018	8,850	0.0015-0.0021	6,700	0.0012-0.0018
2	-	3,950	0.0017-0.0022	2,300	0.0017-0.0022	7,000	0.0022-0.0028	5,300	0.0017-0.0022
-	3/32	3,350	0.0023-0.0027	1,950	0.0023-0.0027	5,900	0.0026-0.0033	4,500	0.0020-0.0028
3	-	2,650	0.0027-0.0033	1,550	0.0027-0.0033	4,700	0.0032-0.0040	3,550	0.0025-0.0033
-	1/8	2,500	0.0028-0.0036	1,450	0.0028-0.0036	4,450	0.0033-0.0042	3,350	0.0025-0.0035
4	-	1,950	0.0031-0.0041	1,160	0.0032-0.0040	3,500	0.0040-0.0050	2,650	0.0033-0.0043
-	3/16	1,650	0.0037-0.0047	970	0.0036-0.0046	2,950	0.0045-0.0055	2,250	0.0040-0.0050
6	-	1,300	0.0048-0.0058	770	0.0048-0.0058	2,350	0.0057-0.0067	1,750	0.0048-0.0058
-	1/4	1,250	0.0049-0.0059	730	0.0049-0.0059	2,200	0.0060-0.0070	1,650	0.0050-0.0060
8	-	1,000	0.0058-0.0068	580	0.0058-0.0068	1,750	0.0070-0.0080	1,300	0.0060-0.0070
-	3/8	830	0.0068-0.0078	480	0.0068-0.0078	1,450	0.0082-0.0092	1,100	0.0070-0.0080
10	-	790	0.0073-0.0083	460	0.0073-0.0083	1,400	0.0087-0.0097	1,050	0.0073-0.0083
-	7/16	710	0.0080-0.0090	410	0.0080-0.0090	1,250	0.0090-0.0100	950	0.0080-0.0090
12	-	660	0.0087-0.0097	380	0.0087-0.0097	1,150	0.0105-0.0115	880	0.0088-0.0098
-	1/2	620	0.0090-0.0100	360	0.0090-0.0100	1,100	0.0108-0.0118	830	0.0093-0.0103

List 1900 - VPH GDS: Stub
List 1950 - VPH GDR: Jobbers

General Drilling Operations

Work Material		Low Carbon Steels 1010, 1018		Carbon Steels 1045, 1050		Alloy Steels 4140, 4330		Tool Steels D2, H13		Stainless Steels 400SS, 17-4PH		Cast Iron	
Drilling Speed		125-160 SFM		80-120 SFM		80-100 SFM		30-50 SFM		40-60 SFM		130-200 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
0.5	-	25,000	0.001-0.002	19,410	0.001-0.002	17,470	0.001-0.002	7,760	0.001-0.002	9,700	0.001	25,000	0.001-0.002
-	3/64	11,610	0.001-0.003	8,150	0.002-0.003	7,330	0.002-0.003	3,260	0.002-0.003	4,070	0.001-0.002	13,450	0.002-0.003
2	-	6,910	0.002-0.004	4,850	0.002-0.004	4,370	0.002-0.004	1,940	0.002-0.004	2,430	0.001-0.002	8,000	0.003-0.004
-	3/32	5,810	0.003-0.005	4,070	0.003-0.005	3,670	0.003-0.005	1,630	0.003-0.005	2,040	0.001-0.003	6,720	0.003-0.005
3	-	4,610	0.003-0.005	3,230	0.003-0.005	2,910	0.003-0.005	1,290	0.003-0.005	1,620	0.001-0.003	5,340	0.004-0.006
-	1/8	4,350	0.003-0.005	3,060	0.003-0.005	2,750	0.003-0.005	1,220	0.003-0.005	1,530	0.001-0.003	5,040	0.004-0.006
4	-	3,460	0.004-0.006	2,430	0.004-0.006	2,180	0.004-0.006	970	0.004-0.006	1,210	0.002-0.004	4,000	0.005-0.007
-	3/16	2,900	0.005-0.007	2,040	0.005-0.007	1,830	0.005-0.007	810	0.005-0.007	1,020	0.002-0.005	3,360	0.006-0.008
6	-	2,300	0.005-0.007	1,620	0.005-0.007	1,460	0.005-0.007	650	0.005-0.007	810	0.002-0.006	2,670	0.007-0.010
-	1/4	2,180	0.005-0.008	1,530	0.005-0.008	1,380	0.005-0.008	610	0.005-0.008	760	0.002-0.006	2,520	0.007-0.010
8	-	1,730	0.006-0.009	1,210	0.006-0.009	1,090	0.006-0.009	490	0.006-0.009	610	0.003-0.008	2,000	0.008-0.012
-	3/8	1,450	0.008-0.011	1,020	0.008-0.011	920	0.008-0.011	410	0.008-0.011	510	0.004-0.009	1,680	0.010-0.013
10	-	1,380	0.008-0.011	970	0.008-0.011	870	0.008-0.011	390	0.008-0.011	490	0.004-0.010	1,600	0.010-0.014
-	7/16	1,240	0.009-0.012	870	0.009-0.012	790	0.009-0.012	350	0.009-0.012	440	0.004-0.011	1,440	0.011-0.016
12	-	1,150	0.009-0.013	810	0.009-0.013	730	0.009-0.013	320	0.009-0.013	400	0.005-0.012	1,330	0.012-0.017
-	1/2	1,090	0.010-0.014	760	0.010-0.014	690	0.010-0.014	310	0.010-0.014	380	0.005-0.013	1,260	0.012-0.017
14	-	990	0.011-0.014	690	0.011-0.014	620	0.011-0.014	280	0.011-0.014	350	0.005-0.014	1,140	0.014-0.019
-	5/8	870	0.012-0.016	610	0.012-0.016	550	0.012-0.016	240	0.012-0.016	310	0.006-0.016	1,010	0.016-0.021
16	–	870	0.012-0.016	610	0.012-0.016	550	0.012-0.016	240	0.012-0.016	310	0.006-0.016	1,010	0.016-0.021
18	-	770	0.014-0.018	540	0.014-0.018	490	0.014-0.018	220	0.014-0.018	270	0.007-0.018	890	0.018-0.025
-	3/4	730	0.015-0.019	510	0.015-0.019	460	0.015-0.019	200	0.015-0.019	250	0.007-0.019	840	0.019-0.026
20	-	690	0.016-0.020	490	0.016-0.020	440	0.016-0.020	190	0.016-0.020	240	0.008-0.020	800	0.020-0.027

1. The indicated speeds and feeds are when water soluble oil is used.
2. Suitable cutting fluid is water-emulsifiable, high density oil (less than 20 times dilution).
3. When using non-water soluble oil or water-emulsifiable oil (over 20 times dilution), reduce drilling speed by 20%.
4. Pecking is necessary when drilling depth of the hole exceeds 3 times drill diameter for lathe/horizontal machines.

D: Drill Diameter

Drilling Depth	≤4D	≤5D	≤6D
Coefficient for reducing RPM	x0.9	x0.8	x0.75

CONTINUED

Work Material		High Heat Material						Hardened Steels					
		Ti Alloy Ti-6Al-4V		Fe Base Material Incoloy 901, A286		Ni & Co Base Material Inconel718, Waspaloy		33-43 HRC		43-48 HRC		48-53 HRC	
Drilling Speed		20-26 SFM		20-26 SFM		20-26 SFM		40-60 SFM		20-32 SFM		15-25 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
0.5	-	4,460	0.0005-0.0008	4,460	0.0005-0.0008	3,880	0.0005-0.0008	9,700	0.001	5,040	0.001	3,880	0.001
-	3/64	1,870	0.0006-0.0010	1,870	0.0006-0.0010	1,630	0.0006-0.0010	4,070	0.001-0.002	2,120	0.001	1,630	0.001
2	-	1,120	0.0008-0.0012	1,120	0.0008-0.0012	970	0.0008-0.0012	2,430	0.001-0.002	1,250	0.001-0.002	970	0.001-0.002
-	3/32	940	0.0010-0.0014	940	0.0010-0.0014	810	0.0010-0.0014	2,040	0.001-0.003	1,060	0.001-0.002	810	0.001-0.002
3	-	740	0.0012-0.0018	740	0.0012-0.0018	650	0.0012-0.0018	1,620	0.001-0.003	850	0.001-0.002	650	0.001-0.002
-	1/8	700	0.0013-0.0019	700	0.0013-0.0019	610	0.0013-0.0019	1,530	0.001-0.003	800	0.001-0.002	610	0.001-0.002
4	-	560	0.0016-0.0024	560	0.0016-0.0024	490	0.0016-0.0024	1,210	0.002-0.004	640	0.002-0.003	490	0.002-0.003
-	3/16	470	0.0019-0.0028	470	0.0019-0.0028	410	0.0019-0.0028	1,020	0.002-0.005	540	0.002-0.004	410	0.002-0.004
6	-	370	0.0024-0.0035	370	0.0024-0.0035	320	0.0024-0.0035	810	0.002-0.006	430	0.002-0.005	320	0.002-0.005
-	1/4	350	0.0026-0.0037	350	0.0026-0.0037	310	0.0026-0.0037	760	0.002-0.006	400	0.002-0.005	310	0.002-0.005
8	-	280	0.0031-0.0047	280	0.0031-0.0047	240	0.0031-0.0047	610	0.003-0.008	320	0.003-0.006	240	0.003-0.006
-	3/8	230	0.0037-0.0056	230	0.0037-0.0056	200	0.0037-0.0056	510	0.004-0.009	260	0.004-0.008	200	0.004-0.008
10	-	220	0.0039-0.0059	220	0.0039-0.0059	190	0.0039-0.0059	490	0.004-0.010	250	0.004-0.008	190	0.004-0.008
-	7/16	200	0.0043-0.0066	200	0.0043-0.0066	170	0.0043-0.0066	440	0.004-0.011	230	0.004-0.009	170	0.004-0.009
12	-	190	0.0047-0.0071	190	0.0047-0.0071	160	0.0047-0.0071	400	0.005-0.012	210	0.005-0.009	160	0.005-0.009
-	1/2	180	0.0050-0.0075	180	0.0050-0.0075	150	0.0050-0.0075	380	0.005-0.013	200	0.005-0.010	150	0.005-0.010
14	-	160	0.0055-0.0083	160	0.0055-0.0083	140	0.0055-0.0083	350	0.005-0.014	180	0.005-0.011	140	0.005-0.011
-	5/8	140	0.0062-0.0093	140	0.0062-0.0093	120	0.0062-0.0093	310	0.006-0.016	160	0.006-0.012	120	0.006-0.012
16	–	140	0.0062-0.0093	140	0.0062-0.0093	120	0.0062-0.0093	310	0.006-0.016	160	0.006-0.012	120	0.006-0.012
18	-	120	0.0071-0.0106	120	0.0071-0.0106	110	0.0071-0.0106	270	0.007-0.018	140	0.007-0.014	110	0.007-0.014
-	3/4	115	0.0075-0.0112	115	0.0075-0.0112	105	0.0075-0.0112	250	0.007-0.019	130	0.007-0.015	105	0.007-0.015
20	-	110	0.0079-0.0118	110	0.0079-0.0118	100	0.0079-0.0118	240	0.008-0.020	125	0.008-0.016	100	0.008-0.016

List 2000 - VP® GDR

General Drilling Operations

Work Material		Low Carbon Steels 1010, 1018		Carbon Steels 1045, 1050		Alloy Steels 4140, 4330		Tool Steels D2, H13		Cast Iron	
Drilling Speed		125-160 SFM		80-120 SFM		80-100 SFM		30-50 SFM		130-200 SFM	
Drill Dia. mm	Drill Dia. Inch	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
2	-	6,900	0.002-0.004	4,840	0.002-0.004	4,360	0.002-0.004	3300	0.003-0.004	8,000	0.003-0.004
3	-	4,600	0.004-0.005	3,230	0.004-0.005	2,900	0.004-0.005	2200	0.004-0.005	5,330	0.004-0.006
-	1/8	4,350	0.004-0.005	3,050	0.004-0.005	2,740	0.004-0.005	2080	0.004-0.005	5,030	0.004-0.006
4	-	3,450	0.004-0.006	2,420	0.004-0.006	2,180	0.004-0.006	1650	0.004-0.006	4,000	0.005-0.007
-	3/16	2,900	0.005-0.007	2,030	0.005-0.007	1,830	0.005-0.007	1390	0.005-0.007	3,360	0.006-0.008
6	-	2,300	0.005-0.007	1,610	0.005-0.007	1,450	0.005-0.007	1100	0.006-0.008	2,660	0.007-0.010
-	1/4	2,170	0.005-0.008	1,520	0.005-0.008	1,370	0.005-0.008	1040	0.006-0.008	2,520	0.007-0.010
8	-	1,700	0.006-0.009	1,210	0.006-0.009	1,090	0.006-0.009	820	0.007-0.010	2,000	0.008-0.012
-	3/8	1,450	0.007-0.011	1,010	0.007-0.011	910	0.007-0.011	690	0.008-0.011	1,680	0.009-0.013
10	-	1,380	0.008-0.011	960	0.008-0.011	870	0.008-0.011	660	0.008-0.011	1,600	0.010-0.014
-	7/16	1,240	0.009-0.012	870	0.009-0.012	780	0.009-0.012	590	0.009-0.012	1,440	0.011-0.015
12	-	1,150	0.009-0.013	800	0.009-0.013	720	0.009-0.013	550	0.009-0.013	1,330	0.012-0.017
-	1/2	1,080	0.010-0.014	760	0.010-0.014	680	0.010-0.014	520	0.010-0.014	1,260	0.012-0.017
14	-	980	0.011-0.015	690	0.011-0.015	620	0.011-0.015	470	0.010-0.015	1,140	0.013-0.017
-	5/8	870	0.012-0.016	610	0.012-0.016	550	0.012-0.016	420	0.011-0.017	1,010	0.013-0.018
16	-	860	0.012-0.017	600	0.012-0.017	540	0.012-0.017	410	0.011-0.017	1,000	0.013-0.018
18	-	760	0.013-0.019	540	0.013-0.019	480	0.013-0.019	370	0.013-0.018	890	0.014-0.020
-	3/4	720	0.013-0.020	510	0.013-0.020	450	0.013-0.020	350	0.013-0.019	840	0.015-0.021
20	-	690	0.014-0.020	480	0.014-0.020	430	0.014-0.020	330	0.014-0.020	800	0.016-0.022
22	-	620	0.016-0.022	440	0.016-0.022	400	0.016-0.022	300	0.015-0.022	730	0.017-0.023
24	-	570	0.016-0.024	400	0.016-0.024	370	0.016-0.024	270	0.016-0.024	660	0.018-0.026
26	-	530	0.017-0.026	370	0.017-0.026	340	0.017-0.026	250	0.017-0.026	610	0.019-0.027
28	-	490	0.018-0.028	340	0.018-0.028	320	0.018-0.028	240	0.019-0.027	570	0.020-0.029
30	-	460	0.019-0.030	320	0.019-0.030	300	0.019-0.030	220	0.020-0.029	530	0.021-0.031
32	-	430	0.020-0.031	300	0.020-0.031	280	0.020-0.031	210	0.021-0.031	500	0.023-0.033

1. The indicated speeds and feeds are when water soluble oil is used.
2. With the exception of using milling chucks, pay careful attention to ensure that drill is rigidly clamped and keep deflection at a minimum.
3. In case of drilling depth: >4D, reduce drilling speed as below.
4. When using non-water soluble oil or water-emulsifiable oil (over 10 times dilution), reduce drilling speed by 20%.
5. Step process should be used when drilling depth of the hole exceeds 4 times drill diameter for vertical machines or 3 times drill diameter for horizontal lathe machines.

D: Drill Diameter

Drilling Depth	≤5D	≤6D
Coefficient for reducing RPM	x0.9	x0.7

CONTINUED

Work Material		Cast Aluminum		Titanium Alloy		Hardened Steel	
				30-35 HRC		35-45 HRC	
Drilling Speed		230-400 SFM		60-80 SFM		30 - 50 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR
2	-	15,270	0.005-0.007	3300	0.003-0.004	1,940	0.002-0.004
3	-	10,180	0.008-0.011	2200	0.004-0.005	1,290	0.004-0.005
-	1/8	9,620	0.008-0.012	2080	0.004-0.005	1,220	0.004-0.005
4	-	7,630	0.009-0.015	1650	0.004-0.006	970	0.004-0.006
-	3/16	6,410	0.011-0.016	1390	0.005-0.007	810	0.005-0.007
6	-	5,090	0.013-0.019	1100	0.006-0.008	640	0.005-0.007
-	1/4	4,810	0.013-0.019	1040	0.006-0.008	610	0.005-0.008
8	-	3,820	0.015-0.021	820	0.007-0.010	480	0.006-0.009
-	3/8	3,200	0.017-0.024	690	0.008-0.011	400	0.007-0.011
10	-	3,050	0.018-0.025	660	0.008-0.011	390	0.008-0.011
-	7/16	2,750	0.020-0.028	590	0.009-0.012	350	0.009-0.012
12	-	2,550	0.021-0.030	550	0.009-0.013	320	0.009-0.013
-	1/2	2,400	0.021-0.031	520	0.010-0.014	300	0.010-0.014
14	-	2,180	0.022-0.032	470	0.010-0.015	270	0.011-0.015
-	5/8	1,920	0.023-0.033	420	0.011-0.017	240	0.012-0.016
16	-	1,910	0.024-0.033	410	0.011-0.017	240	0.012-0.017
18	-	1,700	0.025-0.035	370	0.013-0.018	210	0.013-0.019
-	3/4	1,600	0.026-0.037	350	0.013-0.019	200	0.013-0.020
20	-	1,530	0.027-0.039	330	0.014-0.020	190	0.014-0.020
22	-	1,390	0.029-0.042	300	0.015-0.022	170	0.016-0.022
24	-	1,270	0.030-0.044	270	0.016-0.024	160	0.016-0.024
26	-	1,170	0.032-0.047	250	0.017-0.026	150	0.017-0.026
28	-	1,090	0.033-0.050	240	0.019-0.027	140	0.018-0.028
30	-	1,020	0.034-0.052	220	0.020-0.029	130	0.019-0.030
32	-	960	0.035-0.054	210	0.021-0.031	120	0.020-0.031

List 1700 - V-HO GDR: Coolant-Through

General Drilling Operations

Work Material		Low Carbon Steels 1010, 1018		Carbon Steels 1045, 1050		Tool Steels D2, H13		Tool Steels H13 (20 HRC)		Cast Iron	
Drilling Speed		120-160 SFM		100-140 SFM		83-120 SFM		50-90 SFM		150-200 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
Inch	Decimal	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
1/4	0.2500	2,140	0.005-0.007	1,830	0.005-0.007	1,530	0.005-0.007	1,070	0.005-0.007	2,680	0.008-0.010
9/32	0.2813	1,900	0.006-0.008	1,630	0.006-0.008	1,360	0.006-0.008	950	0.006-0.008	2,380	0.008-0.011
5/16	0.3125	1,710	0.007-0.009	1,470	0.007-0.009	1,220	0.007-0.009	860	0.007-0.009	2,140	0.008-0.012
11/32	0.3438	1,560	0.007-0.009	1,330	0.007-0.009	1,110	0.007-0.009	780	0.007-0.009	1,950	0.009-0.013
3/8	0.3750	1,430	0.008-0.011	1,220	0.008-0.011	1,020	0.008-0.011	710	0.008-0.011	1,780	0.010-0.014
13/32	0.4062	1,320	0.008-0.011	1,130	0.008-0.011	940	0.008-0.011	660	0.008-0.011	1,650	0.010-0.014
7/16	0.4375	1,220	0.009-0.012	1,050	0.009-0.012	870	0.009-0.012	610	0.009-0.012	1,530	0.011-0.015
15/32	0.4688	1,140	0.009-0.012	980	0.009-0.012	820	0.009-0.012	570	0.009-0.012	1,430	0.011-0.015
1/2	0.5000	1,070	0.010-0.013	920	0.010-0.013	760	0.010-0.013	540	0.010-0.013	1,340	0.013-0.017
9/16	0.5625	950	0.011-0.014	820	0.011-0.014	680	0.011-0.014	480	0.011-0.014	1,190	0.013-0.017
5/8	0.6250	860	0.012-0.015	730	0.012-0.015	610	0.012-0.015	430	0.011-0.014	1,070	0.014-0.018
11/16	0.6875	780	0.013-0.016	670	0.013-0.016	560	0.013-0.016	390	0.012-0.015	970	0.014-0.018
3/4	0.7500	710	0.014-0.017	610	0.014-0.017	510	0.014-0.017	360	0.013-0.016	890	0.015-0.019
13/16	0.8125	660	0.016-0.021	560	0.016-0.021	470	0.016-0.021	330	0.015-0.020	820	0.017-0.022
7/8	0.8750	610	0.017-0.022	520	0.017-0.022	440	0.017-0.022	310	0.017-0.022	760	0.018-0.023
15/16	0.9375	570	0.018-0.023	490	0.018-0.023	410	0.018-0.023	290	0.018-0.023	710	0.020-0.025
1	1.0000	540	0.019-0.024	460	0.019-0.024	380	0.019-0.024	270	0.019-0.024	670	0.021-0.026
1-1/8	1.1250	480	0.020-0.025	410	0.020-0.025	340	0.020-0.025	240	0.020-0.025	590	0.022-0.027
1-1/4	1.2500	430	0.021-0.026	370	0.021-0.026	310	0.021-0.026	210	0.020-0.025	540	0.023-0.028

1. Speeds and feeds are based on using soluble oil where applicable 1:5 to 1:10 concentration.
2. For deep holes (4 times the drill diameter or deeper) use the lower recommended feed rate as a starting point and increase as needed for the best result.
3. Recommended feeds and speeds are starting points only. Actual performance will be determined by specific material, the condition of equipment being used, and coolant.

CONTINUED

Work Material		Cast Aluminum		Titanium Alloy		Hardened Steel	
				30-35 HRC		35-45 HRC	
Drilling Speed		250-400 SFM		60-80 SFM		30 - 50 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
Inch	Decimal						
1/4	0.2500	4,970	0.013-0.019	1,070	0.005-0.007	640	0.003-0.004
9/32	0.2813	4,420	0.014-0.020	950	0.006-0.008	570	0.004-0.005
5/16	0.3125	3,970	0.015-0.021	860	0.007-0.009	520	0.004-0.005
11/32	0.3438	3,610	0.016-0.022	780	0.007-0.009	470	0.004-0.005
3/8	0.3750	3,310	0.017-0.025	710	0.008-0.011	430	0.005-0.007
13/32	0.4062	3,060	0.018-0.026	660	0.008-0.011	400	0.005-0.007
7/16	0.4375	2,840	0.019-0.027	610	0.009-0.012	370	0.005-0.007
15/32	0.4688	2,650	0.020-0.028	570	0.009-0.012	340	0.005-0.007
1/2	0.5000	2,480	0.021-0.030	540	0.010-0.013	320	0.006-0.008
9/16	0.5625	2,210	0.022-0.031	480	0.011-0.014	290	0.007-0.008
5/8	0.6250	1,990	0.023-0.032	430	0.011-0.014	260	0.007-0.008
11/16	0.6875	1,810	0.024-0.033	390	0.012-0.015	230	0.007-0.009
3/4	0.7500	1,660	0.025-0.034	360	0.013-0.016	220	0.008-0.01
13/16	0.8125	1,530	0.028-0.040	330	0.015-0.020	200	0.009-0.012
7/8	0.8750	1,420	0.030-0.042	310	0.017-0.022	200	0.009-0.012
15/16	0.9375	1,320	0.032-0.044	290	0.018-0.023	200	0.009-0.012
1	1.0000	1,240	0.033-0.045	270	0.019-0.024	200	0.009-0.012
1-1/8	1.1250	1,100	0.034-0.046	240	0.020-0.025	200	0.009-0.012
1-1/4	1.2500	990	0.035-0.047	210	0.020-0.025	200	0.009-0.012

List 1750 - HELIOS®:10D
List 1760 - HELIOS®:15D
List 1770 - HELIOS®:20D

General Drilling Operations

Work Material		Carbon Steels Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Tool Steels Die Steels D2, H13, P20, S7		Stainless Steels 300, 400, 17-4 PH	
Drilling Speed		65-80 SFM		60-75 SFM		40-55 SFM		20-45 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
2	-	3,510	0.001-0.002	3,270	0.001-0.002	2,300	0.001-0.002	1,570	0.001-0.002
-	3/32	2,950	0.001-0.002	2,750	0.001-0.002	1,930	0.001-0.002	1,320	0.001-0.002
3	-	2,340	0.001-0.003	2,180	0.001-0.003	1,530	0.001-0.003	1,050	0.001-0.003
-	1/8	2,210	0.001-0.003	2,060	0.001-0.003	1,450	0.001-0.003	990	0.001-0.003
4	-	1,750	0.002-0.004	1,630	0.002-0.004	1,150	0.002-0.004	790	0.002-0.004
-	3/16	1,470	0.002-0.005	1,370	0.002-0.005	970	0.002-0.005	660	0.002-0.005
5	-	1,400	0.002-0.005	1,310	0.002-0.005	920	0.002-0.005	630	0.002-0.005
-	7/32	1,260	0.002-0.005	1,180	0.002-0.005	830	0.002-0.005	570	0.002-0.005
6	-	1,170	0.002-0.006	1,090	0.002-0.006	770	0.002-0.006	520	0.002-0.006
-	1/4	1,100	0.003-0.006	1,030	0.003-0.006	720	0.003-0.006	500	0.003-0.006
8	-	880	0.003-0.008	820	0.003-0.008	580	0.003-0.008	400	0.003-0.007
-	3/8	740	0.004-0.009	690	0.004-0.009	480	0.004-0.009	330	0.004-0.009
10	-	700	0.004-0.010	650	0.004-0.010	460	0.004-0.010	315	0.004-0.009
-	7/16	630	0.004-0.011	590	0.004-0.011	410	0.004-0.011	280	0.004-0.010
12	-	580	0.005-0.012	550	0.005-0.012	380	0.005-0.012	260	0.005-0.011
-	1/2	550	0.005-0.012	520	0.005-0.012	360	0.005-0.012	250	0.005-0.011
14	-	500	0.005-0.014	470	0.005-0.014	330	0.005-0.014	225	0.005-0.012
-	9/16	490	0.006-0.014	460	0.006-0.014	320	0.006-0.014	220	0.006-0.012

For Stainless Steel and Aluminum Alloys, peck cycles may be necessary.

General Drilling Operations

Work Material		Ductile Cast Iron		Cast Iron		Aluminum Alloy, Cast Aluminum		Ti Alloy Ti-6Al-4V	
Drilling Speed		55-65 SFM		60-80 SFM		105-205 SFM		20-45 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
2	-	2,910	0.001-0.002	3,390	0.001-0.002	7,510	0.002-0.003	1,570	0.0005-0.0015
-	3/32	2,440	0.001-0.002	2,850	0.002-0.003	6,310	0.003-0.004	1,320	0.0005-0.0015
3	-	1,940	0.001-0.003	2,260	0.002-0.004	5,010	0.004-0.005	1,050	0.0005-0.0015
-	1/8	1,830	0.001-0.003	2,140	0.002-0.004	4,730	0.004-0.005	990	0.0005-0.0015
4	-	1,450	0.001-0.004	1,700	0.003-0.005	3,760	0.005-0.006	790	0.0010-0.0020
-	3/16	1,220	0.001-0.005	1,420	0.004-0.006	3,150	0.006-0.007	660	0.0010-0.0025
5	-	1,160	0.001-0.005	1,350	0.004-0.006	3,000	0.006-0.008	630	0.0010-0.0025
-	7/32	1,050	0.001-0.005	1,225	0.004-0.007	2,700	0.007-0.009	570	0.0010-0.0025
6	-	970	0.001-0.006	1,130	0.005-0.008	2,500	0.007-0.009	520	0.0010-0.0030
-	1/4	920	0.002-0.006	1,070	0.005-0.008	2,360	0.008-0.010	500	0.0015-0.0030
8	-	730	0.002-0.008	850	0.006-0.010	1,880	0.009-0.013	400	0.0015-0.0035
-	3/8	610	0.002-0.009	710	0.008-0.012	1,580	0.011-0.015	330	0.0020-0.0040
10	-	580	0.002-0.010	680	0.008-0.013	1,500	0.012-0.016	315	0.0020-0.0045
-	7/16	525	0.003-0.011	610	0.009-0.014	1,350	0.013-0.018	280	0.0020-0.0050
12	-	485	0.003-0.012	570	0.009-0.015	1,250	0.014-0.019	260	0.0025-0.0050
-	1/2	460	0.003-0.012	535	0.010-0.016	1,180	0.015-0.020	250	0.0025-0.0050
14	-	415	0.003-0.014	485	0.011-0.018	1,070	0.016-0.022	225	0.0025-0.0060
-	9/16	405	0.003-0.014	475	0.011-0.018	1,050	0.017-0.022	220	0.0030-0.0060

For Stainless Steel and Aluminum Alloys, peck cycles may be necessary.
For deep hold drilling procedure please refer to page: 310-311.

List 1800 - V-Select

General Drilling Operations

Work Material	Low Carbon Steels 1010, 1018		Carbon Steels		Alloy Steels 4140, 4340		Tool Steels D2, H13		Stainless Steel 15-5PH ,17-4PH		Cast Iron		Cast Aluminum	
Drilling Speed	72-132 SFM		52-99 SFM		40-82 SFM		26-52 SFM		45 - 75 SFM		72-131 SFM		164-328 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
2	4,950	0.002-0.004	3,660	0.002-0.004	2,960	0.002-0.004	1,900	0.002-0.004	2,910	0.002-0.004	4,920	0.003-0.004	12,000	0.005-0.007
3	3,300	0.004-0.005	2,800	0.004-0.005	2,400	0.004-0.005	1,320	0.004-0.005	1,940	0.004-0.005	3,850	0.004-0.006	10,000	0.008-0.011
4	2,470	0.004-0.006	2,100	0.004-0.006	1,800	0.004-0.006	950	0.004-0.006	1,460	0.004-0.006	2,900	0.005-0.007	7,500	0.009-0.015
5	1,980	0.005-0.007	1,600	0.005-0.007	1,400	0.005-0.007	750	0.005-0.007	1,160	0.005-0.007	2,260	0.006-0.009	6,300	0.011-0.016
6	1,650	0.005-0.007	1,320	0.005-0.007	1,180	0.005-0.007	630	0.005-0.007	970	0.005-0.007	1,900	0.007-0.010	5,000	0.013-0.019
8	1,240	0.006-0.009	1,000	0.006-0.009	900	0.006-0.009	480	0.006-0.009	730	0.006-0.009	1,400	0.008-0.012	4,000	0.015-0.021
10	990	0.008-0.011	800	0.008-0.011	710	0.008-0.011	380	0.008-0.011	580	0.008-0.011	1,120	0.010-0.014	3,150	0.018-0.025
12	820	0.009-0.013	670	0.009-0.013	600	0.009-0.013	320	0.009-0.013	490	0.009-0.013	950	0.012-0.017	2,650	0.021-0.030
13	760	0.010-0.014	620	0.010-0.014	550	0.010-0.014	300	0.010-0.014	450	0.010-0.014	880	0.012-0.017	2,450	0.022-0.031

List 1150 - NEXUS GDS: Stub
List 1650 - NEXUS GDR: Jobbers

General Drilling Operations

Work Material		Low Carbon Steels Mild Steels 1010, 1018		Medium Carbon Steels 1035, 1045		Alloy Steels 4140, 4130		Tool Steels D2, H13		Stainless Steels			
										Austenitic 304 (Sulfur < 0.02%)		Austenitic 304 (Sulfur > 0.02%) 303, 317	
Drilling Speed		130-195 SFM		80-150 SFM		60-125 SFM		40-80 SFM		40-50 SFM		41-50 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
1	-	15,750	0.001-0.002	11,160	0.001-0.002	8,970	0.001-0.002	5,820	0.001-0.002	4,360	0.0005-0.001	4,410	0.001-0.002
-	1/16	9,920	0.001-0.003	7,000	0.001-0.003	5,650	0.001-0.003	3,650	0.001-0.003	2,750	0.0005-0.001	2,780	0.001-0.002
2	-	7,880	0.002-0.004	5,580	0.002-0.004	4,480	0.002-0.004	2,910	0.002-0.004	2,180	0.001-0.002	2,200	0.002-0.003
-	3/32	6,620	0.003-0.004	4,680	0.003-0.004	3,760	0.003-0.004	2,440	0.003-0.004	1,830	0.001-0.002	1,850	0.002-0.003
3	-	5,250	0.004-0.005	3,720	0.004-0.005	2,990	0.004-0.005	1,940	0.004-0.005	1,450	0.001-0.003	1,470	0.003-0.004
-	1/8	4,960	0.004-0.005	3,500	0.004-0.005	2,820	0.004-0.005	1,830	0.004-0.005	1,370	0.001-0.003	1,390	0.003-0.004
4	-	3,940	0.004-0.006	2,790	0.004-0.006	2,240	0.004-0.006	1,455	0.004-0.006	1,090	0.002-0.003	1,100	0.003-0.005
-	3/16	3,310	0.005-0.007	2,340	0.005-0.007	1,880	0.005-0.007	1,220	0.005-0.007	915	0.002-0.004	925	0.004-0.006
6	-	2,630	0.005-0.008	1,860	0.005-0.008	1,490	0.005-0.008	970	0.005-0.008	725	0.003-0.005	735	0.005-0.007
-	1/4	2,480	0.005-0.008	1,750	0.005-0.008	1,410	0.005-0.008	910	0.005-0.008	685	0.003-0.005	695	0.005-0.007
8	-	1,970	0.007-0.009	1,395	0.007-0.009	1,120	0.007-0.009	725	0.007-0.009	545	0.003-0.006	550	0.006-0.009
-	3/8	1,650	0.008-0.011	1,170	0.008-0.011	940	0.008-0.011	610	0.008-0.011	460	0.004-0.007	460	0.007-0.011
10	-	1,575	0.008-0.011	1,115	0.008-0.011	900	0.008-0.011	580	0.008-0.011	435	0.004-0.008	440	0.008-0.011
-	7/16	1,420	0.009-0.012	1,000	0.009-0.012	810	0.009-0.012	520	0.009-0.012	390	0.005-0.009	400	0.009-0.012
12	-	1,310	0.009-0.013	930	0.009-0.013	750	0.009-0.013	485	0.009-0.013	365	0.005-0.009	370	0.009-0.013
-	1/2	1,240	0.010-0.014	870	0.010-0.014	705	0.010-0.014	450	0.010-0.014	345	0.005-0.010	350	0.010-0.014

1. The indicated speeds and feeds are for drilling with water soluble coolant.
2. The most suitable cutting fluid is water-emulsifiable high density oil (less than 10 times dilution)
3. When drilling cast surface (ie.not ground surface), reduce drilling speed by 20%.
4. For drilling depth>3D, reduce drilling speed (using the table below).
5. Step feeding is required for drilling depth>4D.
6. When using non-water soluble coolant or water-emulsifiable (over 10 times dilution), reduce the drilling speed by 20%.

D: Drill Diameter

Drilling Depth	≤4D	≤5D	≤6D
Coefficient for reducing RPM	x0.9	x0.8	x0.75

CONTINUED



Work Material		Stainless Steels						Cast Iron		Aluminum Alloy 5052, 7075		Cast Aluminum		Copper Copper Alloy	
		Martensitic 420, 440		Ferritic 430, 405		15-5PH 17-4PH									
Drilling Speed		42-50 SFM		43-50 SFM		44-50 SFM		110-195 SFM		105-205 SFM		205-325 SFM		130-195 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch														
1	-	4,460	0.0005-0.001	4,510	0.0005-0.001	4,550	0.0005-0.001	14,780	0.001-0.002	15,000	0.001-0.002	25,000	0.001-0.002	15,750	0.0005-0.001
-	1/16	2,810	0.0005-0.001	2,840	0.0005-0.001	2,870	0.0005-0.001	9,310	0.002-0.003	9,460	0.001-0.003	16,180	0.001-0.003	9,920	0.001-0.002
2	-	2,230	0.001-0.002	2,250	0.001-0.002	2,280	0.001-0.002	7,390	0.003-0.004	7,510	0.002-0.005	12,840	0.002-0.005	7,870	0.001-0.002
-	3/32	1,870	0.001-0.002	1,900	0.001-0.002	1,915	0.001-0.002	6,210	0.003-0.004	6,310	0.002-0.006	10,790	0.002-0.006	6,600	0.002-0.003
3	-	1,490	0.002-0.003	1,500	0.002-0.003	1,520	0.002-0.003	4,930	0.004-0.006	5,010	0.003-0.007	8,560	0.003-0.007	5,250	0.002-0.004
-	1/8	1,405	0.002-0.003	1,420	0.002-0.003	1,435	0.002-0.003	4,660	0.004-0.006	4,730	0.003-0.007	8,100	0.003-0.007	4,960	0.002-0.004
4	-	1,115	0.002-0.003	1,130	0.002-0.003	1,140	0.002-0.003	3,700	0.006-0.008	3,760	0.003-0.009	6,420	0.003-0.009	3,940	0.003-0.004
-	3/16	935	0.002-0.004	950	0.003-0.004	960	0.003-0.004	3,100	0.006-0.009	3,150	0.004-0.011	5,400	0.004-0.011	3,310	0.004-0.005
6	-	740	0.002-0.005	750	0.004-0.005	760	0.004-0.005	2,460	0.008-0.010	2,500	0.005-0.014	4,280	0.005-0.014	2,620	0.005-0.006
-	1/4	700	0.002-0.005	710	0.004-0.005	720	0.004-0.005	2,330	0.008-0.010	2,360	0.005-0.015	4,050	0.005-0.015	2,480	0.005-0.006
8	-	560	0.003-0.006	565	0.005-0.006	570	0.005-0.006	1,850	0.008-0.012	1,880	0.006-0.018	3,210	0.006-0.018	1,970	0.006-0.008
-	3/8	470	0.003-0.007	475	0.006-0.007	480	0.006-0.007	1,550	0.009-0.013	1,580	0.007-0.021	2,700	0.007-0.021	1,650	0.007-0.009
10	-	445	0.004-0.008	450	0.006-0.008	455	0.006-0.008	1,480	0.010-0.014	1,500	0.008-0.022	2,570	0.008-0.022	1,570	0.008-0.010
-	7/16	400	0.004-0.009	405	0.007-0.009	410	0.007-0.009	1,330	0.010-0.015	1,350	0.009-0.024	2,310	0.009-0.024	1,420	0.009-0.011
12	-	370	0.005-0.009	375	0.007-0.009	380	0.007-0.009	1,230	0.011-0.015	1,250	0.009-0.026	2,140	0.009-0.026	1,310	0.009-0.012
-	1/2	350	0.005-0.010	355	0.008-0.010	360	0.008-0.010	1,160	0.011-0.015	1,180	0.010-0.027	2,020	0.010-0.027	1,240	0.010-0.013

Work Material		High Heat Material				Hardened Steels	
		Ti-Alloy		Inconel		~35 HRC	
Drilling Speed		15 - 25 SFM		10 - 20 SFM		40 - 50 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch						
1	-	1,940	0.00025-0.0005	1,460	0.00025-0.0005	4,360	0.0005-0.001
-	1/16	1,220	0.0005-0.001	920	0.0005-0.001	2,750	0.0005-0.001
2	-	970	0.0005-0.001	730	0.0005-0.001	2,180	0.001-0.002
-	3/32	810	0.001-0.002	610	0.001-0.002	1,830	0.001-0.002
3	-	650	0.001-0.002	490	0.001-0.002	1,450	0.001-0.003
-	1/8	610	0.001-0.002	460	0.001-0.002	1,370	0.001-0.003
4	-	490	0.0015-0.003	360	0.0015-0.003	1,090	0.002-0.003
-	3/16	410	0.002-0.004	310	0.002-0.004	915	0.002-0.004
6	-	320	0.0025-0.005	240	0.0025-0.005	725	0.003-0.005
-	1/4	310	0.0025-0.005	230	0.0025-0.005	685	0.003-0.005
8	-	240	0.003-0.006	180	0.003-0.006	545	0.003-0.006
-	3/8	200	0.0035-0.007	150	0.0035-0.007	460	0.004-0.007
10	-	190	0.004-0.008	150	0.004-0.008	435	0.004-0.008
-	7/16	170	0.0045-0.009	130	0.0045-0.009	390	0.005-0.009
12	-	160	0.0045-0.009	120	0.0045-0.009	365	0.005-0.009
-	1/2	150	0.005-0.010	110	0.005-0.010	345	0.005-0.010

List 1000 - EX-GOLD®: Stub
List 1500 - EX-GOLD®: Jobbers

General Drilling Operations

Work Material			Low Carbon Steels 1010, 1018		Meduim Carbon Steels 1035, 1045		Alloy Steels 4140, 4340		Tool Steels D2, H13		Stainless Steels			
											300SUS, 400SUS		15-5PH ,17-4PH	
Drilling Speed			105-130 SFM		70-100 SFM		65-80 SFM		25-40 SFM		40 - 60 SFM		20 - 26 SFM	
Drill Dia. mm	Drill Dia. Inch	Decimal	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
-	5/64	0.0781	5,750	0.002 - 0.004	4,160	0.002 - 0.004	3,550	0.002 - 0.004	1,590	0.002 - 0.004	2,445	0.001-0.002	1,080	0.0006-0.001
2	-	–	5,710	0.002-0.004	4,120	0.002-0.004	3,520	0.002-0.004	1,570	0.002-0.004	2,430	0.001-0.002	970	0.0008-0.0012
-	3/32	0.0938	4,790	0.003-0.004	3,460	0.003-0.004	2,960	0.003-0.004	1,320	0.003-0.004	2,040	0.001-0.003	810	0.0010-0.0014
3	-	–	3,800	0.004-0.005	2,750	0.004-0.005	2,350	0.004-0.005	1,050	0.004-0.005	1,620	0.001-0.003	650	0.0012-0.0018
-	1/8	0.1250	3,590	0.004-0.005	2,600	0.004-0.005	2,220	0.004-0.005	990	0.004-0.005	1,530	0.001-0.003	610	0.0013-0.0019
4	-	–	2,850	0.004-0.006	2,060	0.004-0.006	1,760	0.004-0.006	790	0.004-0.006	1,210	0.002-0.004	490	0.0016-0.0024
-	3/16	0.1875	2,390	0.005-0.007	1,730	0.005-0.007	1,480	0.005-0.007	660	0.005-0.007	1,020	0.002-0.005	410	0.0019-0.0028
6	-	–	1,900	0.005-0.007	1,370	0.005-0.007	1,170	0.005-0.007	530	0.005-0.007	810	0.002-0.006	320	0.0024-0.0035
-	1/4	0.2500	1,800	0.005-0.007	1,300	0.005-0.007	1,110	0.005-0.007	500	0.005-0.007	760	0.002-0.006	310	0.0026-0.0037
8	-	–	1,430	0.007-0.009	1,030	0.007-0.009	880	0.007-0.009	390	0.007-0.009	610	0.003-0.008	240	0.0031-0.0047
-	3/8	0.3750	1,200	0.008-0.011	870	0.008-0.011	740	0.008-0.011	330	0.008-0.011	510	0.004-0.009	200	0.0037-0.0056
10	-	–	1,140	0.008-0.011	820	0.008-0.011	700	0.008-0.011	320	0.008-0.011	490	0.004-0.010	190	0.0039-0.0059
-	7/16	0.4375	1,030	0.009-0.012	740	0.009-0.012	630	0.009-0.012	280	0.009-0.012	440	0.004-0.011	170	0.0043-0.0066
12	-	–	950	0.009-0.012	680	0.009-0.012	580	0.009-0.012	260	0.009-0.012	400	0.005-0.012	160	0.0047-0.0071
-	1/2	0.5000	900	0.010-0.013	650	0.010-0.013	550	0.010-0.013	250	0.010-0.013	380	0.005-0.013	150	0.0050-0.0075
14	-	–	810	0.011-0.014	590	0.011-0.014	500	0.011-0.014	230	0.011-0.014	350	0.005-0.014	140	0.0055-0.0083
-	5/8	0.6250	720	0.012-0.015	520	0.012-0.015	440	0.012-0.015	200	0.011-0.014	310	0.006-0.016	120	0.0062-0.0093
18	-	–	630	0.013-0.016	450	0.013-0.016	390	0.013-0.016	180	0.012-0.015	270	0.007-0.018	110	0.0071-0.0106
-	3/4	0.7500	600	0.014-0.017	430	0.014-0.017	370	0.014-0.017	170	0.013-0.016	250	0.007-0.019	105	0.0075-0.0112

General Drilling Operations

Work Material			Cast Iron		Cast Aluminum		High Heat Material				Hardened Steel	
							Ti Alloy Ti-6Al-4V		Ni & Co Base Material Inconel718, Waspaloy		33-43 HRC	
Drilling Speed			105 - 130 SFM		205 - 330 SFM		20 - 26 SFM		20 - 26 SFM		40 - 60 SFM	
Drill Dia. mm	Drill Dia. Inch	Decimal	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
-	5/64	0.0781	5,750	0.003 - 0.004	13,090	0.006 - 0.008	1,080	0.0006-0.001	1,080	0.0006-0.001	2,445	0.001-0.002
2	-	–	5,700	0.003-0.004	13,000	0.006-0.008	1,120	0.0008-0.0012	970	0.0008-0.0012	2,430	0.001-0.002
-	3/32	0.0938	4,790	0.003-0.004	10,900	0.007-0.009	940	0.0010-0.0014	810	0.0010-0.0014	2,040	0.001-0.003
3	-	–	3,800	0.004-0.006	8,650	0.008-0.011	740	0.0012-0.0018	650	0.0012-0.0018	1,620	0.001-0.003
-	1/8	0.1250	3,590	0.004-0.006	8,180	0.008-0.011	700	0.0013-0.0019	610	0.0013-0.0019	1,530	0.001-0.003
4	-	–	2,850	0.006-0.008	6,480	0.010-0.013	560	0.0016-0.0024	490	0.0016-0.0024	1,210	0.002-0.004
-	3/16	0.1875	2,390	0.006-0.009	5,450	0.011-0.016	470	0.0019-0.0028	410	0.0019-0.0028	1,020	0.002-0.005
6	-	–	1,900	0.007-0.010	4,320	0.013-0.018	370	0.0024-0.0035	320	0.0024-0.0035	810	0.002-0.006
-	1/4	0.2500	1,800	0.008-0.010	4,090	0.013-0.019	350	0.0026-0.0037	310	0.0026-0.0037	760	0.002-0.006
8	-	–	1,430	0.008-0.012	3,240	0.015-0.021	280	0.0031-0.0047	240	0.0031-0.0047	610	0.003-0.008
-	3/8	0.3750	1,200	0.010-0.014	2,730	0.017-0.025	230	0.0037-0.0056	200	0.0037-0.0056	510	0.004-0.009
10	-	–	1,140	0.010-0.014	2,600	0.018-0.025	220	0.0039-0.0059	190	0.0039-0.0059	490	0.004-0.010
-	7/16	0.4375	1,030	0.011-0.015	2,340	0.019-0.027	200	0.0043-0.0066	170	0.0043-0.0066	440	0.004-0.011
12	-	–	950	0.011-0.016	2,160	0.020-0.028	190	0.0047-0.0071	160	0.0047-0.0071	400	0.005-0.012
-	1/2	0.5000	900	0.012-0.017	2,040	0.021-0.030	180	0.0050-0.0075	150	0.0050-0.0075	380	0.005-0.013
14	-	–	820	0.012-0.017	1,850	0.022-0.031	160	0.0055-0.0083	140	0.0055-0.0083	350	0.005-0.014
-	5/8	0.6250	720	0.013-0.018	1,640	0.023-0.032	140	0.0062-0.0093	120	0.0062-0.0093	310	0.006-0.016
18	-	–	630	0.013-0.018	1,440	0.024-0.033	120	0.0071-0.0106	110	0.0071-0.0106	270	0.007-0.018
-	3/4	0.7500	600	0.014-0.019	1,360	0.025-0.034	115	0.0075-0.0112	105	0.0075-0.0112	250	0.007-0.019

1. Speeds and feeds are based on using soluble oil where applicable 1:5 to 1:10 concentration.
2. When other than an end mill collet is used, make sure the drill shank is firmly attached.
3. For deep holes (4 times the drill diameter or deeper) use the lower recommended feed rate as a starting point and increase as needed for the best result.
4. Recommended feeds and speeds are starting points only. Actual performance will be determined by specific material, the condition of equipment being used, and coolant.

List 1100 - EX-SUS-GOLD: Stub
List 1600 - EX-SUS-GOLD: Jobbers

General Drilling Operations

Work Material		Low Carbon Steels Mild Steels 1010, 1018		Stainless Steels								Aluminum 5052, 7075		Cast Aluminum		Copper Copper Alloy	
				Austenitic 304, 316		Martensitic 420, 440		Ferritic 430, 405		15-5PH 17-4PH							
Drilling Speed		100-130 SFM		40-60 SFM		50-65 SFM		50-65 SFM		25-40 SFM		105 - 205 SFM		205-325 SFM		80 - 160 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
1	-	11,150	0.001-0.002	4,800	0.001-0.002	5,550	0.001-0.002	5,550	0.0005-0.001	3,200	0.0005-0.001	15,000	0.001-0.002	25,000	0.001-0.002	11,630	0.0005-0.001
-	1/16	7,020	0.002-0.003	3,000	0.001-0.003	3,600	0.001-0.003	3,600	0.0005-0.001	2,000	0.0005-0.001	9,460	0.001-0.004	16,180	0.002-0.004	7,330	0.001-0.002
2	-	5,570	0.002-0.004	2,400	0.002-0.003	2,850	0.002-0.003	2,850	0.001-0.002	1,600	0.001-0.002	7,510	0.002-0.005	12,840	0.002-0.005	5,820	0.001-0.002
-	3/32	4,680	0.003-0.004	2,000	0.002-0.003	2,400	0.002-0.003	2,400	0.001-0.002	1,350	0.001-0.002	6,310	0.002-0.006	10,790	0.002-0.006	4,890	0.001-0.003
3	-	3,710	0.004-0.005	1,600	0.002-0.004	1,900	0.002-0.004	1,900	0.002-0.003	1,100	0.002-0.003	5,010	0.002-0.007	8,560	0.002-0.007	3,880	0.002-0.004
-	1/8	3,510	0.004-0.005	1,500	0.003-0.004	1,800	0.002-0.004	1,800	0.002-0.003	1,000	0.002-0.003	4,730	0.003-0.007	8,090	0.003-0.007	3,660	0.002-0.004
4	-	2,790	0.004-0.006	1,200	0.003-0.005	1,450	0.003-0.005	1,450	0.002-0.003	800	0.002-0.003	3,760	0.003-0.009	6,420	0.003-0.009	2,910	0.003-0.004
-	3/16	2,340	0.005-0.007	1,000	0.004-0.006	1,200	0.004-0.006	1,200	0.003-0.004	680	0.003-0.004	3,150	0.004-0.011	5,390	0.004-0.011	2,440	0.004-0.005
6	-	1,860	0.005-0.008	800	0.005-0.007	950	0.006-0.007	950	0.004-0.005	550	0.004-0.005	2,500	0.005-0.014	4,280	0.005-0.014	1,940	0.005-0.006
-	1/4	1,750	0.006-0.008	750	0.005-0.007	900	0.006-0.007	900	0.004-0.005	510	0.004-0.005	2,360	0.005-0.015	4,050	0.005-0.015	1,830	0.005-0.007
8	-	1,400	0.007-0.009	600	0.006-0.009	720	0.008-0.009	720	0.005-0.006	400	0.005-0.006	1,880	0.006-0.018	3,210	0.006-0.018	1,450	0.006-0.008
-	3/8	1,170	0.008-0.010	500	0.007-0.010	600	0.009-0.011	600	0.006-0.007	340	0.006-0.007	1,580	0.007-0.021	2,700	0.007-0.021	1,220	0.007-0.009
10	-	1,110	0.008-0.011	480	0.008-0.011	570	0.010-0.012	570	0.006-0.008	320	0.006-0.008	1,500	0.008-0.022	2,570	0.008-0.022	1,160	0.008-0.010
-	7/16	1,000	0.009-0.012	430	0.008-0.012	520	0.011-0.013	520	0.006-0.009	300	0.006-0.009	1,350	0.008-0.024	2,310	0.008-0.024	1,050	0.009-0.011
12	-	930	0.009-0.013	400	0.009-0.013	480	0.012-0.014	480	0.007-0.009	280	0.007-0.009	1,250	0.009-0.026	2,140	0.009-0.026	970	0.009-0.012
-	1/2	880	0.010-0.014	380	0.010-0.014	450	0.013-0.015	450	0.007-0.010	260	0.007-0.010	1,180	0.010-0.027	2,020	0.010-0.027	920	0.010-0.012
14	-	800	0.011-0.015	340	0.011-0.015	410	0.014-0.018	410	0.008-0.012	225	0.008-0.012	1,070	0.011-0.029	1,830	0.011-0.029	830	0.010-0.013
-	5/8	700	0.011-0.016	300	0.012-0.017	360	0.015-0.020	360	0.009-0.012	200	0.009-0.012	950	0.012-0.032	1,620	0.012-0.032	735	0.011-0.014
16	-	695	0.011-0.017	300	0.012-0.017	355	0.015-0.020	355	0.009-0.013	200	0.009-0.013	940	0.012-0.033	1,600	0.012-0.033	725	0.011-0.015
18	-	620	0.013-0.019	265	0.013-0.019	320	0.016-0.021	320	0.010-0.014	175	0.010-0.014	835	0.013-0.037	1,420	0.013-0.037	650	0.011-0.016
-	3/4	585	0.013-0.020	250	0.013-0.019	300	0.016-0.021	300	0.010-0.015	165	0.010-0.015	790	0.013-0.038	1,350	0.013-0.038	610	0.012-0.016
20	-	555	0.013-0.021	240	0.013-0.020	285	0.016-0.022	285	0.010-0.016	160	0.010-0.016	750	0.014-0.039	1,280	0.014-0.039	580	0.012-0.017
22	-	510	0.015-0.022	215	0.014-0.021	260	0.017-0.024	260	0.011-0.017	145	0.011-0.017	680	0.015-0.043	1,170	0.015-0.043	530	0.013-0.019
24	-	465	0.015-0.024	200	0.015-0.022	240	0.017-0.026	240	0.012-0.019	135	0.012-0.019	625	0.016-0.045	1,070	0.016-0.045	480	0.013-0.021
26	-	430	0.016-0.026	185	0.016-0.024	220	0.018-0.028	220	0.013-0.021	120	0.013-0.021	580	0.017-0.048	990	0.017-0.048	450	0.013-0.022
28	-	400	0.017-0.028	170	0.016-0.025	200	0.018-0.029	200	0.013-0.022	115	0.013-0.022	535	0.018-0.051	920	0.018-0.051	410	0.014-0.023
30	-	370	0.018-0.030	160	0.017-0.026	190	0.018-0.031	190	0.014-0.024	105	0.014-0.024	500	0.019-0.053	860	0.019-0.053	390	0.014-0.025
32	-	350	0.019-0.032	150	0.017-0.028	180	0.018-0.032	180	0.015-0.025	100	0.015-0.025	470	0.020-0.056	800	0.020-0.056	360	0.015-0.026

List 1200 - EX-SPOT TiN-NC-LDS
List 1250 - EX-SPOT LS-NC-LDS

General Drilling Operations

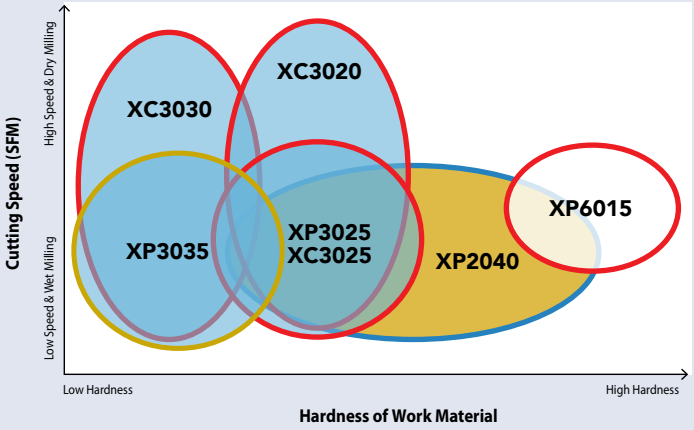
Work Material	Carbon Steels, Mild Steel 1010, 1050		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		Cast Iron		Cast Aluminum		Tool Steels, Hardened Steels			
Hardness											26-30 HRC		30-34 HRC	
Drilling Speed	105-130 SFM		65-85 SFM		25-40 SFM		85-105 SFM		165-325 SFM		30-45 SFM		25-40 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
3	3,850	0.001-0.003	2,400	0.001-0.003	1,060	0.001-0.003	3,100	0.001-0.003	8,000	0.004-0.009	1,220	0.001-0.003	1,060	0.001-0.003
4	2,900	0.002-0.004	1,800	0.002-0.004	800	0.002-0.004	2,400	0.002-0.005	6,000	0.005-0.010	910	0.002-0.004	800	0.002-0.004
6	1,900	0.002-0.005	1,180	0.002-0.005	530	0.002-0.005	1,600	0.002-0.005	4,000	0.005-0.011	610	0.002-0.005	530	0.002-0.005
8	1,400	0.003-0.006	900	0.003-0.006	400	0.003-0.006	1,200	0.003-0.006	3,000	0.007-0.012	450	0.003-0.006	400	0.003-0.006
10	1,120	0.004-0.007	710	0.004-0.007	320	0.004-0.007	950	0.004-0.007	2,400	0.009-0.014	360	0.004-0.007	320	0.004-0.007
12	950	0.005-0.008	600	0.005-0.008	270	0.005-0.008	800	0.005-0.008	2,000	0.010-0.016	300	0.005-0.008	270	0.005-0.008
16	720	0.006-0.011	450	0.006-0.011	200	0.006-0.011	600	0.006-0.011	1,500	0.012-0.019	220	0.006-0.011	200	0.006-0.011
20	560	0.008-0.013	360	0.008-0.013	160	0.008-0.013	480	0.008-0.013	1,200	0.016-0.024	180	0.008-0.013	160	0.008-0.013
25	450	0.010-0.018	290	0.010-0.018	130	0.010-0.018	380	0.010-0.018	960	0.020-0.029	150	0.010-0.018	130	0.010-0.018

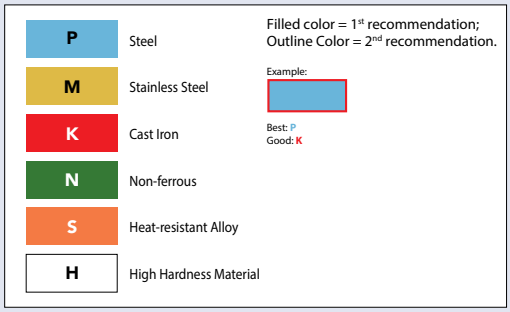
1. The indicated speeds and feeds are for drilling with water soluble oil.
2. When using non-water soluble oil, reduce the drilling speed by 20%.
3. When entering on a curved or inclined surface, reduce the feed rate accordingly.
4. When using a coated tool, the drilling speed can be increased by 1.2 times the value in the table.

Type of Insert

Material Class	Grade	Coating Method	Hardness (HRA)	Surface Treament		Features
				Main Component	Coating Thickness	
P	XP8030	PVD	91.9	TiAlN	3 µm	**For machining steel and stainless steel** Excellent balance of wear-resistance and chipping-resistance; can accommodate a wide range of workpiece materials.
	XC8035	CVD	89.6	TiCN + Al_2O_3	7 µm	**For machining steel and cast iron** Composed of a tough, high-strength carbide material with a chipping-resistant and wear-resistant coating.
	XP3425	PVD	91.8	Cr Composite multilayer	7 µm	**For Drilling Steel** Composed of a tough, high strength carbide material with a wear-resistant thick film coating.
	XC9015	CVD	91.9	TiCN + Al_2O_3	7 µm	**For Drilling Steel** Composed of a tough carbide material with an anti-chipping and wear-resistant coating.
	XP9020	PVD	91.9	TiAlN	3 µm	**For Drilling Steel, Stainless Steel, Cast Iron and Non-Ferrous Materials** Composed of a tough carbide material with an anti-chipping and wear-resistant coating.
	XP9040	PVD	91.9	TiAlN	3 µm	**For Drilling Steel and Stainless Steel** Composed of a high-strength carbide material with an anti-chipping and wear-resistant coating.
M	XP2040	PVD	89.6	TiAlN	5 µm	**For Machining Stainless Steel and Steel** Ideal for general-purpose milling. Composed of a tough, high-strength carbide with an anti-chipping and wear-resistant coating.
K	XP1010	PVD	91.4	TiAlN	6 µm	**For Drilling Cast Iron** Composed of a tough, high-strength carbide material with highly rigid cutting edge and wear resistant coating.
	XP1425	PVD	91.8	Cr Composite multilayer	7 µm	**For Drilling Cast Iron** Composed of a tough, high strength carbide material with a wear-resistant thick film coating.
	XC9025	CVD	90.8	TiCN + Al_2O_3	6 µm	**For Drilling Cast Iron** Composed of a tough, high-strength carbide with an anti-chipping and wear-resistant coating.
N	CK110	-	92.2	-	-	**For Drilling Aluminum Alloy and Non-Ferrous Materials** Composed of a non-coated carbide material with a sharp cutting edge and polished surface.
	CF225	-	91.8	-	-	**For Drilling Non-Ferrous Materials** Composed of a non-coated carbide material with an anti-chipping and wear-resistant properties.

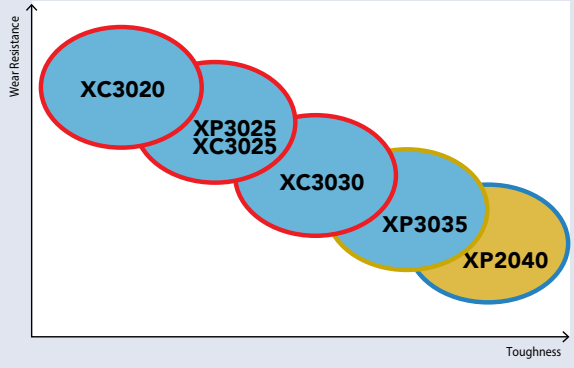
Insert Application Chart



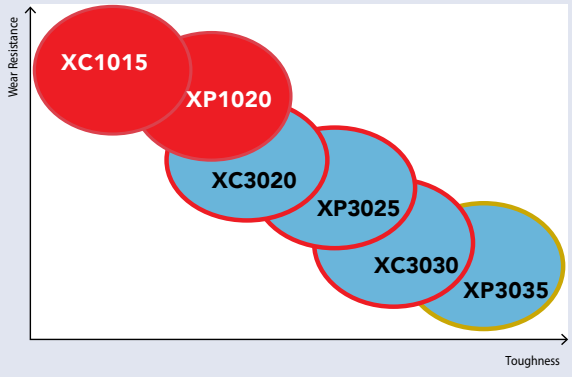


Application Chart of Insert Material

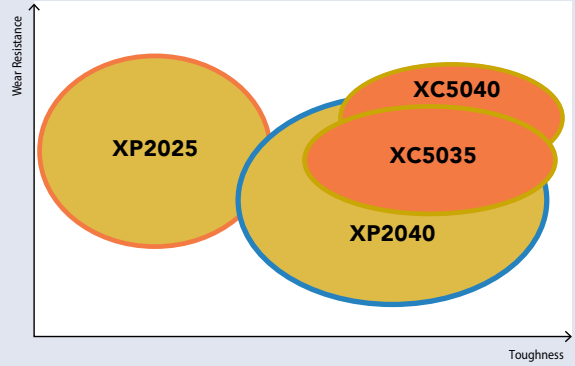
Steel-based Work Material
(Mild Steel, Steel, Hardened Steel)

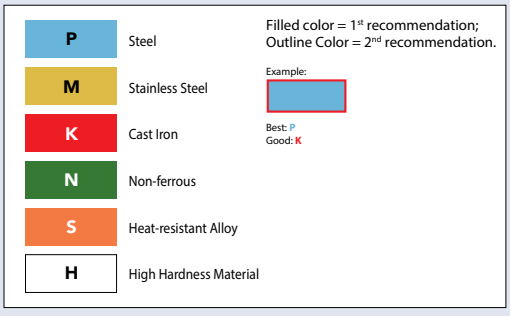


Cast Iron & Ductile Iron

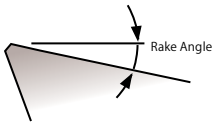
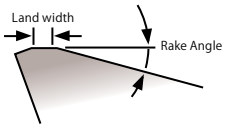
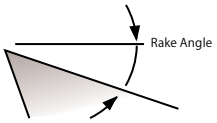


Stainless Steel





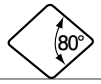
Type of Chip Breaker

Machining Method	Chip Breaker	Cutting Edge Cross-Section (Approximate)	Application
Holemaking	DM		For drilling various materials from steel to cast iron: a general purpose breaker with an ideal rake angle.
	DR		For drilling cast iron: a highly rigid breaker with an optimal land width and rake angle.
	DN		For drilling non-ferrous materials: a breaker with a sharp cutting edge and polish treatment for excellent chip evacuation.

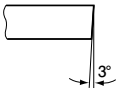
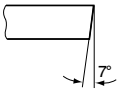
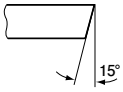
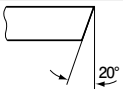
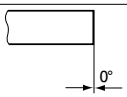
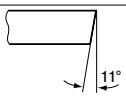
Insert Designation

Z	D	K	T
①	②	③	④

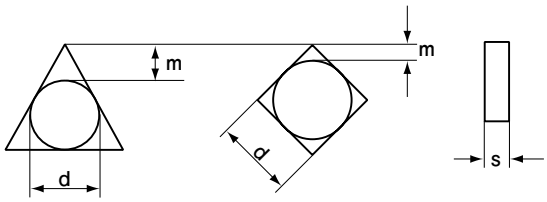
Shape of Insert

C	Diamond Apex 80°	
D	Diamond Apex 55°	
O	Octagon	
R	Round	
S	Square	
T	Triangle	
V	Diamond Apex 35°	
W	Axonometric Hexagon	
Z	Other Shapes	–

Clearance Angle

A	3°	
C	7°	
D	15°	
E	20°	
N	0°	
P	11°	
X	Special Dimension	

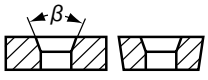
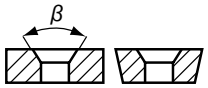
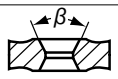
Tolerance



Symbol	Inscribed Circle Tolerance (mm)	Corner Height Tolerance (mm)	Thickness Tolerance (mm)
A	±0.025	±0.005	±0.025
C	±0.025	±0.013	±0.025
E	±0.025	±0.025	±0.025
H	±0.013	±0.013	±0.025
K*	±0.05~±0.15	±0.013	±0.025
M*	±0.05~±0.15	±0.08~±0.18	±0.13
N*	±0.05~±0.15	±0.08~±0.18	±0.025

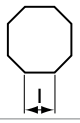
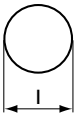
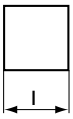
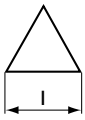
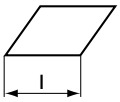
*Sintered insert shown on the side

Special Cutting and Fastening Feature

Symbol	Shape of Hole	With or Without Breaker	Insert Cross Section
W	(40°~60°) Partial cylindrical hole	No Breaker	
T		One Side	
B	(70°~90°) Partial cylindrical hole	No Breaker	
U	(40°~60°) Partial cylindrical hole	Both Sides	
N	–	No Breaker	
R	–	One Side	

15	05	08	S	R	-	GM
⑤	⑥	⑦	⑧	⑨	-	⑩

Length of the Cutting Edge

O	
R	
S	
T	
Z	

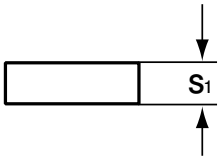
Corner Radius Symbol

Symbol	Corner Radius (mm)
02	R0.2
04	R0.4
08	R0.8
12	R1.2
16	R1.6
24	R2.4

Cutting Direction

Symbol	Cutting Direction
R	Right Hand
L	Left Hand
N	Neutral

Thickness of Insert



Symbol	Thickness (mm)
02	2.38
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35

Type of Cutting Edge

Symbol	Appearance
F	 Sharp Edge
E	 Round Honing
T	 Chamfer Honing
S	 Combination Honing

Type of Chip Breaker

Symbol	Name
GL	GL Breaker
GM	GM Breaker
GR	GR Breaker
HR	HR Breaker
NM	NM Breaker
SM	SM Breaker
DM	DM Breaker
DR	DR Breaker
DN	DN Breaker

OSG PHOENIX® PXD: Exchangeable Head Drill

PXDZ		0551	-	3D	-	113.5	-	0625
Series		Min. Diameter		Drilling Depth		Overall Length of Body (without Head)		Shank Diameter
PXDZ	PHOENIX® Exchangeable Head Drill	**Example:** 0551 = Ø0.551" 140 = Ø14.0mm		**Example:** 3D = 3xD 5D = 5xD		**Example:** 113.5 = 113.5mm		**Example:** 0625 = Ø0.625" 16 = Ø16.0mm

OSG PHOENIX® PD: Indexable Drill Series

P2D		0484	FS		075	A		03
Series		Diameter	Body Type		Shank Diameter	Units		Insert Size
P2D	PHOENIX® Indexable Drill, 2D	**Example:** 0484 = Ø0.484" 1200 = Ø12.0mm	FS	Flat Shank	**Example:** 075 = Ø0.750" 20 = Ø20.0mm	A	Inch	**Example:** 03 = XCMT03
P3D	PHOENIX® Indexable Drill, 3D							
P4D	PHOENIX® Indexable Drill, 4D					M	Metric	
P5D	PHOENIX® Indexable Drill, 5D							

OSG PHOENIX® PHP: Indexable High Performance Drill
OSG PHOENIX® PDZ: Indexable Flat Drill

PDZ		0688	FS		075	A		05	-	2D
Series		Diameter	Body Type		Shank Diameter	Units		Insert Size		Drilling Depth
PHP	PHOENIX® High Performance Drill	**Example:** 0688 = Ø0.688" (PDZ) 1600 = Ø16.0mm (PDZ) 160 = Ø16.0mm (PHP)	FS	Flat Shank	**Example:** 075 = Ø0.750" 20 = Ø20.0mm	A	Inch	**Example:** 05 = ZPNT05 (PDZ) 05 = SCMT05 (PHP)		**Example:** 2D = 2xD 3D = 3xD
PDZ	PHOENIX® Indexable Flat Drill					M	Metric			

OSG PHOENIX® PZAG: Counterboring Cutter

PZAG		04	R		053	SA		075	-	2
Series		Insert Size	Cutting Direction		Diameter	Body Type		Mounting Diameter		Number of Flutes
PZAG	PHOENIX® Counterboring Cutter	**Example:** 04 = ZPNT04	R	Right Hand	**Example:** 053 = Ø0.531" 014 = Ø14.0mm	SA	Cylindrical Shank (Inch)	**Example:** 075 = Ø0.750" 20 = Ø20.0mm		**Example:** 2 = 2 Flutes
						SS	Cylindrical Shank (Metric)			
						A	Bore Type (Inch)			
						M	Bore Type (Metric)			

OSG PHOENIX® PLDS: Indexable Centering & Chamfering Cutter

PLDS		11	R		002	SA		0625	-	(L)	90
Series		Insert Size	Cutting Direction		Minimum Diameter	Body Type		Mounting Diameter		Length	Point Angle
PLDS	PHOENIX® Indexable Centering & Chamfering Cutter	**Example:** 11 = TPKT11	R	Right Hand	**Example:** 002 = Ø0.098"	SA	Cylindrical Shank (Inch)	**Example:** 0625 = Ø0.625" 16 = Ø16.0mm 8 = M8		**Example:** L = Long	**Example:** 90 = 90° 120 = 120°
						SS	Cylindrical Shank (Metric)				
						SF	Screw Fit Type (Inch)				

List 52400 - PHOENIX® PXD
List 78310 - PHOENIX® PXD

Work Material	Mild Steel Low Carbon Steel		Carbon Steel		Alloy Steel		Cast Iron		Ductile Cast Iron		Aluminum Alloy Casting	
Speed	265 - 395 SFM		265 - 395 SFM		195 - 395 SFM		265 - 395 SFM		195 - 325 SFM		265 - 590 SFM	
Drill Dia. (mm)	Speed (RPM)	Feed (in/rev)	Speed (RPM)	Feed (in/rev)	Speed (RPM)	Feed (in/rev)	Speed (RPM)	Feed (in/rev)	Speed (RPM)	Feed (in/rev)	Speed (RPM)	Feed (in/rev)
14	2300	0.008 - 0.014	2300	0.008 - 0.014	2000	0.008 - 0.014	2300	0.008 - 0.014	1800	0.008 - 0.014	3000	0.011 - 0.016
15	2100	0.009 - 0.015	2100	0.009 - 0.015	1900	0.009 - 0.015	2100	0.009 - 0.015	1700	0.009 - 0.015	2800	0.012 - 0.018
16	2000	0.009 - 0.016	2000	0.009 - 0.016	1800	0.009 - 0.016	2000	0.009 - 0.016	1600	0.009 - 0.016	2600	0.012 - 0.019
17	1900	0.010 - 0.017	1900	0.010 - 0.017	1700	0.010 - 0.017	1900	0.010 - 0.017	1500	0.010 - 0.017	2400	0.013 - 0.020
18	1800	0.010 - 0.018	1800	0.010 - 0.018	1600	0.010 - 0.018	1800	0.010 - 0.018	1400	0.010 - 0.018	2300	0.014 - 0.021
19	1700	0.011 - 0.019	1700	0.011 - 0.019	1500	0.011 - 0.019	1700	0.011 - 0.019	1300	0.011 - 0.019	2200	0.015 - 0.022
20	1600	0.012 - 0.020	1600	0.012 - 0.020	1400	0.012 - 0.020	1600	0.012 - 0.020	1300	0.012 - 0.020	2100	0.016 - 0.024
21	1500	0.012 - 0.021	1500	0.012 - 0.021	1400	0.012 - 0.021	1500	0.012 - 0.021	1200	0.012 - 0.021	2000	0.016 - 0.025
22	1400	0.013 - 0.022	1400	0.013 - 0.022	1300	0.013 - 0.022	1400	0.013 - 0.022	1200	0.013 - 0.022	1900	0.017 - 0.026
23	1400	0.014 - 0.023	1400	0.014 - 0.023	1200	0.014 - 0.023	1400	0.014 - 0.023	1100	0.014 - 0.023	1800	0.018 - 0.027
24	1300	0.014 - 0.024	1300	0.014 - 0.024	1200	0.014 - 0.024	1300	0.014 - 0.024	1100	0.014 - 0.024	1700	0.019 - 0.028
25	1300	0.015 - 0.025	1300	0.015 - 0.025	1100	0.015 - 0.025	1300	0.015 - 0.025	1000	0.015 - 0.025	1700	0.020 - 0.029

Work Material	Copper		Hardened Steels (35 HRC)	
Speed	195-395 SFM		120-180 SFM	
Drill Dia. (mm)	Speed (RPM)	Feed (in/rev)	Speed (RPM)	Feed (in/rev)
14	2000	0.008 - 0.012	1000	0.010 - 0.014
15	1900	0.009 - 0.013	1000	0.011 - 0.015
16	1800	0.009 - 0.014	900	0.012 - 0.018
17	1700	0.010 - 0.015	900	0.013 - 0.019
18	1600	0.010 - 0.016	800	0.014 - 0.021
19	1500	0.011 - 0.016	800	0.015 - 0.022
20	1400	0.012 - 0.018	700	0.015 - 0.024
21	1400	0.012 - 0.019	700	0.015 - 0.025
22	1300	0.013 - 0.019	700	0.016 - 0.026
23	1200	0.014 - 0.020	600	0.017 - 0.027
24	1200	0.014 - 0.021	600	0.018 - 0.029
25	1100	0.015 - 0.022	600	0.018 - 0.029

List 52502 & 78031 - PHOENIX® P2D
List 52503 & 78032 - PHOENIX® P3D

Work Material		Tensile Strength – Hardness	Drilling Speed Vc (SFM)	Feed Rate, f (in/rev) Drilling Depth 2D, 3D							
				Ø0.472-0.571 (12-14.5mm)	Ø0.591-0.650 (15-16.5mm)	Ø0.669-0.728 (17-18.5mm)	Ø0.748-0.807 (19-20.5mm)	Ø0.827-0.965 (21-24.5mm)	Ø0.984-1.122 (25-28.5mm)	Ø1.142-1.319 (29-33.5mm)	Ø1.339-2.500 (34-63mm)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	650 (500 - 800)	.0024 (.0015 - .003)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.0027 (.0015 - .004)	.003 (.0015 - .0047)	.003 (.0015 - .0047)	.004 (.002 - .006)	.004 (.002 - .007)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	500 (330 - 720)	.003 (.0015 - .0047)	.003 (.0015 - .0055)	.0035 (.0015 - .0063)	.004 (.0015 - .007)	.0055 (.0015 - .008)	.007 (.0024 - .010)	.008 (.003 - .012)	.008 (.003 - .014)
	Die Steels (H13, D2)	~280 HB	330 (260 - 500)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.0027 (.0015 - .004)	.003 (.0015 - .0047)	.0047 (.0015 - .006)	.0055 (.0024 - .008)	.007 (.003 - .010)	.007 (.003 - .010)
M	Stainless Steels (304, 420)	~250 HB	430 (260 - 600)	.0027 (.0015 - .004)	.0027 (.0015 - .004)	.003 (.0015 - .004)	.0035 (.0015 - .0047)	.004 (.0015 - .006)	.005 (.0024 - .008)	.006 (.003 - .010)	.006 (.003 - .010)
K	Cast Iron (No. 35 B)	~350 N/mm²	650 (500 - 920)	.003 (.0015 - .0055)	.003 (.0015 - .0055)	.004 (.0015 - .0063)	.0047 (.0015 - .008)	.0063 (.003 - .010)	.008 (.0024 - .012)	.008 (.003 - .012)	.008 (.003 - .014)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	530 (330 - 720)	.003 (.0015 - .004)	.003 (.0015 - .0047)	.0035 (.0015 - .0055)	.004 (.0015 - .007)	.0055 (.0015 - .008)	.007 (.0024 - .010)	.007 (.003 - .010)	.007 (.003 - .010)
N	Aluminum Alloys (6061, 7075)	~13% Si	650 (330 - 2600)	.003 (.0015 - .0047)	.003 (.0015 - .0047)	.004 (.0015 - .0063)	.0047 (.0015 - .008)	.0063 (.0015 - .010)	.008 (.0024 - .012)	.008 (.003 - .012)	.008 (.003 - .012)
S	Heat Resistant Alloys (Inconel 718)	-	100 (50 - 160)	.0015 (.0008 - .0024)	.0015 (.0008 - .0024)	.002 (.0012 - .0024)	.002 (.0012 - .0024)	.0024 (.0015 - .003)	.003 (.0024 - .004)	.004 (.0024 - .0047)	.004 (.0024 - .0047)
	Titanium Alloy (Ti-6Al-4V)	-	200 (100 - 330)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .006)	.004 (.0024 - .008)	.0055 (.003 - .008)	.0055 (.003 - .008)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	330 (200 - 400)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.0024 (.0015 - .0047)	.0027 (.0015 - .0047)	.003 (.0015 - .0047)	.004 (.0024 - .006)	.004 (.0024 - .006)	.004 (.0024 - .006)
	Die Cast Steels (A2, S7)	43 - 48 HrC	260 (165 - 330)	.002 (.0015 - .003)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)
	Hardened Steels (D2)	50 - 55 HrC	200 (130 - 260)	.002 (.0015 - .003)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)

List 52504 & 78033 - PHOENIX® P4D

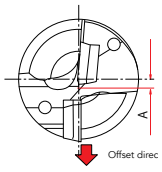
Work Material		Tensile Strength – Hardness	Drilling Speed Vc (SFM)	Feed Rate, f (in/rev) Drilling Depth 4D							
				Ø0.472-0.571 (12-14.5mm)	Ø0.591-0.650 (15-16.5mm)	Ø0.669-0.728 (17-18.5mm)	Ø0.748-0.807 (19-20.5mm)	Ø0.827-0.965 (21-24.5mm)	Ø0.984-1.122 (25-28.5mm)	Ø1.142-1.319 (29-33.5mm)	Ø1.339-2.500 (34-63mm)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	650 (500 - 800)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0027 (.0015 - .004)	.003 (.0015 - .0047)	.003 (.0015 - .0047)	.004 (.002 - .006)	.004 (.002 - .007)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	500 (330 - 720)	.0027 (.0015 - .004)	.003 (.0015 - .0055)	.003 (.0015 - .0063)	.0035 (.0015 - .007)	.0047 (.0015 - .006)	0.007 (.0024 - .010)	.008 (.003 - .010)	.008 (.003 - .012)
	Die Steels (H13, D2)	~280 HB	330 (260 - 500)	.0024 (.0015 - .003)	.0024 (.0015 - .004)	.0027 (.0015 - .004)	.003 (.0015 - .0047)	.004 (.0015 - .0051)	.0055 (.0024 - .008)	.007 (.003 - .010)	.007 (.003 - .010)
M	Stainless Steels (304, 420)	~250 HB	430 (260 - 600)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0027 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)	.0051 (.0024 - .008)	.0063 (.003 - .008)	.0063 (.003 - .008)
K	Cast Iron (No. 35 B)	~350 N/mm²	650 (500 - 920)	.003 (.0015 - .0047)	.003 (.0015 - .0055)	.0035 (.0015 - .0063)	.004 (.0015 - .008)	.0047 (.0015 - .006)	.008 (.0024 - .012)	.008 (.003 - .012)	.008 (.003 - .012)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	530 (330 - 720)	.003 (.0015 - .003)	.003 (.0015 - .004)	.003 (.0015 - .0047)	.0035 (.0015 - .006)	.0047 (.0015 - .006)	.006 (.0024 - .010)	.007 (.003 - .010)	.007 (.003 - .010)
N	Aluminum Alloys (6061, 7075)	~13% Si	650 (330 - 2600)	.0027 (.0015 - .0047)	.0027 (.0015 - .0047)	.0035 (.0015 - .0047)	.0047 (.0015 - .008)	.0055 (.0015 - .008)	.008 (.0024 - .012)	.008 (.003 - .012)	.008 (.003 - .012)
S	Heat Resistant Alloys (Inconel 718)	-	100 (50 - 160)	.0015 (.0008 - .0024)	.0015 (.0008 - .0024)	.0015 (.0008 - .0024)	.0015 (.0008 - .0024)	.002 (.0015 - .003)	.0027 (.0024 - .004)	.003 (.0024 - .0047)	.003 (.0024 - .0047)
	Titanium Alloy (Ti-6Al-4V)	-	200 (100 - 330)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .004)	.004 (.0024 - .008)	.0055 (.003 - .008)	.0055 (.003 - .008)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	330 (200 - 400)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.003 (.0015 - .0047)	.003 (.0024 - .0047)	.004 (.0024 - .0051)	.004 (.0024 - .0051)
	Die Cast Steels (A2, S7)	43 - 48 HrC	260 (165 - 330)	.002 (.0015 - .003)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)
	Hardened Steels (D2)	50 - 55 HrC	200 (130 - 260)	.002 (.0015 - .003)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)

List 52505 & 78027 - PHOENIX® P5D

Work Material		Tensile Strength – Hardness	Drilling Speed Vc (SFM)	Feed Rate, f (in/rev) Drilling Depth 5D							
				Ø0.472-0.571 (12-14.5mm)	Ø0.591-0.650 (15-16.5mm)	Ø0.669-0.728 (17-18.5mm)	Ø0.748-0.807 (19-20.5mm)	Ø0.827-0.965 (21-24.5mm)	Ø0.984-1.122 (25-28.5mm)	Ø1.142-1.319 (29-33.5mm)	Ø1.339-2.500 (34-63mm)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	650 (500 - 800)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0027 (.0015 - .004)	.003 (.0015 - .0047)	.003 (.0015 - .0047)	.004 (.002 - .006)	.004 (.002 - .007)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	500 (330 - 720)	.0024 (.0015 - .0035)	.0024 (.0015 - .0035)	.003 (.0015 - .0047)	.003 (.0015 - .0055)	.0047 (.0015 - .006)	.006 (.0024 - .008)	.007 (.003 - .008)	.007 (.003 - .010)
	Die Steels (H13, D2)	~280 HB	330 (260 - 500)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0027 (.0015 - .004)	.004 (.0015 - .0051)	.0047 (.0024 - .006)	.006 (.003 - .007)	.0063 (.003 - .0087)
M	Stainless Steels (304, 420)	~250 HB	430 (260 - 600)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0027 (.0015 - .0035)	.003 (.0015 - .004)	.004 (.0024 - .006)	.0047 (.0024 - .007)	.0047 (.0024 - .008)
K	Cast Iron (No. 35 B)	~350 N/mm²	650 (500 - 920)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.003 (.0015 - .0047)	.003 (.0015 - .0051)	.0047 (.0015 - .006)	.006 (.0024 - .008)	.007 (.003 - .008)	.007 (.003 - .010)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	530 (330 - 720)	.0024 (.0015 - .0035)	.0024 (.0015 - .0035)	.003 (.0015 - .0047)	.003 (.0015 - .0047)	.004 (.0015 - .0051)	.0047 (.0024 - .006)	.006 (.003 - .007)	.007 (.003 - .010)
N	Aluminum Alloys (6061, 7075)	~13% Si	650 (330 - 2600)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.0035 (.0015 - .0047)	.004 (.0015 - .006)	.0047 (.0015 - .006)	.006 (.0024 - .010)	.008 (.003 - .012)	.008 (.003 - .012)
S	Heat Resistant Alloys (Inconel 718)	-	100 (50 - 160)	.0015 (.0008 - .0024)	.0015 (.0008 - .0024)	.0015 (.0008 - .0024)	.0015 (.0008 - .0024)	.0015 (.0008 - .0024)	.0027 (.0024 - .003)	.0027 (.0024 - .003)	.0027 (.0024 - .003)
	Titanium Alloy (Ti-6Al-4V)	-	200 (100 - 330)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .004)	.004 (.0024 - .006)	.004 (.003 - .006)	.004 (.003 - .006)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	330 (200 - 400)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .004)	.003 (.0024 - .0047)	.004 (.0024 - .0047)	.004 (.0024 - .0047)
	Die Cast Steels (A2, S7)	43 - 48 HrC	260 (165 - 330)	.002 (.0015 - .0027)	.002 (.0015 - .0027)	.002 (.0015 - .0027)	.0024 (.0015 - .0027)	.0024 (.0015 - .003)	.0027 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)
	Hardened Steels (D2)	50 - 55 HrC	200 (130 - 260)	.002 (.0015 - .0027)	.002 (.0015 - .0027)	.002 (.0015 - .0027)	.0024 (.0015 - .0027)	.0024 (.0015 - .003)	.0027 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)

Maximum Offset for Drilling on Lathe

Drill Diameter (Inch)	Maximum Offset (Inch)	Max Diameter (Inch)
0.4844	0.0157	0.5158
0.5000	0.0118	0.5236
0.5156	0.0078	0.5312
0.5313	0.0078	0.5469
0.5469	0.0078	0.5625
0.5625	0.0039	0.5703
0.5781	0.0039	0.5859
0.5938	0.0157	0.6252
0.6094	0.0118	0.6330
0.6250	0.0078	0.6406
0.6406	0.0078	0.6562
0.6563	0.0078	0.6719
0.6719	0.0196	0.7111
0.6875	0.0157	0.7189
0.7031	0.0157	0.7345
0.7188	0.0157	0.7502
0.7344	0.0118	0.7580
0.7500	0.0196	0.7892
0.7656	0.0157	0.7970
0.7813	0.0157	0.8127
0.7969	0.0118	0.8205
0.8125	0.0118	0.8361
0.8281	0.0269	0.8819
0.8438	0.0230	0.8898
0.8594	0.0210	0.9014
0.8750	0.0200	0.9150
0.8906	0.0190	0.9286
0.9063	0.0173	0.9409
0.9219	0.0133	0.9485
0.9375	0.0124	0.9623
0.9531	0.0078	0.9687
0.9688	0.0039	0.9766
0.9844	0.0287	1.0418
1.0000	0.0248	1.0496
1.0313	0.0220	1.0753
1.0625	0.0173	1.0971
1.0938	0.0141	1.1220
1.1250	0.0039	1.1328
1.1563	0.0295	1.2153
1.1875	0.0277	1.2429
1.2188	0.0218	1.2624
1.2500	0.0188	1.2876
1.2813	0.0169	1.3151
1.3125	0.0078	1.3281
1.3438	0.0393	1.4224
1.3750	0.0315	1.4380
1.4063	0.0236	1.4535
1.4375	0.0275	1.4925
1.4688	0.0196	1.5080
1.5000	0.0118	1.5236
1.5313	0.0039	1.5391
1.5625	0.0315	1.6255
1.5938	0.0275	1.6488
1.6250	0.0275	1.6800
1.6563	0.0236	1.7035
1.6875	0.0157	1.7189
1.7188	0.0118	1.7424
1.7500	0.0078	1.7656
1.7813	0.0314	1.8441
1.8125	0.0275	1.8675
1.8438	0.0196	1.8830
1.8750	0.0196	1.9142
1.9063	0.0157	1.9377
1.9375	0.0078	1.9531
1.9688	0.0433	2.0554
2.0000	0.0354	2.0708
2.1250	0.0157	2.1564
2.2500	0.0433	2.3366
2.3750	0.0275	2.4300
2.5000	0	2.5000



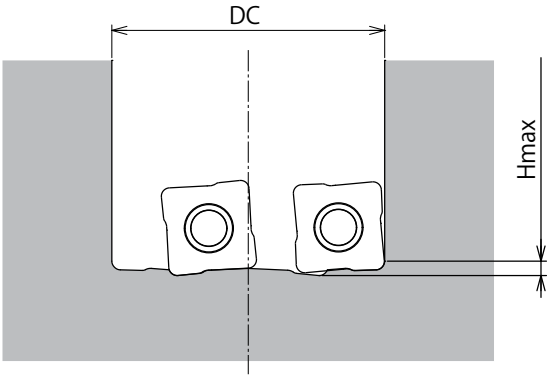
Maximum Offset Amount, A, for Drilling on a lathe.

Drill Diameter (mm)	Maximum Offset (mm)	Max Diameter (mm)
12.0	0.4	12.8
12.5	0.4	13.3
12.7	0.3	13.3
13.0	0.3	13.6
13.5	0.2	13.9
14.0	0.2	14.4
14.5	0.1	14.7
15.0	0.4	15.8
15.5	0.3	16.1
16.0	0.3	16.6
16.5	0.3	17.1
17.0	0.6	18.2
17.5	0.5	18.5
18.0	0.5	19.0
18.5	0.4	19.3
19.0	0.6	20.2
19.5	0.5	20.5
20.0	0.4	20.8
20.5	0.4	21.3
21.0	0.6	22.2
21.5	0.6	22.7
22.0	0.5	23.0
22.5	0.5	23.5
23.0	0.4	23.8
23.5	0.3	24.1
24.0	0.3	24.6
24.5	0.2	24.9
25.0	0.7	26.4
25.5	0.6	26.7
26.0	0.5	27.0
26.5	0.5	27.5
27.0	0.4	27.8
27.5	0.4	28.3
28.0	0.3	28.6
28.5	0.2	28.9
29.0	0.8	30.6
29.5	0.8	31.1
30.0	0.7	31.4
30.5	0.7	31.9
31.0	0.6	32.2
31.5	0.5	32.5
32.0	0.5	33.0
32.5	0.4	33.3
33.0	0.4	33.8
33.5	0.2	33.9
34.0	1.1	36.2
34.5	0.9	36.3
35.0	0.8	36.6
35.5	0.7	36.9
36.0	0.8	37.6
37.0	0.6	38.2
37.5	0.4	38.3
38.0	0.3	38.6
39.0	1.0	41.0
40.0	0.9	41.8
40.5	0.8	42.1
41.0	0.8	42.6
42.0	0.6	43.2
43.0	0.5	44.0
44.0	0.3	44.6
45.0	0.9	46.8
46.0	0.8	47.6
47.0	0.7	48.4
48.0	0.5	49.0
49.0	0.3	49.6
50.0	1.1	52.2
50.5	1.0	52.5
51.0	1.0	53.0
52.0	0.8	53.6
53.0	0.7	54.4
54.0	0.6	55.2
55.0	0.4	55.8
56.0	0.1	56.2
57.0	1.1	59.2
58.0	1.0	60.0
59.0	0.9	60.8
60.0	0.8	61.6
61.0	0.6	62.2
62.0	0.4	62.8
63.0	0.2	63.4

Reference Value of PD Hmax

Drill Diameter (Inch)	Hmax (Inch)
0.472 - 0.571	0.024
0.591 - 0.650	0.031
0.669 - 0.728	0.035
0.748 - 0.807	0.043
0.827 - 0.965	0.047
0.984 - 1.122	0.059
1.142 - 1.319	0.063
1.339 - 2.500	0.067
1.535 - 1.732	0.079
1.772 - 1.929	0.091
1.968 - 2.205	0.098
2.244 - 2.500	0.102

Drill Diameter (mm)	Hmax (mm)
12 - 14.5	0.6
15 - 16.5	0.8
17 - 18.5	0.9
19 - 20.5	1.1
21 - 24.5	1.2
22 - 28.5	1.5
29 - 33.5	1.6
34 - 38	1.7
39 - 44	2
45 - 49	2.3
50 - 56	2.5
57 - 63	2.6



PD Hole Diameter Tolerance

Diameter (Inch)	P2D (Inch)	P3D (Inch)	P4D (Inch)	P5D (Inch)
0.4724 - 0.8071	+0.0098 / -0	+0.0098 / -0	+0.0118 / -0	+0.0118 / -0
0.8268 - 1.9291	+0.0118 / -0	+0.0118 / -0	+0.0157 / -0	+0.0157 / -0
1.9685 - 2.5000	+0.0138 / -0	+0.0138 / -0	+0.0197 / -0	+0.0197 / -0

The above values are general values and may differ based on actual machining conditons.

Diameter (mm)	P2D (mm)	P3D (mm)	P4D (mm)	P5D (mm)
12 - 20.5	+0.25 / -0	+0.25 / -0	+0.30 / -0	+0.30 / -0
21 - 49	+0.30 / -0	+0.30 / -0	+0.40 / -0	+0.40 / -0
50 - 63	+0.35 / -0	+0.35 / -0	+0.50 / -0	+0.50 / -0

The above values are general values and may differ based on actual machining conditons.

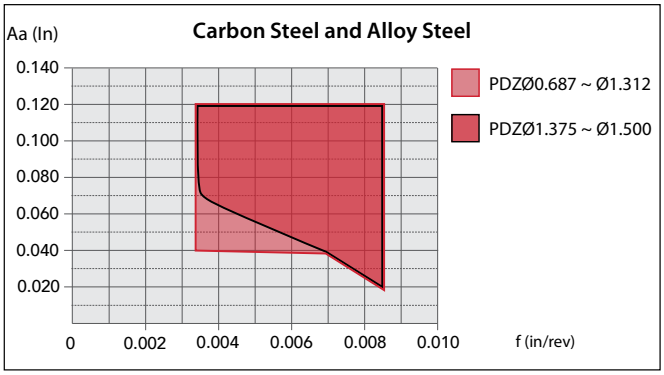
List 78001 - PHOENIX® PHP

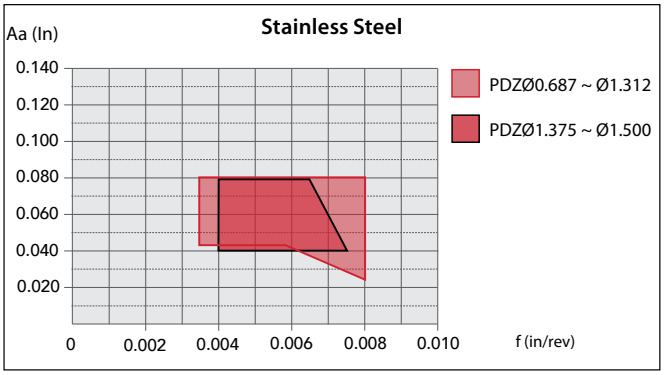
Work Material		Tensile Strength – Hardness	Drilling Speed Vc (SFM)	Feed Rate f (in/rev)			
				Ø14-20.5mm	Ø21-28mm	Ø29-34mm	Ø35-40mm
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	655 (495 - 820)	0.004 (0.002 - 0.005)	0.005 (0.004 - 0.007)	0.007 (0.005 - 0.008)	0.010 (0.008 - 0.011)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	525 (330 - 720)	0.004 (0.002 - 0.005)	0.005 (0.004 - 0.007)	0.007 (0.005 - 0.008)	0.010 (0.008 - 0.011)
	Die Steels (H13, D2)	~280 HB	460 (265 - 590)	0.003 (0.002 - 0.005)	0.005 (0.002 - 0.006)	0.006 (0.004 - 0.007)	0.006 (0.004 - 0.008)
M	Stainless Steels (304, 420)	~250 HB	495 (330 - 590)	0.003 (0.002 - 0.005)	0.004 (0.002 - 0.005)	0.006 (0.004 - 0.007)	0.007 (0.006 - 0.008)
K	Cast Iron (No. 35 B)	~350 N/mm²	495 (330 - 590)	0.004 (0.002 - 0.005)	0.005 (0.004 - 0.007)	0.007 (0.005 - 0.008)	0.010 (0.008 - 0.011)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	425 (265 - 495)	0.004 (0.002 - 0.005)	0.005 (0.003 - 0.006)	0.006 (0.004 - 0.008)	0.008 (0.006 - 0.010)
N	Aluminum Alloys (6061, 7075)	~13% Si	720 (330 - 2625)	0.004 (0.002 - 0.008)	0.005 (0.004 - 0.010)	0.007 (0.005 - 0.012)	0.010 (0.008 - 0.014)
S	Heat Resistant Alloys (Inconel 718)	-	100 (50 - 165)	0.002 (0.001 - 0.003)	0.002 (0.001 - 0.004)	0.003 (0.002 - 0.005)	0.004 (0.002 - 0.006)
	Titanium Alloy (Ti-6Al-4V)	-	195 (100 - 330)	0.002 (0.002 - 0.003)	0.003 (0.002 - 0.005)	0.004 (0.003 - 0.006)	0.005 (0.004 - 0.006)

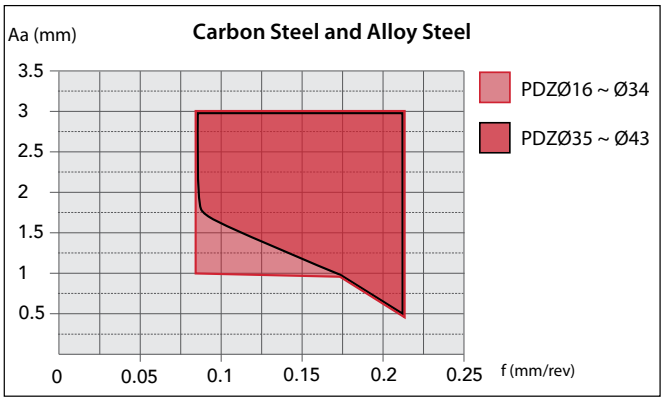
List 52513 & 78537 - PHOENIX® PDZ-2D
List 52514 & 78538 - PHOENIX® PDZ-3D

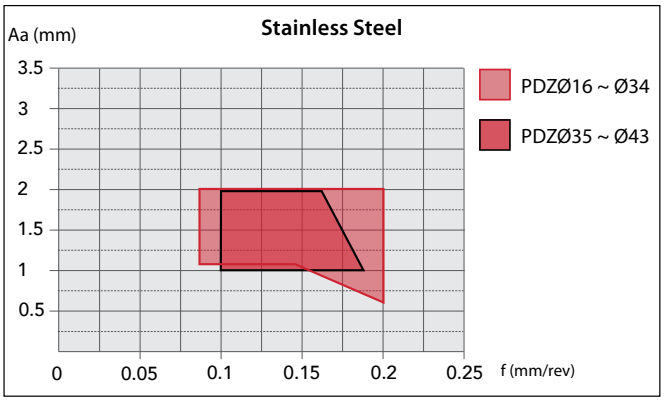
Work Material		Tensile Strength - Hardness	Drilling Speed Vc (SFM)	Feed Rate, f (in/rev)						
				Drilling Depth 2xD						
				Ø0.630-0.650 (16-16.5mm)	Ø0.669-0.728 (17-18.5mm)	Ø0.748-0.787 (19-20mm)	Ø0.827-0.945 (21-24mm)	Ø0.984-1.102 (25-28mm)	Ø1.142-1.299 (29-33mm)	Ø1.338-1.693 (34-43mm)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	650 (500 - 800)	.0024 (.0015 - .004)	.0024 (.0015 - .004)	.0027 (.0015 - .004)	.003 (.0015 - .0047)	.003 (.0015 - .0047)	.004 (.002 - .006)	.004 (.002 - .007)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	500 (330 - 720)	.003 (.0015 - .0055)	.0035 (.0015 - .0063)	.004 (.0015 - .007)	.0055 (.0015 - .008)	.007 (.0024 - .010)	.008 (.003 - .012)	.008 (.003 - .014)
	Die Steels (D2, H13)	~280 HB	400 (260 - 600)	.0024 (.0015 - .004)	.0027 (.0015 - .004)	.003 (.0015 - .0047)	.0047 (.0015 - .006)	.0055 (.0024 - .008)	.007 (.003 - .010)	.007 (.003 - .010)
M	Stainless Steels (304, 420)	~250 HB	425 (260 - 600)	.0027 (.0015 - .004)	.003 (.0015 - .004)	.0035 (.0015 - .0047)	.004 (.0015 - .006)	.005 (.0024 - .008)	.006 (.003 - .010)	.006 (.003 - .010)
K	Cast Iron (FC250)	~350 N/mm²	650 (500 - 920)	.003 (.0015 - .0055)	.004 (.0015 - .0063)	.0047 (.0015 - .008)	.0063 (.003 - .010)	.008 (.0024 - .012)	.008 (.003 - .012)	.008 (.003 - .014)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	525 (330 - 720)	.003 (.0015 - .0047)	.0035 (.0015 - .0055)	.004 (.0015 - .007)	.0055 (.0015 - .008)	.007 (.0024 - .010)	.007 (.003 - .010)	.007 (.003 - .010)
N	Aluminum Alloys (6061, 7075)	~13% Si	650 (330 - 2600)	.003 (.0015 - .0047)	.004 (.0015 - .0063)	.0047 (.0015 - .008)	.0063 (.0015 - .010)	.008 (.0024 - .012)	.008 (.003 - .012)	.008 (.003 - .012)
S	Heat Resistant Alloys (Inconel 718)	-	165 (50 - 200)	.0015 (.0008 - .0024)	.002 (.0012 - .0024)	.002 (.0012 - .0024)	.0024 (.0015 - .003)	.003 (.0024 - .004)	.004 (.0024 - .0047)	.004 (.0024 - .0047)
	Titanium Alloy (Ti-6Al-4V)	-	200 (100 - 330)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .006)	.004 (.0024 - .008)	.0055 (.003 - .008)	.0055 (.003 - .008)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	330 (200 - 400)	.0024 (.0015 - .004)	.0024 (.0015 - .0047)	.0027 (.0015 - .0047)	.003 (.0015 - .0047)	.004 (.0024 - .006)	.004 (.0024 - .006)	.004 (.0024 - .006)
	Die Cast Steels (A2, S7)	43 - 48 HrC	260 (165 - 330)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)
	Hardened Steels (D2)	50 - 55 HrC	200 (130 - 260)	.002 (.0015 - .003)	.002 (.0015 - .003)	.0024 (.0015 - .003)	.0024 (.0015 - .003)	.003 (.0015 - .004)	.003 (.0015 - .004)	.003 (.0015 - .004)

Cutting Conditions - *Turning*









List 52510 & 78321 - PHOENIX® PZAG
List 52511 & 78421 - PHOENIX® PZAG Bore

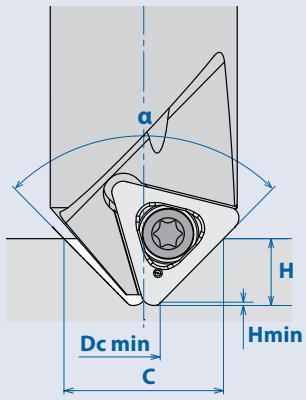
Work Material		Tensile Strength – Hardness	Drilling Speed Vc (SFM)	Feed Rate f (in/rev)				
				Ø0.531-0.625 (14-17.5mm)	Ø0.719-0.906 (20-23mm)	Ø1.000-1.813 (26-48mm)	Ø2.000-2.750 (54-72mm)	Ø3.000-0.313 (76-82mm)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	525 (330 - 655)	0.0055 (0.003-0.008)	0.007 (0.004-0.010)	0.008 (0.005-0.012)	0.016 (0.008-0.024)	0.016 (0.008-0.024)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	495 (330 - 655)	0.0055 (0.003-0.008)	0.007 (0.004-0.010)	0.008 (0.005-0.012)	0.016 (0.008-0.024)	0.016 (0.008-0.024)
	Die Steels (H13, D2)	~280 HB	395 (265 - 590)	0.005 (0.003-0.006)	0.0055 (0.004-0.008)	0.007 (0.005-0.010)	0.016 (0.008-0.020)	0.016 (0.008-0.020)
M	Stainless Steels (304, 420)	~250 HB	425 (265 - 590)	0.004 (0.003-0.006)	0.005 (0.004-0.008)	0.006 (0.005-0.010)	0.014 (0.008-0.020)	0.014 (0.008-0.020)
K	Cast Iron (No. 35 B)	~350 N/mm²	655 (495 - 915)	0.006 (0.003-0.010)	0.008 (0.004-0.012)	0.012 (0.006-0.016)	0.024 (0.012-0.032)	0.024 (0.012-0.032)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	525 (330 - 720)	0.0055 (0.003-0.008)	0.007 (0.004-0.010)	0.008 (0.006-0.012)	0.016 (0.012-0.032)	0.016 (0.012-0.032)
N	Aluminum Alloys (6061, 7075)	~13% Si	650 (330 - 2625)	0.006 (0.003-0.010)	0.008 (0.004-0.012)	0.012 (0.006-0.016)	0.024 (0.012-0.031)	0.024 (0.012-0.031)
S	Heat Resistant Alloys (Inconel 718)	-	165 (100 - 200)	0.003 (0.002-0.0055)	0.003 (0.0024-0.0055)	0.005 (0.003-0.008)	0.010 (0.006-0.016)	0.010 (0.006-0.016)
	Titanium Alloy (Ti-6Al-4V)	-	200 (100 - 330)	0.003 (0.002-0.0055)	0.004 (0.0024-0.006)	0.0055 (0.003-0.008)	0.012 (0.006-0.020)	0.012 (0.006-0.020)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	330 (200 - 400)	0.003 (0.002-0.0055)	0.004 (0.0024-0.006)	0.0055 (0.003-0.008)	0.012 (0.006-0.020)	0.012 (0.006-0.020)
	Die Cast Steels (A2, S7)	43 - 48 HrC	260 (165 - 330)	0.003 (0.002-0.0055)	0.003 (0.0024-0.0055)	0.005 (0.003-0.008)	0.010 (0.006-0.016)	0.010 (0.006-0.016)
	Hardened Steels (D2)	50 - 55 HrC	200 (130 - 260)	0.003 (0.002-0.0055)	0.003 (0.002-0.0055)	0.005 (0.003-0.008)	0.010 (0.006-0.016)	0.010 (0.006-0.016)

List 52512 & 78034 - PHOENIX® PLDS
List 78134 - PHOENIX® PLDS SF

Work Material		Tensile Strength - Hardness	Cutting Speed Vc (SFM)	Feed Rate f (in/rev)	
				Centering	Countersinking
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	260 (200 - 400)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	260 (200 - 400)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
	Die Steels (H13, D2)	~280 HB	260 (200 - 400)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
M	Stainless Steels (304, 420)	~250 HB	260 (200 - 330)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
K	Cast Iron (No. 35 B)	~350 N/mm²	330 (200 - 460)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	330 (200 - 460)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
N	Aluminum Alloys (6061, 7075)	~13% Si	500 (330 - 650)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
S	Heat Resistant Alloys (Inconel 718)	-	115 (80 - 200)	0.0015 (0.001 - 0.0025)	0.003 (0.002 - 0.0045)
	Titanium Alloy (Ti-6Al-4V)	-	130 (100 - 330)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	200 (165 - 260)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)
	Hardened Steels (D2)	43 - 48 HrC	165 (130 - 260)	0.0025 (0.001 - 0.003)	0.003 (0.002 - 0.0045)

1. For V slotting, use 80% of the Countersinking feed rate shown in the above table.

Standard Centering Depth (H)



When Point Angle (α) = 90°
Min. Centering Depth (H min) = 0.25mm
Min. Drill Hole Diameter (Dc min) = Ø2.5mm

H = (C – Dc min) ÷ 2 + Hmin

H = Centering Depth (in mm)
C = Countersink Diameter (in mm)

Ex: If Point Angle (α) = 90° and Countersink Diameter (C) = Ø10mm, Centering Depth (H) = 4mm

When Point Angle (α) = 120°
Min. Centering Depth (H min) = 0.1mm
Min. Drill Hole Diameter (Dc min) = Ø2.4mm

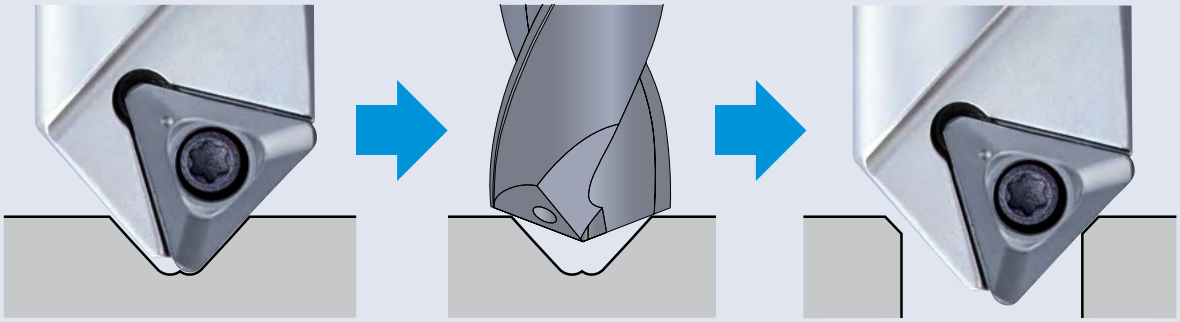
H = (C – Dc min) ÷ 3.46 + Hmin

H = Centering Depth (in mm)
C = Countersink Diameter (in mm)

Ex: If Point Angle (α) = 120° and Countersink Diameter (C) = Ø10mm, Centering Depth (H) = 2.3mm

Machining Tips

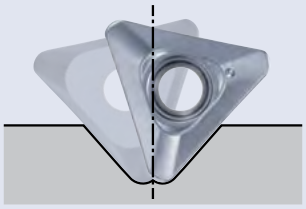
For Centering, Make the Centering Diameter Smaller than the Drill Diameter



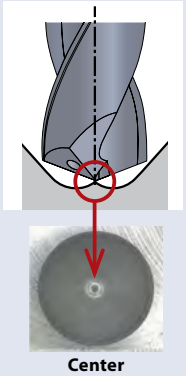
Centering | Drilling | Countersinking

Innappropriate Center Diameter Relative to the Drill Diameter

Center remnants may occur at the bottom of the hole due to the shape of the insert, which may adversely affect the drilling process.



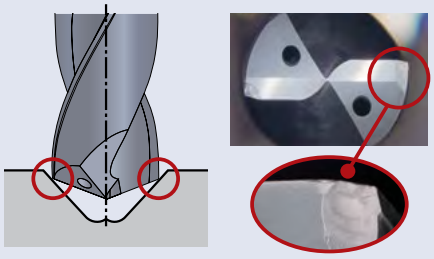
Bottom tip shape



Center remnants

Centering that Also Serves as Countersinking

When the centering diameter becomes larger than the drill diameter, the shoulder of the drill will collide with the workpiece, which may cause chipping on the cutting edge.



Drill
Reconditioning



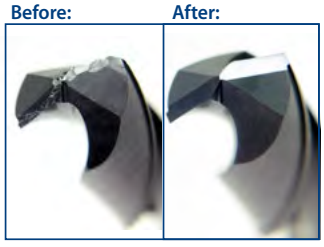
OSG Drill Reconditioning

Keeping Your Competitive Edge

OSG Tool Reconditioning

OSG's Bensenville facility is the special cutting tool and regrinding authority based in the Chicago area. Through accurate and expedient regrinds of high-end cutting tools, OSG helps customers extend tool life and save money by restoring their used cutting tools to their original condition. In addition to regrinding, the Bensenville facility also manufactures custom drills, reamers, and other special cutting tools, performs product modifications and provides premium coating services.





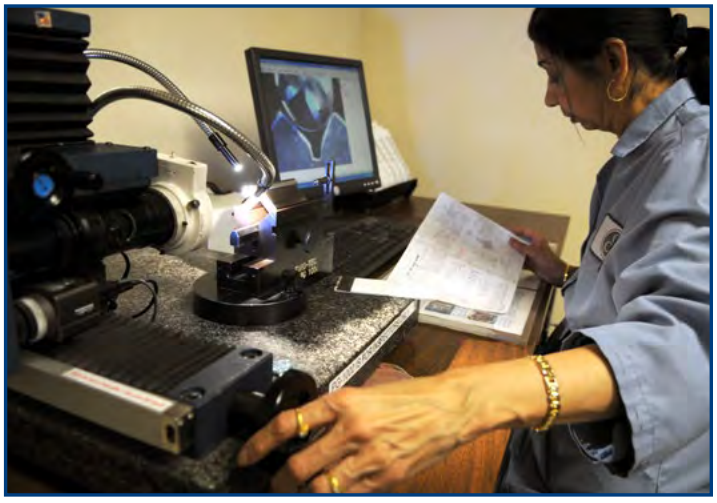
As part of the OSG Corporation (headquartered in Japan), the regrind facility is the only OSG authorized regrinding source in America. The regrinding program uses the same OSG manufacturing drawings, adheres to OSG's strict quality control standards and uses the same equipment for OSG manufacturing and inspection procedures. As one of the world's leading cutting tool manufacturers, OSG offers a global network of support to our customers.

Tool Reconditioning Lowers Costs

The primary benefit of tool reconditioning is clear: the reduction in overall tooling costs. As part of normal production, tool wear, chipping and breakage occurs often affecting tool performance and increasing manufacturing costs. By reconditioning high performance drills, end mills and taps, OSG helps manufacturers realize substantial cost savings through extended tool life without jeopardizing production quality or performance. Because OSG's reconditioned tools are manufactured to the same high level of quality and held to the same exacting standards that new tools are, customers of OSG's tool reconditioning services can expect the same high performance and quality they are accustomed with OSG's new tools even after regrinding multiple times.

Engineering & Sales Support

OSG reconditions OSG tools using the same prints as the original tools made in our plants around the world. By using original part drawings, tools are accurately reconditioned to the original specifications, so customers are assured that reconditioned tools realize the same high level of performance. Manufacturers can also work directly with OSG design engineers to customize tools for enhanced performance or to meet specific requirements.



OSG's national sales team provides tooling expertise in the field for onsite evaluations and recommendations for manufacturers to implement a customized reconditioning program. The goal is to help manufacturers reduce tool costs and inventory, optimize performance and enhance overall profits.

Contact your OSG representative or distributor to review your tool reconditioning program.



CNC Training

OSG CNC technicians are extensively trained on proper setup methodologies and reconditioning processes by an on-staff CNC trainer. Through their development, the CNC Technician training program moves operators through three levels where they are diligently monitored and certified/reevaluated annually to maintain consistency and quality in our tools. Technicians are also trained and certified/reevaluated annually by Quality Assurance to perform inspections to print on first piece and in process tools.

Inspector Training

In order to guarantee that our tools are reconditioned to the highest standards, inspectors also undergo annual training and certifications which involve standardized procedures. These are the same methods that are used in the OSG manufacturing facilities in Japan and around the world. Inspectors are trained to inspect and measure tools completely to the original tool prints.

Throughout the reconditioning process, the tools are also continuously inspected until 100% visual inspection ensures that no chipped or defective tools are received by the customer. The high tech inspection equipment used at the reconditioning facility is the same equipment used at all OSG locations. This includes in-house developed tool analyzers and state-of-the-art equipment with up to 300x magnification capabilities. The key to inspecting high performance, accurate reconditioned tools is assuring that they are held to the same inspection standards through the use of the same inspection methods as new OSG tools.

The Bensenville plant is subject to OSG's stringent JQA regrinding standards and is certified regularly by OSG Japan.

Equipment and Facility

In 2015, OSG opened a reconditioning facility which is equipped with state-of-the-art production and inspection equipment. The facility uses high precision 5-Axis CNC grinders throughout the reconditioning process for improved repeatability and precision.

OSG's weekly equipment Preventive Maintenance (PM) program ensures consistency and accuracy throughout the reconditioning process. Through this PM program, OSG's tool reconditioning performance will be consistent year after year.





THREADING

The A Brand

OSG's premium tooling brand. Features products that are designed to exceed the evolving manufacturing needs of our customers.

EXOPRO®

OSG's ultra-premium tooling series. Features supreme performance threading products with OSG's proprietary coatings for maximum cost-efficiency and productivity.

EXOCARB® Thread Mill

Premium sub-micrograin carbide thread mills suited for cast iron, steels, exotics and difficult-to-machine materials.

EXOCARB®

Ultra-high performance taps made from premium micrograin carbide used in automotive production, tapping hardened steels and threading the most abrasive of composite materials.

EXOTAP®

Ultra-premium taps made from VC-10 powdered metal high speed steel. EXOTAP® is the industry solution for difficult materials and applications, when no other tap seems to do the job.

HY-PRO®

Premium taps made from vanadium high speed steel and designed for a wide range of applications and industries.

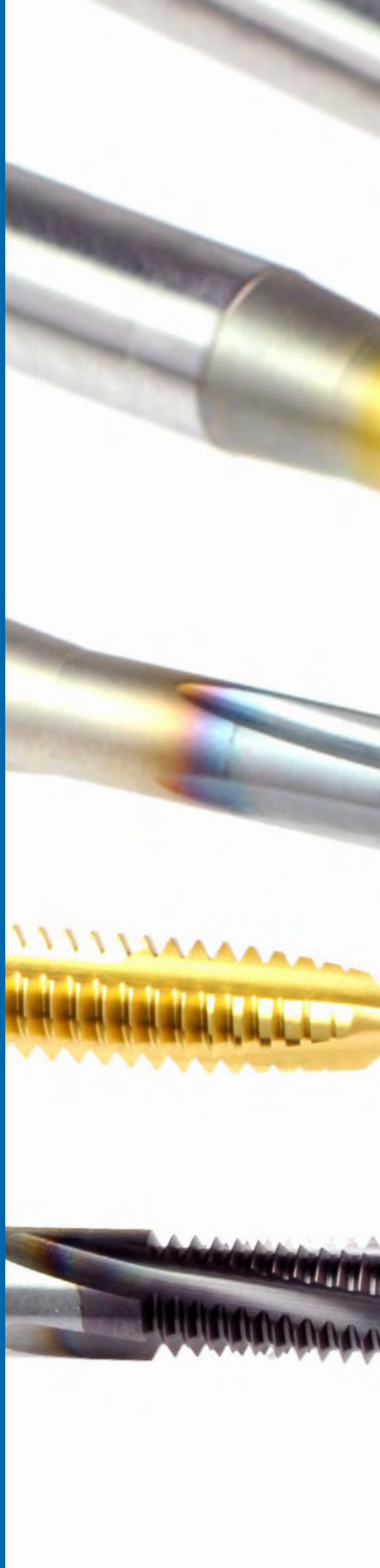
HY-PRO® SEVEN

Semi-premium taps made from premium high speed steel for general purpose tapping applications.

GENERAL PURPOSE

Premium general purpose taps for general machining applications. Available in a variety of styles and coatings.







	Work Material	Material Designation	Material Condition	Hardness	
				BHN	HRC
P	Low Carbon Steel	1010, 1018	Normalized	~190	~10
P	Medium Carbon Steel	1035, 1045	Normalized	~208	~15
P	High Carbon Steel	1065, 1095	Normalized	~253	~25
P	Alloy Steel	4140, 4340, 8620	Normalized	253~301	25~32
P		4140, 4340, 8620	Hardened	327~390	35~42
M	Stainless Steel	300 Series / 400 Series	Annealed	~253	~25
M		300 Series / 400 Series	Hardened	327~390	35~42
M		17-4, 15-5, A286	Annealed	~253	~25
M		17-4, 15-5, A286	Hardened	327~390	35~42
K	Cast Iron	Nodular, Grey	As Cast	~208	~15
N	Aluminum Alloy	6061, 7075, 2011	Normalized	~150	
N	Die Cast Aluminum	356AL, 390AL	As Cast	~150	
S	Nickel Based Alloy	Inconel 718, 625	Annealed	253~301	25~32
S		Inconel 718	Hardened	327~390	35~42
S		Hastelloy, Waspaloy	Normalized		25~40
S		Kovar	Normalized		25~40
S	Titanium Alloy	6Al4V	Annealed	253~301	25~32
S		6Al4V, 6AL6V	Hardened	327~390	35~42
H	Tool Steel	D2, H13, P20, S7	Annealed	190~253	10~25
H		H13	Hardened	327~450	35~48
H		D2, A2	Hardened		48~55
H		D2, A2	Hardened		55~70

Form Taps				Cut Taps									Pipe Taps	
440-463	425-432	420-424	437-439	See Index	See Index	469-474	475-476	551-554	555-556	524-527	632-633	See Index	732-736	737-750
EXOTAP® NRT & HY-PRO® NRT	EXOPRO® XPF	EXOPRO® XPF-OIL *Coolant-Through*	EXOCARB® Carbide	General	General *Coolant-Through*	A Brand A-SFT	A Brand A-OIL-SFT *Coolant-Through*	A Brand A-POT	A Brand A-OIL-POT *Coolant-Through*	HY-PRO® Synchro AL	EXOCARB® VX	Carbide	A Brand A-Pipe Taps	Pipe Taps
35-130	50-115	75-130	40-145	25-80	50-120	80-120	100-200	80-120	100-200	85-105	-	35-100	5-35	15-40
20-50	50-115	75-130	25-60	20-50	45-110	80-120	100-200	80-120	100-200	85-105	-	30-70	5-35	10-25
15-30	50-85	65-100	20-35	20-45	40-100	80-120	100-200	80-120	100-200	70-85	-	30-60	5-35	10-20
15-30	50-85	65-100	20-35	20-50	45-110	35-50	50-100	40-65	50-120	70-85	-	30-70	5-20	10-25
-	10-40	20-50	-	15-20	20-60	20-40	40-80	35-55	45-110	-	-	20-35	5-20	10-15
15-40	15-40	20-50	20-60	20-45	30-70	15-35	25-70	25-75	40-120	-	-	25-55	5-20	10-25
15-35	15-35	20-45	20-50	12-20	20-50	15-35	25-70	25-75	40-120	-	-	15-30	5-20	8-12
15-25	15-30	20-40	20-40	15-20	20-50	15-25	25-50	25-60	40-100	-	-	20-35	-	8-12
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50-150	65-115	80-130	60-160	40-80	50-125	70-120	90-220	70-120	90-220	300-800	-	50-100	5-20	15-40
45-130	65-90	75-110	55-120	40-65	50-110	70-120	90-220	70-120	90-220	200-700	-	50-80	5-35	20-35
-	8-12	8-10	-	8-15	-	-	-	-	-	-	-	10-20	-	-
-	8-10	-	-	8-15	-	-	-	-	-	-	-	10-20	-	-
-	-	-	-	8-15	-	-	-	-	-	-	-	10-20	-	-
-	-	-	-	8-15	-	-	-	-	-	-	-	10-20	5-10	-
-	8-15	8-10	-	15-20	-	-	-	-	-	-	-	20-30	5-10	-
-	8-12	-	-	3-10	-	-	-	-	-	-	-	5-12	-	-
20-45	15-50	20-65	25-60	15-35	20-60	30-55	50-110	40-65	60-120	-	-	20-50	5-35	10-20
10-15	12-25	20-35	15-30	8-15	15-50	-	-	20-50	30-80	-	-	10-20	-	8-12
-	-	-	-	3-10	-	-	-	15-40	25-75	-	5-12	5-12	-	-
-	-	-	-	3-8	-	-	-	-	-	-	3-10	3-10	-	-

For Thread Mills please refer to pages 787-793.
For conversions to RPM please refer to page 762.

List	Item	Brand & List Name	Size Range	Features	Product Page/ Tech Page	
Thread Mills						
16625		A Brand AT-1	1/4" - 1"	Helical Flute, UNC, UNF, UNEF — Inch, CARBIDE, EgiAs	400	789
16620		A Brand AT-1	M6 - M24	Helical Flute, M, MF — Metric, CARBIDE, EgiAs	401	789
16630		A Brand AT-1 NPT	1/16" - 1"	Helical Flute, NPT — Inch, CARBIDE, EgiAs	402	789
16631		A Brand AT-1 NPTF	1/16" - 1"	Helical Flute, NPTF — Inch, CARBIDE, EgiAs	403	789
16645		A Brand AT-2	No. 8 - 1/2"	Straight Flute, UNC, UNF — Inch, CARBIDE, DUROREY	404	790
16640		A Brand AT-2	M3 - M12	Straight Flute, M — Metric, CARBIDE, DUROREY	405	790
16647		A Brand AT-2 R-SPEC	No. 4 - 1/2"	UNC, UNF — Inch, CARBIDE, DLC-4GUSS	406	791
16642		A Brand AT-2 R-SPEC	M3 - M12	M — Metric, CARBIDE, DLC-4GUSS	407	791
41200		EXOCARB® WH-VM-PNC	No. 0 - No. 8	Miniature, Helical Flute, UNC, UNF — Inch, CARBIDE, WXS, SS	408	793
41300		EXOCARB® WH-VM-PNC	M1 - M5	Miniature, Helical Flute, M — Metric, CARBIDE, WXS, SS	409	793
41000		EXOCARB® OT-SFT-PNGT	No. 10 - 1"	Helical Flute, UNC, UNF, UNEF, UNS — Inch, CARBIDE, EXO	410-411	792
41100		EXOCARB® OT-SFT-PNGT/WX-PNC	M6 - M24	Helical Flute, M, MF — Metric, CARBIDE, EXO	412	792
41050		EXOCARB® WXO-ST-PNC	1/4" - 1"	Helical Flute, UNC, UNF — Inch, CARBIDE, EXO	413	792
41150		EXOCARB® WXO-ST-PNC	M6 - M24	Helical Flute, M, MF — Metric, CARBIDE, EXO	414	792
42000		EXOCARB® OT-SFT-PNGT NPT	1/16" - 2-1/2"	Helical Flute, NPT — Inch, CARBIDE, EXO	415	792
42001		EXOCARB® OT-SFT-PNGT NPTF	1/16" - 2-1/2"	Helical Flute, NPTF — Metric, CARBIDE, EXO	416	792
Diameter Correction Tool						
15015		OSG DCT75	No.5 - 1"	UNC, UNF, UNEF, UN — Inch, HSS, TiN	417	
15010		OSG DCT75	M3 - M16	M, MF — Metric, HSS, TiN	418	
15020		OSG DCT75 ACCESSORIES		Metric	419	
Forming Taps						
16050		EXOPRO® OIL-S-XPF	1/4" - 1"	DIN OAL, UNC, UNF, UN — Inch, HSS-Co, V	420-421	
16150		EXOPRO® OIL-S-XPF	M6 - M45	DIN OAL, M, MF — Metric, HSS-Co, V	422-424	
16250		EXOPRO® S-XPF	No.0 - 1-3/4"	DIN OAL, UNC, UNF, UN — Inch, HSS-Co, V	425-428	
16350		EXOPRO® S-XPF	M1 - M45	DIN OAL, M, MF — Metric, HSS-Co, V	429-432	
16255		EXOPRO® LT-S-XPF	No.5 - 1"	Long Shank, UNC, UNF — Inch, HSS-Co, V	433-434	

Thread Mills

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
16625	◎	◎	◎	◎		◎	○	○	◎	◎	◎			◎	◎		
16620	◎	◎	◎	◎		◎	○	○	◎	◎	◎			◎	◎		
16630	◎	◎	◎	◎		◎	○	○	◎	◎	◎			◎	◎		
16631	◎	◎	◎	◎		◎	○	○	◎	◎	◎			◎	◎		
16645	○	◎	◎	◎	◎	○	○	◎	◎	○	○	○	○	◎	◎	◎	◎
16640	○	◎	◎	◎	◎	○	○	◎	◎	○	○	○	○	◎	◎	◎	◎
16647										◎	◎						
16642										◎	◎						
41200	○	○	○	○		◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	○
41300	○	○	○	○		◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	○
41000	◎	◎	○	○		○	○	○	◎	◎	◎			○	○		
41100	◎	◎	○	○		○	○	○	◎	◎	◎	○	○	○	○		
41050	○	◎	◎	◎		○	○	○	○					◎	◎		
41150	○	◎	◎	◎		○	○	○	○					◎	◎		
42000	◎	◎	○	○		○	○	○	◎	◎	◎			○	○		
42001	◎	◎	○	○		○	○	○	◎	◎	◎			○	○		

Forming Taps

16050	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	○	○	◎	○		
16150	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	○	○	◎	○		
16250	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	○	○	◎	○		
16350	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	○	○	◎	○		
16255	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	○	○	◎	○		

○ good ◎ best

List	Item	Brand & List Name	Size Range	Features	Product Page/ Tech Page
Forming Taps (Continued)					
16355		EXOPRO® LT-S-XPF	M3 - M20	Long Shank, M, MF — Metric, HSS-Co, V	435-436
14153		EXOCARB® OTC-NRT	M6 - M10	Carbide Inlaid, DIN/DIN, M, MF — Metric, CARBIDE, BR	437
369		EXOCARB® OT-NRT	M3 - M12	JIS, M, MF — Metric, CARBIDE, BR	438
357		EXOCARB® OT-LT-NRT	M6 - M12	JIS, Long Shank, M, MF — Metric, CARBIDE, BR	439
14050		EXOTAP® VP-NRT	No.0 - 3/8"	UNC, UNF — Inch, VC10, V	440-442
14150		EXOTAP® VP-NRT	M1.6 - M12	M, MF — Metric, VC10, V	443-444
14001		HY-PRO® NRT	No.0 - 3/4"	UNC, UNF — Inch, HSS-Co, BR, S/O, TiN, TiCN	445-456
14101		HY-PRO® NRT	M1.6 - M12	M, MF — Metric, HSS-Co, BR, S/O, TiN	457-463
285		HY-PRO® SEVEN NRT	No.0 - 1/2"	UNC, UNF — Inch, HSS, BR, TiN, TiCN	464-465
286		HY-PRO® SEVEN NRT	M3 - M12	M, MF — Metric, HSS, BR, TiN, TiCN	466
Spiral Fluted Taps					
16605		A Brand A-CSF	1/4" - 1/2"	DIN OAL, UNC, UNF — Inch, CARBIDE, BR	467
16600		A Brand A-CSF	M5 - M12	DIN OAL, M, MF — Metric, CARBIDE, BR	468
16505		A Brand A-SFT	No.4 - 2"	Variable Helix, DIN OAL, UNC, UNF, UNEF, UNS, UN — Inch, VC10, V	469-471
16500		A Brand A-SFT	M1.4 - M56	Variable Helix, DIN OAL, M, MF — Metric, VC10, V	472-474
16545		A Brand A-OIL-SFT	1/4" - 2"	Variable Helix, DIN OAL, UNC, UNF, UN — Inch, VC10, V	475
16540		A Brand A-OIL-SFT	M6 - M56	Variable Helix, DIN OAL, M, MF — Metric, VC10, V	476
16525		A Brand A-LT-SFT	No.4 - 1"	Variable Helix, Long Shank, UNF, UNC — Inch, VC10, V	477
16520		A Brand A-LT-SFT	M3 - M24	Variable Helix, Long Shank, M, MF — Metric, VC10, V	478
16450		EXOPRO® CC-SUS-SFT	No.2 - 1"	Variable Helix, DIN OAL, UNC, UNF — Inch, HSSE, TiN	479-480
16455		EXOPRO® CC-SUS-SFT	M2 - M24	Variable Helix, DIN OAL, M — Metric, HSSE, TiN	481
13063		EXOPRO® Ti V-CPM-RFT	No.2 - 1/2"	RHC/LHS, UNF, UNC — Inch, VC10, V	482
13163		EXOPRO® Ti V-CPM-RFT	M2.5 - M12	RHC/LHS, M, MF — Metric, VC10, V	483
335Ni		EXOPRO® WHR-Ni-SFT	No.2 - 1"	DIN OAL, UNF, UNC — Inch, VC10, HR	484
336Ni		EXOPRO® WHR-Ni-SFT	M2.5 - M24	DIN OAL, M, MF — Metric, VC10, HR	485
389		EXOCARB® OT-SFT	M3 - M12	JIS, M, MF — Metric, CARBIDE, BR	486

Forming Taps (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
16355	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	○	○	◎	○		
14153										◎	◎						
369										◎	◎						
357										◎	◎						
14050	◎	◎	◎	◎	◎	◎	◎	○		◎	◎			○			
14150	◎	◎	◎	◎	◎	◎	◎	○		◎	◎			○			
14001	◎	◎	◎	○	○	○	○	○		◎	◎			○			
14101	◎	◎	◎	○	○	○	○	○		◎	◎			○			
285	◎	○								◎	◎						
286	◎	○								◎	◎						

Spiral Fluted Taps

16605									◎	◎	◎						
16600									◎	◎	◎						
16505	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16500	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16545	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16540	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16525	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16520	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16450	○	○	○	◎		◎	◎	○									
16455	○	○	○	◎		◎	◎	○									
13063				○				○					◎	○			
13163				○				○					◎	○			
335Ni								○				◎				○	
336Ni								○				◎				○	
389									◎	◎	◎						

○ good ◎ best

Spiral Fluted Taps (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page/ Tech Page
313TI		EXOTAP® VC-10 V-Ti-SFT	No.2 - 1"	UNC, UNF; Inch; VC10; V	487
345TI		EXOTAP® VC-10 V-Ti-SFT	M2.5 - M12	M, MF; Metric; VC10; V	488
317Ti		EXOTAP® VC-10 VPO-Ti-SFT	1/4" - 1"	DIN OAL, UNF; Inch; VC10; V	489
348Ti		EXOTAP® VC-10 VPO-Ti-SFT	M8 - M24	DIN OAL, MF; Metric; VC10; V	490
313NI		EXOTAP® VC-10 Ni-SFT	No.2 - 1"	UNF, UNC; Inch; VC10; S/O; V	491-492
345NI		EXOTAP® VC-10 Ni-SFT	M2.5 - M12	M, MF; Metric; VC10; S/O	493
313		EXOTAP® VC-10 SFT	No.2 - 3/4"	UNF, UNC; Inch; VC10; S/O; V	494-496
345		EXOTAP® VC-10 SFT	M3 - M12	M, MF; Metric; VC10; S/O; V	497
317		EXOTAP® VC-10 VPO-SFT	5/16" - 1"	DIN OAL, UNF, UNC; Inch; VC10; V	498
351		EXOTAP® VC-10 VPO-SFT	M8 - M24	DIN OAL, M, MF; Metric; VC10; V	499
303		EXOTAP® VA-3 SFT	No.2 - 1"	UNC, UNF; Inch; HSSE; S/O; TiN; V	500-504
343		EXOTAP® VA-3 SFT	M3 - M18	M, MF; Metric; HSSE; S/O; TiN; V	505
307		EXOTAP® VA-3 OIL-V-SFT	1/4" - 1"	DIN OAL, UNF, UNC; Inch; HSSE; V	506
347		EXOTAP® VA-3 OIL-V-SFT	M6 - M24	DIN OAL, M, MF; Metric; HSSE; V	507
398		EXOTAP® VA-3 LS-SFT	No.4 - 5/8"	Long Shank, UNC, UNF; Inch; HSSE; S/O	508
220		HY-PRO® DIN-SFT	No.4 - 2"	DIN OAL, UNC, UNF, UN; Inch; HSSE; S/O	509
229		HY-PRO® DIN-SFT	M3 - M20	DIN OAL, M, MF; Metric; HSSE; S/O	510
230		HY-PRO® DIN OIL-TIN-SFT	1/4" - 1"	DIN OAL, UNC, UNF; Inch; HSSE; TiN	511
239		HY-PRO® DIN OIL-TIN-SFT	M6 - M20	DIN OAL, M, MF; Metric; HSSE; TiN	512
13013		HY-PRO® ALLOY OIL-V-SFT	1/4" - 3/4"	DIN OAL, UNC, UNF; Inch; HSSE; V	513
13113		HY-PRO® ALLOY OIL-V-SFT	M6 - M20	DIN OAL, M, MF; Metric; HSSE; V	514
13014		HY-PRO® HXL-SFT	1/2" - 2-1/2"	DIN OAL, UNC, UNF, UN; Inch; HSSE; S/O	515
13024		HY-PRO® HXL-OIL-SFT	1/2" - 2-1/2"	DIN OAL, UNC, UNF, UN; Inch; HSSE; S/O	516
13015		HY-PRO® VXL-SFT	1/2" - 2-1/2"	DIN OAL, UNC, UNF, UN; Inch; HSSE; S/O	517
13025		HY-PRO® VXL-OIL-SFT	1/2 - 2-1/2"	DIN OAL, UNC, UNF, UN; Inch; HSSE; S/O	518
13116		HY-PRO® HXL-W-SFT	M16 - M42	DIN OAL, M; Metric; HSSE; S/O	519

Spiral Fluted Taps (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
313TI				○				○				◎	◎	○	○		
345TI				○				○				◎	◎	○	○		
317Ti				○				○				◎	◎	○	○		
348Ti				○				○				◎	◎	○	○		
313NI								○				◎	○	○	○		
345NI								○				◎	○	○	○		
313				◎	○		○	◎				○	○	◎	○		
345				◎	○		○	◎				○	○	◎	○		
317				◎	○		○	◎				○	○	◎	○		
351				◎	○		○	◎				○	○	◎	○		
303	◎	○	○			◎	◎	○									
343	◎	○	○			◎	◎	○									
307	◎	○	○			◎	◎	○									
347	◎	○	○			◎	◎	○									
398	◎	○	○			◎	◎	○									
220	○	○	◎	◎	○	○	○	○	○					○			
229	○	○	◎	◎	○	○	○	○	○					○			
230	○	○	◎	◎	◎	○	○	○	○	○	○			○			
239	○	○	◎	◎	◎	○	○	○	○	○	○			○			
13013			○	◎	○				○		○			○	○		
13113			○	◎	○				○		○			○	○		
13014	◎	◎	◎	◎	○	○	○	○	◎					◎	○		
13024	◎	◎	◎	◎	○	○	○	○	◎					◎	○		
13015	◎	◎	◎	◎	○	○	○	○	◎					◎	○		
13025	◎	◎	◎	◎	○	○	○	○	◎					◎	○		
13116	◎	◎	◎	◎	○	○	○	○	◎					◎	○		

○ good ◎ best

Spiral Fluted Taps (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page/ Tech Page
13126		HY-PRO® HXL-W-OIL-SFT	M16 - M42	DIN OAL, M; Metric, HSSE, S/O, Oil Hole	520
13117		HY-PRO® VXL-W-SFT	M16 - M42	DIN OAL, M; Metric, HSSE, S/O	521
13127		HY-PRO® VXL-W-OIL-SFT	M16 - M42	DIN OAL, M; Metric, HSSE, S/O, Oil Hole	522
13118		HY-PRO® RXL-W-RFT	M16 - M42	RHC/LHS, DIN OAL & Extended OAL, For Through Holes, M; Metric, HSSE, V	523
13058		HY-PRO® SYNCHRO AL US-AL-SFT	No.6 - 1/2"	Synchronized, UNC, UNF; Inch, HSSE, V	524
13158		HY-PRO® SYNCHRO AL US-AL-SFT	M3 - M12	Synchronized, M, MF; Metric, HSSE, V	525
13059		HY-PRO® SYNCHRO AL US-AL-RFT	No. 6 - 1/2"	RHC/LHS, Synchronized, UNC, UNF; Inch, HSSE, V	526
13159		HY-PRO® SYNCHRO AL US-AL-RFT	M3 - M12	RHC/LHS, Synchronized, M, MF; Metric, HSSE, V	527
295		HY-PRO® AL-SFT	No.4 - 3/8"	UNC, UNF; Inch, HSSE, BR	528
296		HY-PRO® AL-SFT	M3 - M10	M, MF; Metric, HSSE, BR	529
13019		HY-PRO® AL-DIN EX-AL-SFT	No.2 - 1/2"	DIN OAL, UNC, UNF; Inch, HSSE, N	530
13119		HY-PRO® AL-DIN EX-AL-SFT	M3 - M12	DIN OAL, M, MF; Metric, HSSE, N	531
290		HY-PRO® SFT	No.2 - 1-1/2"	UNC, UNF, UN; Inch, HSSE, BR, S/O, TiCN	532-537
299		HY-PRO® SFT	M3 - M30	M, MF; Metric, HSSE, BR, S/O, TiCN	538-539
297		HY-PRO® SEVEN SFT	No.3 - 1/2"	UNC, UNF; Inch, HSS, BR, S/O, TiN	540-541
298		HY-PRO® SEVEN SFT	M3 - M12	M; Metric, HSS, BR, S/O, TiN	542
107		OSG GENERAL PURPOSE-SFT	No. 3 - 3/4"	UNC, UNF; Inch, HSS, BR, S/O, TiN, TiCN	543-546
143		OSG GENERAL PURPOSE-SFT	M3 - M12	M; Metric, HSS, BR, S/O, TiN, TiCN	547
13020		OSG GENERAL PURPOSE-SFT	No.6 - 5/8"	UNC, UNF; Inch, HSS, S/O	548
123		OSG GENERAL PURPOSE EX-SFT	M3 - M24	JIS, M, MF; Metric, HSSE, BR	549
918		OSG GENERAL PURPOSE-LS-SFT	No.4 - 5/8"	Long Shank, UNC, UNF; Inch, HSS, BR	550

Spiral Pointed Taps

16515		A Brand A-POT	No.2 - 1'	DIN OAL, UNC, UNF, UNEF, UNS; Inch, VC10, V	551-552
16510		A Brand A-POT	M1.4 - M24	DIN OAL, M, MF; Metric, VC10, V	553-554
16555		A Brand A-OIL-POT	1/4" - 1"	DIN OAL, UNC, UNF; Inch, VC10, V, Oil Hole	555
16550		A Brand A-OIL-POT	M6 - M24	DIN OAL, M, MF; Metric, VC10, V, Oil Hole	556

Spiral Fluted Taps (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
13126	◎	◎	◎	◎	○	○	○	○	◎					◎	○		
13117	◎	◎	◎	◎	○	○	○	○	◎					◎	○		
13127	◎	◎	◎	◎	○	○	○	○	◎					◎	○		
13118	◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		
13058										◎	◎						
13158										◎	◎						
13059										◎	◎						
13159										◎	◎						
295										◎	◎						
296										◎	◎						
13019										◎	◎						
13119										◎	◎						
290	○	◎	◎	◎	○	○	○	○	○					○			
299	○	◎	◎	◎	○	○	○	○	○					○			
297	◎	◎								○	○						
298	◎	◎								○	○						
107	○	○	○						○	○	○						
143	○	○	○						○	○	○						
13020	○	○	○						○	○	○						
123	○	○	○						○	○	○						
918	○	○	○						○	○	○						

Spiral Pointed Taps

16515	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16510	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16555	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16550	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			

○ good ◎ best

Spiral Pointed Taps (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page/ Tech Page
16535		A Brand A-LT-POT	No.4 - 1"	Long Shank, UNC, UNF — Inch, VC10, V	557
16530		A Brand A-LT-POT	M3 - M24	Long Shank, M, MF — Metric, VC10, V	558
337Ni		EXOPRO® WHR-Ni-POT	No.2 - 1"	DIN OAL, UNC, UNF — Inch, VC10, HR	559
338Ni		EXOPRO® WHR-Ni-POT	M2.5 - M24	DIN OAL, M, MF — Metric, VC10, HR	560
312TI		EXOTAP® VC-10 V-Ti-POT	No.2 - 1"	UNC, UNF — Inch, VC10, V	561
344TI		EXOTAP® VC-10 V-Ti-POT	M3 - M12	M, MF — Metric, VC10, V	562
316TI		EXOTAP® VC-10 VPO-Ti-POT	1/4" - 1"	DIN OAL, UNF — Inch, VC10, V	563
347TI		EXOTAP® VC-10 VPO-Ti-POT	M8 - M24	DIN OAL, MF — Metric, VC10, V	564
312NI		EXOTAP® VC-10 Ni-POT	No.2 - 1"	UNC, UNF — Inch, VC10, S/O, V	565-566
344NI		EXOTAP® VC-10 Ni-POT	M2.5 - M12	M, MF — Metric, VC10, S/O, V	567
312		EXOTAP® VC-10 POT	No.2 - 3/4"	UNC, UNF — Inch, VC10, S/O, V	568-569
344		EXOTAP® VC-10 POT	M3 - M12	M, MF — Metric, VC10, S/O, V	570
316		EXOTAP® VC-10 VPO-POT	1/4" - 1"	DIN OAL, UNC, UNF — Inch, VC10, V	571
350		EXOTAP® VC-10 VPO-POT	M6 - M24	DIN OAL, M, MF — Metric, VC10, V	572
300		EXOTAP® VA-3 POT	No.2 - 1"	UNC, UNF — Inch, HSSE, S/O, TiN, V	573-576
342		EXOTAP® VA-3 POT	M3 - M18	M, MF — Metric, HSSE, S/O, TiN, V	577
306		EXOTAP® OIL-V-POT	1/4" - 1"	DIN OAL, UNC, UNF — Inch, HSSE, V	578
346		EXOTAP® OIL-V-POT	M6 - M24	DIN OAL, M, MF — Metric, HSSE, V	579
397		EXOTAP® VA-3 LS-POT	No.4 - 5/8"	Long Shank, UNC, UNF — Inch, HSSE, S/O	580
320		EXOTAP® TIN-POT	No. 4 - 3/4"	UNC, UNF — Inch, HSSE, TiN	581
250		HY-PRO® DIN-POT	No. 4- 3/4"	DIN OAL, UNC, UNF — Inch, HSSE, S/O	582
259		HY-PRO® DIN-POT	M3 - M20	DIN OAL, M, MF — Metric, HSSE, S/O	583
260		HY-PRO® OIL-TIN-POT	1/4" - 1"	DIN OAL, UNC, UNF — Inch, HSSE, TiN	584
269		HY-PRO® OIL-TIN-POT	M6 - M20	DIN OAL, M, MF — Metric, HSSE, TiN	585
11015		HY-PRO® AERO-F	No.4 - 1"	UNC, UNF — Inch, HSS-Co, TiN	586-590
11115		HY-PRO® AERO-F	M3 - M14	MF, M — Metric, HSS-Co, TiN	591-592

Spiral Pointed Taps (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
16535	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
16530	◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
337Ni								○				◎				○	
338Ni								○				◎				○	
312TI				○				○				◎	◎	○	○		
344TI				○				○				◎	◎	○	○		
316TI				○				○				◎	◎	○	○		
347TI				○				○				◎	◎	○	○		
312NI								○				◎	○	○	○		
344NI								○				◎	○	○	○		
312				◎	○		○	◎				○	○	◎	○		
344				◎	○		○	◎				○	○	◎	○		
316				◎	○		○	◎				○	○	◎	○		
350				◎	○		○	◎				○	○	◎	○		
300	◎	○	○			◎	◎	○									
342	◎	○	○			◎	◎	○									
306	◎	○	○			◎	◎	○									
346	◎	○	○			◎	◎	○									
397	◎	○	○			◎	◎	○									
320	○	○	◎	◎	◎	○	○	○	○	○	○			○			
250	○	○	◎	◎	○	○	○	○	○					○			
259	○	○	◎	◎	○	○	○	○	○					○			
260	○	○	◎	◎	◎	○	○	○	○	○	○			○			
269	○	○	◎	◎	◎	○	○	○	○	○	○			○			
11015	◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○			
11115	◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○			

○ good ◎ best

List	Item	Brand & List Name	Size Range	Features	Product Page/ Tech Page
Spiral Pointed Taps (Continued)					
11016		HY-PRO® AL-DIN-POT	No.2 - 1/2"	DIN OAL, UNC, UNF; Inch, HSSE, N	593
11116		HY-PRO® AL-DIN-POT	M3 - M12	DIN OAL, M, MF; Metric, HSSE, N	594
11017		HY-PRO® V-DIN	No.4 - 1/2"	DIN OAL, UNC, UNF; Inch, HSSE, V	595
11117		HY-PRO® V-DIN-POT	M3 - M12	DIN OAL, M; Metric, HSSE, V	596
280		HY-PRO® POT	No.2 - 1-1/2"	UNC, UNF, UN; Inch, HSSE, BR, S/O, TiCN	597-603
289		HY-PRO® POT	M3 - M30	M, MF; Metric, HSSE, BR, S/O, TiCN	604-605
287		HY-PRO® SEVEN POT	No. 0 - 1/2"	UNC, UNF; Inch, HSS, BR, S/O, TiN	606-608
288		HY-PRO® SEVEN POT	M3 - M12	M; Metric, HSS, BR, S/O, TiN	609
105		OSG GENERAL PURPOSE-POT	No.0 - 3/4"	UNC, UNF, NS; Inch, HSS, BR, S/O, TiN, TiCN	610-616
105B		OSG GENERAL PURPOSE-POT	No.0 - 7/16"	UNC, UNF; Inch, HSS, BR, S/O	617-618
105A		OSG GENERAL PURPOSE-POT ASSEMBLY	No.4 - 1/2"	Assembly Type Taps, UNC, UNF; Inch, HSS, BR, S/O	619
105+		OSG GENERAL PURPOSE-POT H7	No.4 - No.10	H7 Taps, UNC, UNF; Inch, HSS, BR, TiN	620
105H		OSG GENERAL PURPOSE-POT +.005 OVERSIZE	No. 6 - 3/4"	+.005 OVERSIZE, UNC, UNF; Inch, HSS, BR, S/O, TiN	621-622
142H		OSG GENERAL PURPOSE-POT +.005 OVERSIZE	M4 - M12	+.005 OVERSIZE, M; Metric, HSS, BR	623
142		OSG GENERAL PURPOSE-POT	M1.6 - M20	M, MF; Metric, HSS, BR, S/O, TiN, TiCN	624-625
122		OSG EX-POT	M3 - M24	JIS, M, MF; Metric, HSSE, BR, S/O	626
917		OSG GENERAL PURPOSE-LS-POT	No.4 - 5/8"	Long Shank, UNC, UNF; Inch, HSS, BR, S/O	627
11118		OSG GENERAL PURPOSE-LS-POT	M4 - M12	Extended Length, M; Metric, HSS, S/O	628
S111		OSG GENERAL PURPOSE-POT MINIATURE	No.00	Miniature, NS; Inch, HSS, BR	629
Straight Fluted Taps					
16615		A Brand A-CHT	No.12 - 5/8"	DIN OAL, UNC, UNF; Inch, CARBIDE, BR	630
16610		A Brand A-CHT	M5 - M16	DIN OAL, M, MF; Metric, CARBIDE, BR	631
311		EXOCARB® VX-OT	No.4 - 1/2"	DIN OAL, UNC, UNF; Inch, CARBIDE, V	632
341		EXOCARB® VX-OT	M2.6 - M20	JIS, M, MF; Metric, CARBIDE, V	633
10051		EXOTAP® VCX V-XPM-HT	No. 6 - 1"	UNC, UNF; Inch, XPM, V	642
11051		EXOTAP® VCX V-XPM-HT	M3 - M24	M, MF; Metric, XPM, V	643

Spiral Pointed Taps (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
11016										◎	◎						
11116										◎	◎						
11017	◎	◎	◎	◎	◎	◎	◎	○	◎					○			
11117	◎	◎	◎	◎	◎	◎	◎	○	◎					○			
280	○	◎	◎	◎	○	○	○	○	○					○			
289	○	◎	◎	◎	○	○	○	○	○					○			
287	◎	◎								○	○						
288	◎	◎								○	○						
105	○	○	○						○	○	○						
105B	○	○	○						○	○	○						
105A	○	○	○						○	○	○						
105+	○	○	○						○	○	○						
105H	○	○	○						○	○	○						
142H	○	○	○						○	○	○						
142	○	○	○						○	○	○						
122	○	○	○						○	○	○						
917	○	○	○						○	○	○						
11118	○	○	○						○	○	○						
S111	○	○	○						○	○	○						

Straight Fluted Taps

16615									◎		◎						
16610									◎		◎						
311																○	◎
341																○	◎
10051				○												◎	
11051				○												◎	

○ good ◎ best

Straight Fluted Taps (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page/ Tech Page
305		EXOTAP® MOLD-HT	No.4 - 3/4"	UNC, UNF; Inch; HSS-Co; BR	644
10052		EXOTAP® DC VP-DC-HT	1/4" - 1"	DIN OAL, UNC, UNF; Inch; VC10; V	645
11052		EXOTAP® DC VP-DC-HT	M6 - M24	DIN OAL, M, MF; Metric; VC10; V	646
10053		EXOTAP® DC-OIL VPO-DC-HT	1/4" - 1"	DIN OAL, UNC, UNF; Inch; VC10; V	647
11053		EXOTAP® DC-OIL VPO-DC-HT	M6 - M24	DIN OAL, M, MF; Metric; VC10; V	648
11054		EXOTAP® DC VP-DC-HT	M6 - M10	DIN Shank, DIN OAL, M; Metric; VC10; V	649
11055		EXOTAP® DC-OIL VPO-DC-HT	M6-M12	DIN Shank, DIN OAL, M; Metric; VC10; V	650
10056		EXOTAP® DC VP-DC-HT	1/4" - 3/4"	UNC, UNF; Inch; VC10; V	651
11056		EXOTAP® DC VP-DC-HT	M6 - M14	M, MF; Metric; VC10; V	652
10057		EXOTAP® DC-OIL VPO-DC-HT	1/4" - 1/2"	UNC, UNF; Inch; VC10; V	653
11057		EXOTAP® DC-OIL VPO-DC-HT	M6 - M14	M, MF; Metric; VC10; V	654
240		HY-PRO® DC EX-DC-HT	No.2 - 1/2"	UNC, UNF; Inch; HSSE; BR; N	655-656
241		HY-PRO® DC EX-DC-HT	M3 - M12	M, MF; Metric; HSSE; N	657
101C		OSG GENERAL PURPOSE-HT	1/4" - 3/4"	UNC, UNF; Inch; HSS; N S/O	658-659
141C		OSG GENERAL PURPOSE-HT	M6 - M12	M; Metric; HSS; N S/O	660
101		OSG GENERAL PURPOSE-HT	1/4" - 1-1/2"	UNC, UNF, UNS, UN, NS; Inch; HSS; BR; S/O; TiN; TiCN	661-669
102		OSG GENERAL PURPOSE-HT	No.0 - No.12	UNC, UNF, NS; Inch; HSS; BR; S/O; TiN; TiCN	670-675
101H		OSG GENERAL PURPOSE-HT +.005 OVERSIZE	1/4" - 3/4"	+.005 OVERSIZE, UNC, UNF; Inch; HSS; BR; S/O; TiCN	676
102H		OSG GENERAL PURPOSE-HT +.005 OVERSIZE	No.6 - No.10	+.005 OVERSIZE, UNC, UNF; Inch; HSS; BR; S/O	677
103		OSG GENERAL PURPOSE-HT	No.8 - 1/2"	Three Flutes, UNC, UNF; Inch; HSS; BR; S/O; TiN	678-679
104		OSG GENERAL PURPOSE-HT	No.2 - 5/16"	Two Flutes, UNC, UNF; Inch; HSS; BR; S/O	680-681
101N		OSG GENERAL PURPOSE-HT	No.12 - 1"	UNEF; Inch; HSS; BR	682
141		OSG GENERAL PURPOSE-HT	M1.6 - M36	M, MF; Metric; HSS; BR; S/O	683-685
121		OSG GENERAL PURPOSE-HT	M2 - M36	JIS, M, MF; Metric; HSS; BR; S/O	686-688
916		OSG GENERAL PURPOSE-LS-HT	1/4" - 3/4"	Pulley Taps, Long Shank, UNC; Inch; HSS; S/O	689
S110		OSG GENERAL PURPOSE-HT MINIATURE	No.000 - No.00	Miniature, NS; Inch; HSS; BR	690
180		OSG GENERAL PURPOSE-HT 8 PITCH	1-1/8" - 2-1/4"	8 Pitch, UNC, UN; Inch; HSS; BR	692
101L		OSG GENERAL PURPOSE-HT LEFT HAND	No.6 - 1"	Left Hand, UNC, UNF; Inch; HSS; BR	693-694

Straight Fluted Taps (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
305				○	◎									◎	○		
10052									◎		◎						
11052									◎		◎						
10053									◎		◎						
11053									◎		◎						
11054									◎		◎						
11055									◎		◎						
10056									◎		◎						
11056									◎		◎						
10057									◎		◎						
11057									◎		◎						
240									◎	○	◎						
241									◎	○	◎						
101C									◎		◎						
141C									◎		◎						
101	○	○	○						○	○	○						
102	○	○	○						○	○	○						
101H	○	○	○						○	○	○						
102H	○	○	○						○	○	○						
103	○	○	○						○	○	○						
104	○	○	○						○	○	○						
101N	○	○	○						○	○	○						
141	○	○	○						○	○	○						
121	○	○	○						○	○	○						
916	○	○	○						○								
S110	○	○	○						○	○	○						
180	○	○	○						○	○	○						
101L	○	○	○						○	○	○						

○ good ◎ best

Straight Fluted Taps (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
329		EXOCARB® DIA-OTT	No.4 - 1/2"	UNJC, UNJF, DIN OAL, UNC, UNF — Inch, CARBIDE, DIA	634	
359		EXOCARB® DIA-OTT	M3 - M12	JIS, M — Metric, CARBIDE, DIA	635	
319		EXOCARB® CHT	No.4 - 1/2"	DIN OAL, UNC, UNF — Inch, CARBIDE, BR	636	
10059		EXOCARB® CHT	No.10 - 3/8"	UNC, UNF — Inch, CARBIDE, BR	637	
10061		EXOCARB® CHT	M3 -M10	DIN OAL, M, MF — Metric, CARBIDE, BR	638	
349		EXOCARB® CHT	M1.4 - M24	JIS, M, MF — Metric, CARBIDE, BR	639-640	
356		EXOCARB® LT-OTT	M6 - M12	JIS, Long Shank, M, MF — Metric, CARBIDE, BR	641	
114		OSG GENERAL PURPOSE-HT	No.2 - 1/4"	For Plastics, UNC, UNF — Inch, HSS-Co, N	691	

Screw Thread Insert (STI) Taps

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
16260		EXOPRO® HL-S-XPF STI	No.2 - 1"	Forming Tap, DIN OAL, UNC STI, UNF STI — Inch, HSS-Co, V, STI	695-696	
16360		EXOPRO® HL-S-XPF STI	M2 - M24	Forming Tap, DIN OAL, M STI — Metric, HSS-Co, V, STI	697	
315TI		EXOTAP® VC-10 V-HL-Ti-SFT STI	No.2 - 1/2"	Spiral Fluted, UNC STI, UNF STI — Inch, VC10, V, STI	698	
315NI		EXOTAP® VC-10 V-HL-Ni-SFT STI	No.2 - 1/2"	Spiral Fluted, UNC STI, UNF STI — Inch, VC10, V, STI	699	
315		EXOTAP® VC-10 V-HL-SFT STI	No.2 - 1"	Spiral Fluted, UNC STI, UNF STI — Inch, VC10, S/O, V, STI	700-702	
345STI		EXOTAP® VC-10 SFT STI	M2 - M24	Spiral Fluted, M STI — Metric, VC10, S/O, V, STI	703	
302		EXOTAP® VA-3 SFT STI	No.2 - 1"	Spiral Fluted, UNC STI, UNF STI — Inch, HSSE, S/O, V, STI	704-708	
343STI		EXOTAP® VA-3 SFT STI	M2 - M24	Spiral Fluted, M STI — Metric, HSSE, S/O, V, STI	709	
13039		HY-PRO® AL-SFT STI	No.2 - 1/2"	Spiral Fluted, UNC STI, UNF STI — Inch, HSSE, BR, V, STI	710	
S108		OSG GENERAL PURPOSE-SFT STI	No.2 - 1"	Spiral Fluted, UNC STI, UNF STI — Inch, HSS, BR, STI	711-712	
S109		OSG GENERAL PURPOSE-SFT STI	M2 - M24	Spiral Fluted, M STI — Metric, HSS, BR, STI	713	
314TI		EXOTAP® VC-10 V-HL-Ti-POT STI	No.2 - 1/2"	Spiral Pointed, UNC STI, UNF STI — Inch, VC10, V, STI	714	

Straight Fluted Taps (Continued)

List No.	P					M			K	N				S		Other			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Compo-sites)	Copper Alloys	Nickel Alloy	Titan-ium				
	Low	Med.	High																
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)				
329										◎	◎	◎	○			◎			
359										◎	◎	◎	○			◎			
319									◎	◎	◎		◎			○	◎		
10059									◎	◎	◎		◎			○	◎		
10061									◎	◎	◎		◎			○	◎		
349									◎	◎	◎		◎			○	◎		
356									◎	◎	◎		◎			○	◎		
114																		◎	◎

○ good ◎ best

Screw Thread Insert (STI) Taps

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
16260	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	○	○	◎	○		
16360	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	○	○	◎	○		
315TI				○				○				○	◎	○	○		
315NI								○				◎	○	○	○		
315				◎	○		○	◎				○	○	◎	○		
345STI				◎	○		○	◎				○	○	◎	○		
302	◎	○	○			◎	◎	○									
343STI	◎	○	○			◎	◎	○									
13039										◎	◎						
S108	○	○	○						○	○	○						
S109	○	○	○						○	○	○						
314TI				○				○				○	◎	○	○		

○ good ◎ best

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page

Screw Thread Insert (STI) Taps (Continued)

314NI		EXOTAP® VC-10 V-HL-Ni-POT STI	No.2 - 1/2"	Spiral Pointed, UNC STI, UNF STI	Inch VC10 V STI	715
314		EXOTAP® VC-10 POT STI	No.2 - 1"	Spiral Pointed, UNC STI, UNF STI	Inch VC10 S/O V STI	716-718
344STI		EXOTAP® VC-10 POT STI	M2 - M24	Spiral Pointed, M STI	Metric VC10 S/O V STI	719
301		EXOTAP® VA-3 POT STI	No.2 - 1"	Spiral Pointed, UNC STI, UNF STI	Inch HSSE S/O V STI	720-722
342STI		EXOTAP® VA-3 POT STI	M2 - M24	Spiral Pointed, M STI	Metric HSSE S/O V STI	723
11036		HY-PRO® AL-POT STI	No.2 - 1/2"	Spiral Pointed, UNC STI, UNF STI	Inch HSSE BR V STI	724
125		OSG GENERAL PURPOSE-POT STI	No.2 - 1"	Spiral Pointed, UNC STI, UNF STI	Inch HSS BR STI	725-726
127		OSG GENERAL PURPOSE-POT STI	M2 - M24	Spiral Pointed, M STI	Metric HSS BR STI	727
126		OSG GENERAL PURPOSE-HT STI	No.2 - 1"	Straight Fluted, UNC STI, UNF STI	Inch HSS BR STI	728-730
128		OSG GENERAL PURPOSE-HT STI	M2 - M24	Straight Fluted, M STI	Metric HSS BR STI	731

Pipe Taps

16570		A Brand A-NPT	1/16" - 1"	Interrupted, NPT	Inch HSSE V	732
16575		A Brand A-LT-NPT	1/16" - 1"	Interrupted, Long Shank, NPT	Inch HSSE V	733
16590		A Brand A-NPS	1/16" - 1"	NPS	Inch HSSE V	734
16585		A Brand A-BSPT	1/8" - 1"	BSPT	Inch HSSE V	735
16580		A Brand A-BSPP	1/8" - 1"	BSPP	Inch HSSE V	736
308		EXOPIPE NPT	1/16" - 1"	NPT	Inch HSSE S/O TiN	737
318		EXOPIPE NPTF	1/16" - 1"	NPTF	Inch HSSE S/O TiN	738
12053		HY-PRO® NPT	1/8" - 1"	Interrupted, NPT	Inch HSSE V	739
12054		HY-PRO® NPTF	1/8" - 1"	Interrupted, NPTF	Inch HSSE V	740
328		EXOTAP® MOLD NPT/ANPT	1/8" - 3/4"	NPT, ANPT	Inch HSS-Co BR	741
108		OSG GENERAL PURPOSE-NPT/ANPT	1/16" - 2"	NPT, ANPT	Inch HSS BR S/O TiN TiCN	742
108AL		OSG GENERAL PURPOSE-NPT	1/8" - 1"	NPT	Inch HSS BR	743
118		OSG GENERAL PURPOSE-NPTF	1/16" - 2"	NPTF	Inch HSS BR S/O TiN TiCN	744
108G		OSG GENERAL PURPOSE-NPT/NPTF/ANPT	1/8" -2"	Interrupted, NPT, NPTF, ANPT	Inch HSS BR S/O TiCN	745-746
S125		OSG GENERAL PURPOSE-NPT/ NPTF SHORT PROJECTION	1/8" - 1"	Short Projection, NPT, NPTF, ANPT	Inch HSS BR S/O TiCN	747

Screw Thread Insert (STI) Taps (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
314NI								○				◎	○	○	○		
314				◎	○		○	◎				○	○	◎	○		
344STI				◎	○		○	◎				○	○	◎	○		
301	◎	○	○			◎	◎	○									
342STI	◎	○	○			◎	◎	○									
11036										◎	◎						
125	○	○	○						○	○	○						
127	○	○	○						○	○	○						
126	○	○	○						○	○	○						
128	○	○	○						○	○	○						

Pipe Taps

16570	◎	◎	◎	◎	○	○	○		○		◎		○	◎			
16575	◎	◎	◎	◎	○	○	○		○		◎		○	◎			
16590	◎	◎	◎	◎	○	○	○		○		◎		○	◎			
16585	◎	◎	◎	◎	○	○	○		○		◎		○	◎			
16580	◎	◎	◎	◎	○	○	○		○		◎		○	◎			
308	○	○				◎	◎	◎									
318	○	○				◎	◎	◎									
12053	○	◎	◎	◎	◎	○	○	○	○					○	○		
12054	○	◎	◎	◎	◎	○	○	○	○					○	○		
328	○	○	○	◎	◎	○	○	○						◎	○		
108	○	○	○						○	○	○						
108AL										◎	◎						
118	○	○	○						○	○	○						
108G	○	○	○						○	○	○						
S125	○	○	○						○	○	○						

○ good ◎ best

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
Pipe Taps (Continued)						
12006		OSG GENERAL PURPOSE-NPTF SHORT PROJECTION	1/8" - 3/4"	Special Short Projection, NPTF — Inch, HSS, BR	748	
12007		OSG GENERAL PURPOSE-NPT	1/8" - 3/4"	NPT — Inch, HSS, BR	749	
109		OSG GENERAL PURPOSE-NPS/NPSF	1/8" - 1"	NPS, NPSF — Inch, HSS, BR, S/O	750	
Round Dies						
134		OSG ROUND DIE	No. 0 - 1-1/2"	Solid & Adjustable Round Split Dies, UNC, UNF, UNEF, UNS, UN — Inch, HSS, BR	751-753	
134P		OSG ROUND DIE NPT	1/8" - 1/2"	Solid & Adjustable Round Split Dies, Taper Pipe, NPT — Inch, HSS, BR	754	
135		OSG ROUND DIE	M2 - M30	Adjustable Round Split Dies, M, MF — Metric, HSS, BR	755	
Thread Gages						
15001		OSG THREAD GAGE-CLASS 2B	No.2 - 1-1/2"	Go/NOGO Set, Class 2B, UNC, UNF, NS — Inch, HSS, BR	756	
15002		OSG THREAD GAGE-CLASS 6H	M3 - M24	Go/NOGO Set, Class 6H, M, MF — Metric, HSS, BR	757	
15003		OSG THREAD GAGE-CLASS 3B	No.2 - 1"	Go/NO GO Set, Class 3B, UN(J)C, UN(J)F — Inch, HSS, BR, TiN	758	

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC

Pipe Taps (Continued)

12006	○	○	○						○	○	○						
12007	○	○	○						○	○	○						
109	○	○	○						○	○	○						

○ good ◎ best

A Brand *AT-1*

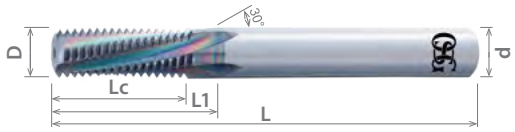
Advanced Performance One Pass Thread Mill

List 16625

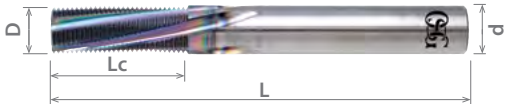
A BRAND AT-1

THREAD MILL | SPEED FEED 789 | CARBIDE | EgiAs | 11° | SHANK h6 | PACKED 1 PIECE

Type 1



Type 2



EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
1662500217	●	1/4 - 32 UNEF	0.179	3.000	0.563	0.625	0.250	4	1
1662500017	●	1/4 - 20 UNC	0.179	3.000	0.600	0.700	0.250	4	1
1662500117	●	1/4 - 28 UNF	0.179	3.000	0.607	0.680	0.250	4	1
1662500517	●	5/16 - 32 UNEF	0.224	3.000	0.688	0.750	0.250	4	1
1662500417	●	5/16 - 24 UNC	0.224	3.000	0.750	0.833	0.250	4	1
1662500317	●	5/16 - 18 UNC	0.224	3.000	0.778	0.889	0.250	4	1
1662500817	●	3/8 - 32 UNEF	0.264	3.500	0.813	0.875	0.313	4	1
1662500617	●	3/8 - 16 UNC	0.264	3.500	0.875	1.000	0.313	4	1
1662500717	●	3/8 - 24 UNF	0.264	3.500	0.875	0.958	0.313	4	1
1662501117	●	7/16 - 28 UNEF	0.303	3.500	0.964	-	0.313	4	2
1662501017	●	7/16 - 20 UNF	0.303	3.500	1.000	-	0.313	4	2
1662500917	●	7/16 - 14 UNC	0.303	3.500	1.071	-	0.313	4	2
1662501317	●	1/2 - 20 UNF	0.343	3.500	1.100	1.200	0.375	5	1
1662501417	●	1/2 - 28 UNEF	0.343	3.500	1.107	1.178	0.375	5	1
1662501217	●	1/2 - 13 UNC	0.343	3.500	1.154	1.308	0.375	5	1
1662501717	●	9/16 - 24 UNEF	0.382	5.000	1.250	1.333	0.500	5	1
1662501617	●	9/16 - 18 UNF	0.382	5.000	1.278	1.389	0.500	5	1
1662501517	●	9/16 - 12 UNC	0.382	5.000	1.333	1.500	0.500	5	1
1662502017	●	5/8 - 24 UNEF	0.421	5.000	1.374	1.458	0.500	5	1
1662501917	●	5/8 - 18 UNF	0.421	5.000	1.389	1.500	0.500	5	1
1662501817	●	5/8 - 11 UNC	0.421	5.000	1.454	1.636	0.500	5	1
1662502317	●	3/4 - 20 UNEF	0.461	5.000	1.600	1.700	0.500	5	1
1662502217	●	3/4 - 16 UNF	0.461	5.000	1.626	1.750	0.500	5	1
1662502117	●	3/4 - 10 UNC	0.461	5.000	1.700	1.900	0.500	5	1
1662502617	●	7/8 - 20 UNEF	0.539	5.500	1.850	1.950	0.625	5	1
1662502517	●	7/8 - 14 UNF	0.539	5.500	1.928	2.071	0.625	5	1
1662502417	●	7/8 - 9 UNC	0.539	5.500	2.000	2.222	0.625	5	1
1662502917	●	1 - 20 UNEF	0.736	6.000	2.100	2.200	0.750	6	1
1662502817	●	1 - 12 UNF	0.736	6.000	2.167	2.334	0.750	6	1
1662502717	●	1 - 8 UNC	0.736	6.000	2.250	2.500	0.750	6	1

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

ATP

ThreadPro

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎		◎	○	○	◎	◎	◎			◎	◎		

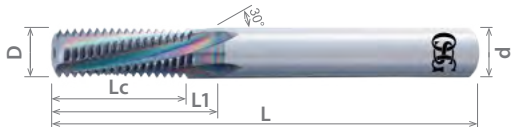
○ Good ◎ Best

List 16620

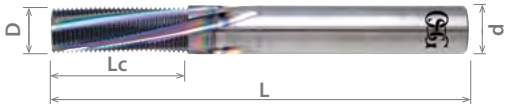
A BRAND AT-1

THREAD MILL | SPEED FEED 789 | CARBIDE | EgiAs | 11° | SHANK h6 | PACKED 1 PIECE

Type 1



Type 2



EDP Number		Thread Size	Diameter D (mm)	Overall Length L (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Number of Flutes	Type
8331000	●	M6 x 0.75	4.50	75.00	13.50	16.00	6.00	4	1
8331001	●	M6 x 1	4.50	75.00	14.00	16.00	6.00	4	1
8331003	●	M8 x 1	5.70	75.00	18.00	-	6.00	4	2
8331004	●	M8 x 1.25	5.70	75.00	18.75	-	6.00	4	2
8331005	●	M10 x 1	7.70	85.00	22.00	-	8.00	4	2
8331006	●	M10 x 1.25	7.70	85.00	22.50	-	8.00	4	2
8331007	●	M10 x 1.5	7.70	85.00	24.00	-	8.00	4	2
8331008	●	M12 x 1	9.70	100.00	26.00	-	10.00	5	2
8331009	●	M12 x 1.25	9.70	100.00	27.50	-	10.00	5	2
8331010	●	M12 x 1.5	9.70	100.00	27.00	-	10.00	5	2
8331011	●	M12 x 1.75	9.70	100.00	28.00	-	10.00	5	2
8331015	●	M14 x 1.5	10.70	120.00	31.50	34.50	12.00	5	1
8331016	●	M14 x 2	9.70	100.00	32.00	-	10.00	5	2
8331018	●	M16 x 1.5	13.70	135.00	36.00	39.00	16.00	5	1
8331019	●	M16 x 2	11.70	120.00	36.00	-	12.00	5	2
8331020	●	M18 x 2.5	11.70	120.00	42.50	-	12.00	5	2
8331021	●	M20 x 1.5	15.70	135.00	43.50	-	16.00	5	2
8331022	●	M20 x 2.5	13.70	135.00	45.00	50.00	16.00	5	1
8331024	●	M24 x 2	19.70	150.00	52.00	-	20.00	6	2
8331025	●	M24 x 3	19.70	150.00	54.00	-	20.00	6	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

ATP

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎		◎	○	○	◎	◎	◎			◎	◎		

○ Good ◎ Best

A Brand *AT-1*

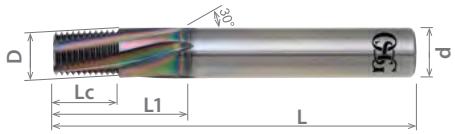
Advanced Performance One Pass Thread Mill

List 16630

A BRAND AT-1, NPT

THREAD MILL | SPEED FEED 789 | CARBIDE | EgiAs | 11° | SHANK h6 | PACKED 1 PIECE

Type 3



Type 4



EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
1663000017	●	1/16 - 27 NPT	0.223	3.000	0.407	0.480	0.250	4	3
1663000117	●	1/8 - 27 NPT	0.302	3.500	0.407	-	0.313	4	4
1663000217	●	1/4 - 18 NPT	0.381	3.500	0.611	0.720	0.500	5	3
1663000317	●	3/8 - 18 NPT	0.461	3.500	0.611	0.720	0.500	5	3
1663000417	●	1/2 - 14 NPT	0.617	4.000	0.786	-	0.625	5	4
1663000517	●	1 - 11.5 NPT	0.737	4.000	0.957	-	0.750	6	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

ATP

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎		◎	○	○	◎	◎	◎			◎	◎		

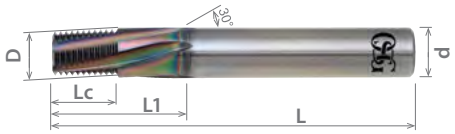
○ Good ◎ Best

List 16631

A BRAND AT-1, NPTF

THREAD MILL | SPEED FEED 789 | CARBIDE | EgiAs | 11° | SHANK h6 | PACKED 1 PIECE

Type 3



Type 4



EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
1663100017	●	1/16 - 27 NPTF	0.223	3.000	0.407	0.480	0.250	4	3
1663100117	●	1/8 - 27 NPTF	0.302	3.500	0.407	-	0.313	4	4
1663100217	●	1/4 - 18 NPTF	0.381	3.500	0.611	0.720	0.500	5	3
1663100317	●	3/8 - 18 NPTF	0.459	3.500	0.611	0.720	0.500	5	3
1663100417	●	1/2 - 14 NPTF	0.617	4.000	0.786	-	0.625	5	4
1663100517	●	1 - 11.5 NPTF	0.737	4.000	0.957	-	0.750	6	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

ATP

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎		◎	○	○	◎	◎	◎			◎	◎		

○ Good ◎ Best

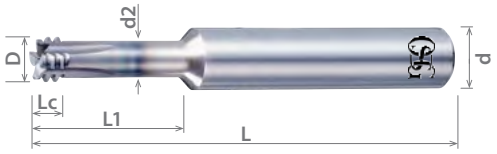
A Brand *AT-2*

Advanced Performance End-Cutting Thread Mill for High-Hardness Steel

List 16645

A BRAND AT-2, Straight Flute, End Cut

THREAD MILL | SPEED FEED 790 | CARBIDE | DUROREY | 4 FLUTE | 0° | LH | SHANK h6 | PACKED 1 PIECE



EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Coolant-Through
1664500011	●	No. 8 - 32 UNC	0.122	2.000	0.094	0.406	0.250	-
1664500111	●	No. 10 - 24 UNC	0.146	3.000	0.125	0.484	0.250	-
1664500211	●	1/4 - 20 UNC	0.179	3.000	0.150	0.625	0.250	-
1664500311	●	1/4 - 28 UNF	0.179	3.000	0.107	0.589	0.250	-
1664500411	●	5/16 - 18 UNC	0.224	3.500	0.167	0.764	0.375	-
1664500511	●	5/16 - 24 UNF	0.224	3.500	0.125	0.730	0.375	-
1664500611	●	3/8 - 16 UNC	0.264	3.500	0.188	0.906	0.375	-
1664500711	●	3/8 - 24 UNF	0.264	3.500	0.125	0.854	0.375	-
1664500811	●	1/2 - 13 UNC	0.362	3.500	0.231	1.192	0.375	●
1664500911	●	1/2 - 20 UNF	0.362	3.500	0.150	1.125	0.375	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

ATP

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

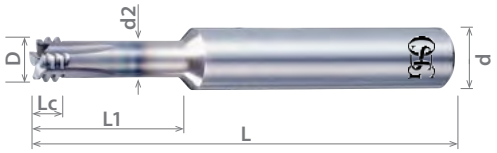
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	◎	○	○	◎	◎	○	○	○	○	◎	◎	◎	◎

○ Good ◎ Best

List 16640

A BRAND AT-2, Straight Flute, End Cut

THREAD MILL | SPEED FEED 790 | CARBIDE | DURO REY | 4 FLUTE | 0° | LH | SHANK h6 | PACKED 1 PIECE



EDP Number		Thread Size	Diameter D (mm)	Overall Length L (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Coolant-Through
8331200	●	M3 x 0.5	2.40	50.00	1.50	7.25	6.00	-
8331201	●	M4 x 0.7	3.10	50.00	2.10	9.75	6.00	-
8331202	●	M5 x 0.8	4.00	50.00	2.40	12.00	6.00	-
8331203	●	M6 x 1	4.60	50.00	3.00	14.50	6.00	-
8331204	●	M8 x 1.25	6.20	70.00	3.75	19.13	10.00	-
8331205	●	M10 x 1.5	7.50	70.00	4.50	23.75	10.00	●
8331206	●	M12 x 1.75	9.00	80.00	5.25	28.38	10.00	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

ATP

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	◎	○	○	◎	◎	○	○	○	○	◎	◎	◎	◎

○ Good ◎ Best

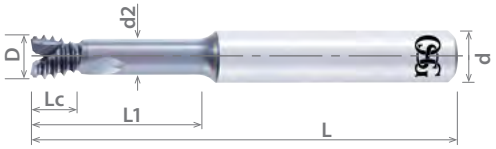
A Brand *AT-2 R-SPEC*

Advanced Performance End-Cutting Thread Mill for Non-Ferrous Materials

List 16647

A BRAND AT-2 R-SPEC, End Cut

THREAD MILL | SPEED FEED 791 | CARBIDE | DLC-IGUSS | 2 FLUTE | 30° | LH | SHANK h6 | PACKED 1 PIECE



EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Coolant-Through
1664700009	●	No. 4 - 40 UNC	0.083	2.000	0.125	0.311	0.250	-
1664700109	●	No. 6 - 32 UNC	0.100	2.000	0.156	0.385	0.250	-
1664700209	●	No. 8 - 32 UNC	0.122	2.000	0.156	0.437	0.250	-
1664700309	●	No. 10 - 24 UNC	0.146	3.000	0.208	0.526	0.250	-
1664700409	●	No. 10 - 32 UNF	0.146	3.000	0.156	0.489	0.250	-
1664700509	●	1/4 - 20 UNC	0.179	3.000	0.250	0.675	0.250	●
1664700609	●	1/4 - 28 UNF	0.179	3.000	0.179	0.625	0.250	●
1664700709	●	5/16 - 18 UNC	0.224	3.500	0.278	0.819	0.375	●
1664700809	●	5/16 - 24 UNF	0.224	3.500	0.208	0.771	0.375	●
1664700909	●	3/8 - 16 UNC	0.264	3.500	0.313	0.969	0.375	●
1664701009	●	3/8 - 24 UNF	0.264	3.500	0.208	0.896	0.375	●
1664701109	●	1/2 - 13 UNC	0.362	3.500	0.385	1.269	0.375	●
1664701209	●	1/2 - 20 UNF	0.362	3.500	0.250	1.175	0.375	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

ATP

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

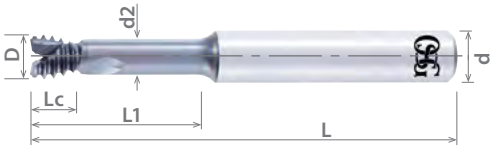
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340						◎	◎						

○ Good ◎ Best

List 16642

A BRAND AT-2 R-SPEC, End Cut

THREAD MILL | SPEED FEED 791 | CARBIDE | DLC-IGUSS | 2 FLUTE | 30° | LH | SHANK h6 | PACKED 1 PIECE



EDP Number		Thread Size	Diameter D (mm)	Overall Length L (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Coolant-Through
8331220	●	M3 x 0.5	2.40	50.00	1.50	7.75	6	-
8331227	●	M3 x 0.5	2.40	50.00	1.50	9.25	6	-
8331221	●	M4 x 0.7	3.10	50.00	2.10	10.45	6	-
8331228	●	M4 x 0.7	3.10	50.00	2.10	12.45	6	-
8331222	●	M5 x 0.8	4.00	50.00	2.40	12.80	6	-
8331229	●	M5 x 0.8	4.00	50.00	2.40	15.30	6	-
8331223	●	M6 x 1	4.60	50.00	3.00	15.50	6	●
8331230	●	M6 x 1	4.60	50.00	3.00	18.50	6	●
8331224	●	M8 x 1.25	6.20	70.00	3.75	20.38	8	●
8331231	●	M8 x 1.25	6.20	70.00	3.75	24.38	8	●
8331225	●	M10 x 1.5	7.50	80.00	4.50	25.25	10	●
8331232	●	M10 x 1.5	7.50	80.00	4.50	30.25	10	●
8331226	●	M12 x 1.75	9.00	80.00	5.25	30.13	10	●
8331233	●	M12 x 1.75	9.00	80.00	5.25	36.13	10	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

ATP

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

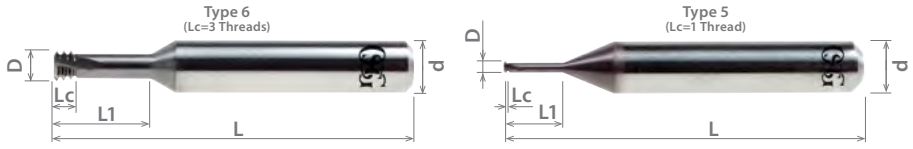
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

○ Good ◎ Best

List 41200

EXOCARB® WH-VM-PNC, Miniature

THREAD MILL | SPEED FEED 793 | CARBIDE | SS | WXS | 3 FLUTE | 11° | SHANK h6 | PACKED 1 PIECE



EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Type	Surface Treatment
4120000115	●	No. 0 - 80 UNF	0.045	1.625	0.013	0.162	0.125	5	Super Smooth
4120000315	●	No. 1 - 64 UNC	0.055	1.625	0.016	0.198	0.125	5	Super Smooth
4120000215	●	No. 1 - 72 UNF	0.055	1.625	0.014	0.196	0.125	5	Super Smooth
4120000413	●	No. 2 - 56 UNC	0.064	1.661	0.054	0.189	0.250	6	WXS
4120000513	●	No. 2 - 64 UNF	0.064	1.661	0.047	0.189	0.250	6	WXS
4120000613	●	No. 3 - 48 UNC	0.074	1.661	0.063	0.220	0.250	6	WXS
4120000713	●	No. 4 - 40 UNC	0.083	1.661	0.075	0.248	0.250	6	WXS
4120000813	●	No. 5 - 44 UNF	0.096	1.661	0.068	0.272	0.250	6	WXS
4120000913	●	No. 6 - 32 UNC	0.103	1.661	0.094	0.307	0.250	6	WXS
4120001013	●	No. 8 - 36 UNF	0.129	1.661	0.083	0.354	0.250	6	WXS

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

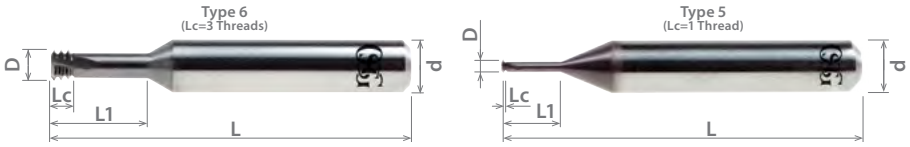
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○		◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	○

○ Good ◎ Best

List 41300

EXOCARB® WH-VM-PNC, Miniature

THREAD MILL | SPEED FEED 793 | CARBIDE | SS | WXS | 3 FLUTE | 11° | SHANK h6 | PACKED 1 PIECE



EDP Number		Thread Size	Diameter D (mm)	Overall Length L (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Type	Surface Treatment
3900495	●	M1 x 0.25	0.72	40.00	0.26	2.75	3.00	5	Super Smooth
3900496	●	M1.2 x 0.25	0.91	40.00	0.26	3.25	3.00	5	Super Smooth
3900497	●	M1.4 x 0.3	1.05	40.00	0.31	3.80	3.00	5	Super Smooth
3900498	●	M1.6 x 0.35	1.20	40.00	0.36	4.35	3.00	5	Super Smooth
3900499	●	M1.7 x 0.35	1.30	40.00	0.36	4.85	3.00	5	Super Smooth
3900500	●	M2 x 0.4	1.50	40.00	1.20	4.40	6.00	6	WXS
3900501	●	M2.5 x 0.45	1.90	41.00	1.35	5.60	6.00	6	WXS
3900502	●	M3 x 0.5	2.40	41.00	1.50	6.50	6.00	6	WXS
3900503	●	M4 x 0.7	3.10	41.00	2.10	8.70	6.00	6	WXS
3900504	●	M5 x 0.8	4.00	41.00	2.40	10.80	6.00	6	WXS

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

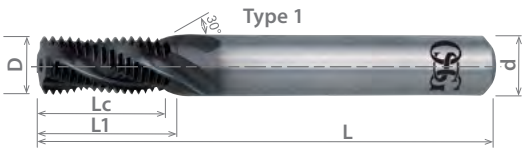
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○		◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	○

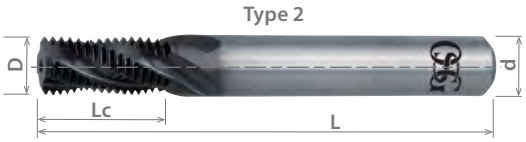
○ Good ◎ Best

List 41000

EXOCARB® OT-SFT-PNGT, UNC/UNF/UNEF/UNS

THREAD MILL | SPEED FEED 792 | CARBIDE | EXO | 11-30° | SHANK h6 | PACKED 1 PIECE





EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
4100000411	●	No. 10 - 24 UNC	0.130	2.500	0.374	0.437	0.188	3	1
4100000511	●	No. 10 - 32 UNF	0.130	2.500	0.374	0.437	0.188	3	1
4100000611	●	No. 12 - 24 UNC	0.160	3.000	0.331	0.374	0.250	3	1
4100000711	●	No. 12 - 28 UNF	0.160	3.000	0.323	0.358	0.250	3	1
4100000811	●	1/4 - 20 UNC	0.180	3.000	0.402	0.449	0.250	3	1
4100003211	●	1/4 - 20 UNC	0.180	3.000	0.551	0.598	0.250	3	1
4100000911	●	1/4 - 28 UNF	0.180	3.000	0.394	0.429	0.250	3	1
4100003311	●	1/4 - 28 UNF	0.180	3.000	0.535	0.571	0.250	3	1
4100002811	●	1/4 - 32 UNEF	0.190	3.000	0.374	0.406	0.250	3	1
4100001011	●	5/16 - 18 UNC	0.245	3.000	0.500	-	0.250	3	2
4100003411	●	5/16 - 18 UNC	0.245	3.000	0.720	-	0.250	3	2
4100001111	●	5/16 - 24 UNF	0.245	3.000	0.500	-	0.250	3	2
4100003511	●	5/16 - 24 UNF	0.245	3.000	0.752	-	0.250	3	2
4100002911	●	5/16 - 32 UNEF	0.250	3.000	0.469	-	0.250	3	2
4100001211	●	3/8 - 16 UNC	0.300	3.000	0.594	-	0.313	3	2
4100003611	●	3/8 - 16 UNC	0.300	3.000	0.874	-	0.313	3	2
4100001311	●	3/8 - 24 UNF	0.300	3.000	0.583	-	0.313	3	2
4100003711	●	3/8 - 24 UNF	0.300	3.000	0.874	-	0.313	3	2
4100003011	●	3/8 - 32 UNEF	0.310	3.000	0.563	-	0.313	3	2
4100001411	●	7/16 - 14 UNC	0.350	3.000	0.713	0.783	0.375	3	1
4100003811	●	7/16 - 14 UNC	0.350	3.000	1.071	1.142	0.375	3	1
4100001511	●	7/16 - 20 UNF	0.350	3.000	0.701	0.752	0.375	3	1
4100003911	●	7/16 - 20 UNF	0.350	3.000	1.051	1.098	0.375	3	1
4100001611	●	1/2 - 13 UNC	0.370	3.000	0.768	-	0.375	4	2
4100004011	●	1/2 - 13 UNC	0.370	3.000	1.079	-	0.375	4	2
4100001711	●	1/2 - 20 UNF	0.370	3.000	0.750	-	0.375	4	2
4100004111	●	1/2 - 20 UNF	0.370	3.000	1.098	-	0.375	4	2
4100003111	●	1/2 - 32 UNS	0.375	3.000	0.752	-	0.375	4	2
4100001811	●	9/16 - 12 UNC	0.430	4.000	0.917	1.000	0.500	4	1
4100004211	●	9/16 - 12 UNC	0.430	4.000	1.335	1.417	0.500	4	1
4100001911	●	9/16 - 18 UNF	0.450	4.000	0.890	0.945	0.500	4	1
4100004311	●	9/16 - 18 UNF	0.450	4.000	1.390	1.445	0.500	4	1
4100002011	●	5/8 - 11 UNC	0.430	4.000	1.000	1.091	0.500	4	1
4100004411	●	5/8 - 11 UNC	0.430	4.000	1.453	1.547	0.500	4	1
4100002111	●	5/8 - 18 UNF	0.495	4.000	0.945	-	0.500	4	2
4100004511	●	5/8 - 18 UNF	0.495	4.000	1.500	-	0.500	4	2
4100002211	●	3/4 - 10 UNC	0.620	4.000	1.201	-	0.625	4	2
4100004611	●	3/4 - 10 UNC	0.620	4.000	1.701	-	0.625	4	2
4100002311	●	3/4 - 16 UNF	0.620	4.000	1.126	-	0.625	4	2
4100004711	●	3/4 - 16 UNF	0.620	4.500	1.689	-	0.625	4	2
4100002411	●	7/8 - 9 UNC	0.745	4.000	1.335	-	0.750	4	2
4100004811	●	7/8 - 9 UNC	0.745	5.000	2.000	-	0.750	4	2
4100002511	●	7/8 - 14 UNF	0.745	4.000	1.358	-	0.750	4	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

List 41000 (Continued)

THREAD MILL | SPEED FEED 792 | CARBIDE | EXO | 11-30° | SHANK h6 | PACKED 1 PIECE

EXOCARB® OT-SFT-PNGT, UNC/UNF/UNEF/UNS

EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
4100004911	●	7/8 - 14 UNF	0.745	5.000	2.000	-	0.750	4	2
4100002611	●	1 - 8 UNC	0.745	4.000	1.626	-	0.750	4	2
4100005011	●	1 - 8 UNC	0.745	5.000	2.000	-	0.750	4	2
4100002711	●	1 - 12 UNF	0.745	4.000	1.583	-	0.750	4	2
4100005111	●	1 - 12 UNF	0.745	5.000	2.000	-	0.750	4	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

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ThreadPro

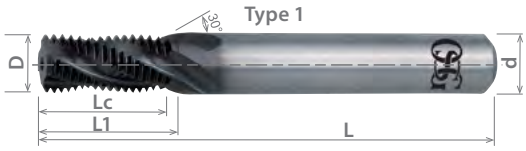
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		○	○	○	◎	◎	◎			○	○		

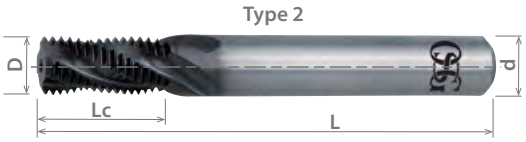
○ Good ◎ Best

List 41100

THREAD MILL | SPEED FEED 792 | CARBIDE | EXO® | 11-30° | SHANK h6 | PACKED 1 PIECE

EXOCARB® OT-SFT-PNGT/WX-PNC, Regular & Long Length





EDP Number		Thread Size	Diameter D (mm)	Overall Length L (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Number of Flutes	Type
3900001	●	M6 x 1	4.50	60.00	13.00	15.00	6.00	3	1
4110000111	●	M6 x 1	4.50	60.00	10.00	15.00	6.00	3	1
3900011	●	M8 x 1	6.00	65.00	17.00	-	6.00	3	2
4110000211	●	M8 x 1	6.00	65.00	13.00	-	6.00	3	2
3900012	●	M8 x 1.25	6.00	65.00	17.50	-	6.00	3	2
4110000311	●	M8 x 1.25	6.00	65.00	13.80	-	6.00	3	2
3900021	●	M10 x 1	7.50	70.00	21.00	26.00	8.00	3	1
4110000411	●	M10 x 1	7.50	70.00	16.00	26.00	8.00	3	1
4110000511	●	M10 x 1.25	7.50	70.00	16.25	26.00	8.00	3	1
3900023	●	M10 x 1.5	7.50	70.00	22.50	26.00	8.00	3	1
4110000611	●	M10 x 1.5	7.50	70.00	16.50	26.00	8.00	3	1
3900032	●	M12 x 1.25	9.50	85.00	26.30	28.00	10.00	4	1
4110000711	●	M12 x 1.25	9.50	85.00	20.00	28.00	10.00	4	1
3900034	●	M12 x 1.75	9.50	85.00	26.30	28.00	10.00	4	1
4110000811	●	M12 x 1.75	9.50	85.00	21.00	28.00	10.00	4	1
3900043	●	M14 x 1.5	10.00	85.00	30.00	-	10.00	4	2
4110000911	●	M14 x 1.5	10.00	85.00	22.50	-	10.00	4	2
3900044	●	M14 x 2	10.00	85.00	30.00	-	10.00	4	2
4110001011	●	M14 x 2	10.00	85.00	24.00	-	10.00	4	2
3900053	●	M16 x 1.5	12.00	95.00	34.50	-	12.00	4	2
4110001111	●	M16 x 1.5	12.00	95.00	25.50	-	12.00	4	2
3900054	●	M16 x 2	12.00	95.00	34.00	-	12.00	4	2
3900073	●	M20 x 1.5	16.00	105.00	42.00	-	16.00	4	2
4110001211	●	M20 x 1.5	16.00	105.00	31.50	-	16.00	4	2
3900075	●	M20 x 2.5	16.00	105.00	42.50	-	16.00	4	2
3900084	●	M24 x 2	20.00	120.00	50.00	-	20.00	5	2
3900086	●	M24 x 3	20.00	120.00	51.00	-	20.00	5	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

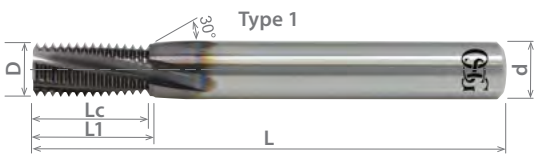
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		○	○	○	◎	◎	◎	○	○	○	○		

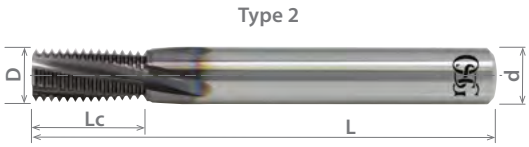
○ Good ◎ Best

List 41050

THREAD MILL | SPEED FEED 792 | CARBIDE | EXO | 11° | SHANK h6 | PACKED 1 PIECE

EXOCARB® WXO-ST-PNC, UNC/UNF





EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
4105000111	●	1/4 - 20 UNC	0.180	3.000	0.401	0.448	0.250	4	1
4105000211	●	1/4 - 28 UNF	0.180	3.000	0.393	0.429	0.250	4	1
4105000311	●	5/16 - 18 UNC	0.245	3.000	0.500	-	0.250	4	2
4105000411	●	5/16 - 24 UNF	0.245	3.000	0.500	-	0.250	4	2
4105000511	●	3/8 - 16 UNC	0.300	3.000	0.562	-	0.313	4	2
4105000611	●	3/8 - 24 UNF	0.300	3.000	0.582	-	0.313	4	2
4105000711	●	7/16 - 14 UNC	0.350	3.000	0.712	0.783	0.375	4	1
4105000811	●	7/16 - 20 UNF	0.350	3.000	0.700	0.751	0.375	4	1
4105000911	●	1/2 - 13 UNC	0.370	3.000	0.767	-	0.375	5	2
4105001011	●	1/2 - 20 UNF	0.370	3.000	0.750	-	0.375	5	2
4105001111	●	9/16 - 12 UNC	0.430	4.000	0.917	1.000	0.500	5	1
4105001211	●	9/16 - 18 UNF	0.450	4.000	0.889	0.944	0.500	5	1
4105001311	●	5/8 - 11 UNC	0.430	4.000	1.000	1.090	0.500	5	1
4105001411	●	5/8 - 18 UNF	0.495	4.000	0.944	-	0.500	5	2
4105001511	●	3/4 - 10 UNC	0.620	4.000	1.200	-	0.625	5	2
4105001611	●	3/4 - 16 UNF	0.620	4.000	1.125	-	0.625	5	2
4105001711	●	7/8 - 9 UNC	0.745	4.000	1.330	-	0.750	6	2
4105001811	●	7/8 - 14 UNF	0.745	4.000	1.358	-	0.750	6	2
4105001911	●	1 - 8 UNC	0.745	4.000	1.625	-	0.750	6	2
4105002011	●	1 - 12 UNF	0.745	4.000	1.582	-	0.750	6	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎		○	○	○	○					◎	◎		

○ Good ◎ Best

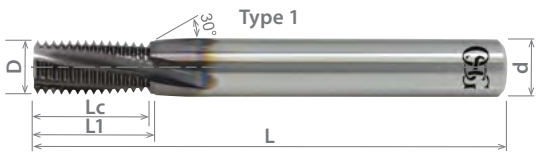
EXOCARB® Thread Mill

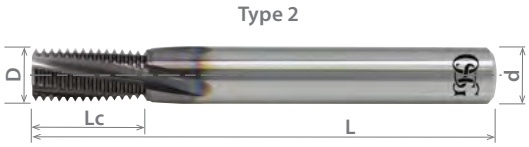
Ideal for Steels, Exotics and Difficult to Machine Materials

List 41150

EXOCARB® WXO-ST-PNC

THREAD MILL | SPEED FEED 792 | CARBIDE | EXO | 11° | SHANK h6 | PACKED 1 PIECE





EDP Number		Thread Size	Diameter D (mm)	Overall Length L (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Number of Flutes	Type
8304701	●	M6 x 1	4.50	60.00	13.00	15.00	6.00	4	1
8304711	●	M8 x 1	6.00	65.00	17.00	-	6.00	4	2
8304712	●	M8 x 1.25	6.00	65.00	17.50	-	6.00	4	2
8304721	●	M10 x 1	7.50	70.00	21.00	26.00	8.00	4	1
8304723	●	M10 x 1.5	7.50	70.00	22.50	26.00	8.00	4	1
8304732	●	M12 x 1.25	9.50	85.00	26.30	28.00	10.00	5	1
8304734	●	M12 x 1.75	9.50	85.00	26.30	28.00	10.00	5	1
8304743	●	M14 x 1.5	10.00	85.00	30.00	-	10.00	5	2
8304744	●	M14 x 2	10.00	85.00	30.00	-	10.00	5	2
8304753	●	M16 x 1.5	12.00	95.00	34.50	-	12.00	5	2
8304754	●	M16 x 2	12.00	95.00	34.00	-	12.00	5	2
8304773	●	M20 x 1.5	16.00	105.00	42.00	-	16.00	5	2
8304775	●	M20 x 2.5	16.00	105.00	42.50	-	16.00	5	2
8304784	●	M24 x 2	20.00	120.00	50.00	-	20.00	6	2
8304786	●	M24 x 3	20.00	120.00	51.00	-	20.00	6	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎		○	○	○	○					◎	◎		

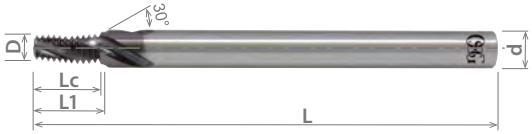
○ Good ◎ Best

List 42000

EXOCARB® OT-SFT-PNGT NPT

THREAD MILL | SPEED FEED 792 | CARBIDE | EXO® | 30° | SHANK h6 | PACKED 1 PIECE

Type 3



Type 4



EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
4200000111	●	1/16 - 27 NPT	0.186	3.000	0.409	0.440	0.250	3	3
4200000211	●	1/8 - 27 NPT	0.286	3.000	0.409	-	0.313	3	4
4200000311	●	1/4 - 18 NPT	0.334	3.000	0.610	-	0.375	4	4
4200000411	●	1/2 - 14 NPT	0.575	4.000	0.787	-	0.625	4	4
4200000511	●	1 - 11.5 NPT	0.785	4.000	0.957	1.040	1.000	4	3
4200000611	●	2- 1/2 - 8 NPT	0.917	4.000	1.358	-	1.000	4	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		○	○	○	◎	◎	◎			○	○		

○ Good ◎ Best

EXOCARB® Thread Mill

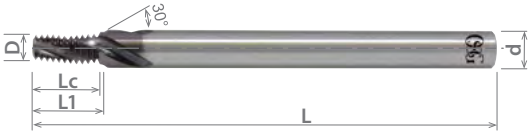
Ideal for Steels, Exotics and Difficult to Machine Materials

List 42001

OT-SFT-PNGT, NPTF

THREAD MILL	SPEED FEED	CARBIDE	EXO	30°	SHANK	PACKED
	792				h6	1 PIECE

Type 3



Type 4



EDP Number		Thread Size	Diameter D (Inch)	Overall Length L (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
4200100111	●	1/16 - 27 NPTF	0.186	3.000	0.409	0.440	0.250	3	3
4200100211	●	1/8 - 27 NPTF	0.286	3.000	0.409	-	0.313	3	4
4200100311	●	1/4 - 18 NPTF	0.335	3.000	0.610	-	0.375	4	4
4200100411	●	1/2 - 14 NPTF	0.575	4.000	0.787	-	0.625	4	4
4200100711	●	3/4 - 14 NPTF	0.575	4.000	0.787	-	0.625	4	4
4200100511	●	1 - 11.5 NPTF	0.785	4.000	0.957	1.040	1.000	4	3
4200100811	●	2 - 11.5 NPTF	0.785	4.000	0.957	1.040	1.000	4	3
4200100611	●	2- 1/2 - 8 NPTF	0.917	4.000	1.358	-	1.000	4	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: For internal threads only.

HTE

For more information on thread mill applications, including ThreadPro software, visit: osgtool.com/ThreadPro.

ThreadPro

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○		○	○	○	◎	◎	◎			○	○		

○ Good ◎ Best

List 15015

HSS | TiN | PACKED 1 PIECE

OSG DCT75



EDP Number		Thread Size	Thread Length Lc (mm)	Shank Diameter d (mm)
1501500105	●	No. 5 - 44 UNF	5.00	6.00
1501500205	●	No. 6 - 32 UNC	5.00	6.00
1501500305	●	No. 10 - 24 UNC	5.90	6.00
1501500405	●	No. 10 - 32 UNF	5.00	6.00
9342028	●	1/4 - 20 UNC	7.00	10.00
9342029	●	1/4 - 28 UNF	5.00	10.00
1501500505	●	1/4 - 32 UNEF	5.00	10.00
9342030	●	5/16 - 18 UNC	7.80	10.00
9342031	●	5/16 - 24 UNF	7.00	10.00
9342033	●	3/8 - 16 UNC	8.80	10.00
9342034	●	3/8 - 24 UNF	7.00	10.00
9342035	●	7/16 - 14 UNC	10.00	12.00
9342036	●	7/16 - 20 UNF	7.00	12.00
9342037	●	1/2 - 13 UNC	10.80	13.00
9342038	●	1/2 - 20 UNF	7.00	13.00
1501500605	●	1/2 - 32 UN	5.00	13.00
1501500705	●	9/16 - 18 UNF	7.80	15.00
1501500805	●	5/8 - 11 UNC	12.70	16.00
1501500905	●	5/8 - 18 UNF	7.80	16.00
1501501005	●	3/4 - 10 UNC	14.00	20.00
1501501105	●	3/4 - 16 UNF	8.80	20.00
1501501205	●	7/8 - 9 UNC	15.60	23.00
1501501305	●	7/8 - 14 UNF	10.00	23.00
1501501405	●	1 - 8 UNC	17.50	25.50
1501501505	●	1 - 12 UNF	11.70	25.50

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

Note: Since it is made to measure class 2B, it can also be used as is for 3B. If the internal thread is a blind hole, please confirm that the internal thread length is longer than the screw length of DCT75. The selection of the Height Master is required if the nominal diameter of the internal thread has a chamfer or counterbore over 1.5mm. Please consult with your local sales representative.

Sleeve and Height Master Selection Chart

Shank Diameter	Inch Sizes	Sleeve Hole Dia.	Height Master Dia.
6mm	No. 5 - No.10	6.5mm	6mm
10mm - 16mm	1/4" - 5/8"	17.5mm (included with the Digimatic Indicator)	16mm
20mm - 25.5mm	3/4" - 1	26.5mm	

List 15010

HSS | TiN | PACKED 1 PIECE

OSG DCT75



EDP Number		Thread Size	Thread Length Lc (mm)	Shank Diameter d (mm)
1501000105	●	M3 x 0.5	5.00	6.00
1501000205	●	M4 x 0.7	5.00	6.00
9342019	●	M6 x 1	6.20	10.00
9342021	●	M8 x 1	6.20	10.00
9342020	●	M8 x 1.25	7.30	10.00
9342022	●	M10 x 1.5	8.30	10.00
9342025	●	M12 x 1.75	9.70	12.00
9342027	●	M16 x 1.5	8.70	16.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

Note: Since it is made to measure class 6H, it can also be used as is for 4H, 5H, JIS I and JIS II. If the internal thread is a blind hole, please confirm that the internal thread length is longer than the screw length of DCT75. The selection of the Height Master is required if the nominal diameter of the internal thread has a chamfer or counterbore over 1.5mm. Please consult with your local sales representative.

Sleeve and Height Master Selection Chart

Shank Diameter	Metric Sizes	Sleeve Hole Dia.	Height Master Dia.
6mm	M3 - M4	6.5mm	6mm
10mm - 16mm	M6 - M16	17.5mm (included with the Digimatic Indicator)	16mm

List 15020

DCT75 Accessories

	Item Name	Size	EDP No.	Stocked
	Digimatic Indicator with 17.5mm Sleeve	-	9342054	●
	Sleeve for Digimatic Indicator	6.5mm Hole Dia.	1502000100	●
		26.5mm Hole Dia.	1502000200	●
	Height Master	D 6mm x L 29mm	1502000300	●
		D 6mm x L 29.25mm	1502000400	●
		D 6mm x L 29.5mm	1502000500	●
		D 6mm x L 29.75mm	1502000600	●
		D 6mm x L 30mm	1502000700	●
		D 16mm x L 29mm	9342047	●
		D 16mm x L 29.25mm	9342048	●
		D 16mm x L 29.5mm	9342049	●
		D 16mm x L 29.75mm	9342050	●
		D 16mm x L 30mm	9342051	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

Please be sure to purchase the DCT75 and the Height Master as a set.

Usage Guidelines:

1. Hold the sleeve against the entrance of the internal thread. Please confirm the position of the sleeve and ensure that it is not in the way.
2. After confirming the shape of the internal thread, the sleeve's outer diameter and the hole diameter, please confirm the shape of the internal thread's entrance where the sleeve is fitted against.
3. The digital unit uses the Digimatic Indicator manufactured by Mitutoyo, paired with programs exclusively made for the DCT75.

List 16050

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EXOPRO® OIL-S-XPF, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1605014204	●	1/4 - 20 UNC	H4	Modified Bottom (2.5P)	3.150	0.500	1.181	0.255	0.191	0.313	0.225	0.230
1605014216	●	1/4 - 20 UNC	H6	Bottom (1.5P)	3.150	0.500	1.181	0.255	0.191	0.313	0.225	0.230
1605014206	●	1/4 - 20 UNC	H6	Modified Bottom (2.5P)	3.150	0.500	1.181	0.255	0.191	0.313	0.225	0.230
1605014246	●	1/4 - 20 UNC	H6	Plug (4.5P)	3.150	0.500	1.181	0.255	0.191	0.313	0.225	0.230
1605014284	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	3.150	0.500	1.181	0.255	0.191	0.313	0.232	0.235
1605014816	●	1/4 - 28 UNF	H6	Bottom (1.5P)	3.150	0.500	1.181	0.255	0.191	0.313	0.232	0.235
1605014286	●	1/4 - 28 UNF	H6	Modified Bottom (2.5P)	3.150	0.500	1.181	0.255	0.191	0.313	0.232	0.235
1605014846	●	1/4 - 28 UNF	H6	Plug (4.5P)	3.150	0.500	1.181	0.255	0.191	0.313	0.232	0.235
1605056185	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1605051617	●	5/16 - 18 UNC	H7	Bottom (1.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1605056187	●	5/16 - 18 UNC	H7	Modified Bottom (2.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1605051647	●	5/16 - 18 UNC	H7	Plug (4.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1605056245	●	5/16 - 24 UNF	H5	Modified Bottom (2.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1605056217	●	5/16 - 24 UNF	H7	Bottom (1.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1605056247	●	5/16 - 24 UNF	H7	Modified Bottom (2.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1605056447	●	5/16 - 24 UNF	H7	Plug (4.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1605038165	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	3.937	0.626	1.575	0.381	0.286	0.438	0.343	0.350
1605038117	●	3/8 - 16 UNC	H7	Bottom (1.5P)	3.937	0.626	1.575	0.381	0.286	0.438	0.343	0.350
1605038167	●	3/8 - 16 UNC	H7	Modified Bottom (2.5P)	3.937	0.626	1.575	0.381	0.286	0.438	0.343	0.350
1605038147	●	3/8 - 16 UNC	H7	Plug (4.5P)	3.937	0.626	1.575	0.381	0.286	0.438	0.343	0.350
1605038245	●	3/8 - 24 UNF	H5	Modified Bottom (2.5P)	3.937	0.626	1.575	0.381	0.286	0.438	0.354	0.358
1605038217	●	3/8 - 24 UNF	H7	Bottom (1.5P)	3.937	0.626	1.575	0.381	0.286	0.438	0.354	0.358
1605038247	●	3/8 - 24 UNF	H7	Modified Bottom (2.5P)	3.937	0.626	1.575	0.381	0.286	0.438	0.354	0.358
1605038447	●	3/8 - 24 UNF	H7	Plug (4.5P)	3.937	0.626	1.575	0.381	0.286	0.438	0.354	0.358
1605076145	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.937	0.713	1.713	0.323	0.242	0.406	0.401	0.408
1605076118	●	7/16 - 14 UNC	H8	Bottom (1.5P)	3.937	0.713	1.713	0.323	0.242	0.406	0.401	0.408
1605076148	●	7/16 - 14 UNC	H8	Modified Bottom (2.5P)	3.937	0.713	1.713	0.323	0.242	0.406	0.401	0.408
1605076448	●	7/16 - 14 UNC	H8	Plug (4.5P)	3.937	0.713	1.713	0.323	0.242	0.406	0.401	0.408
1605076205	●	7/16 - 20 UNF	H5	Modified Bottom (2.5P)	3.937	0.713	1.713	0.323	0.242	0.406	0.412	0.417
1605076218	●	7/16 - 20 UNF	H8	Bottom (1.5P)	3.937	0.713	1.713	0.323	0.242	0.406	0.412	0.417
1605076208	●	7/16 - 20 UNF	H8	Modified Bottom (2.5P)	3.937	0.713	1.713	0.323	0.242	0.406	0.412	0.417
1605076248	●	7/16 - 20 UNF	H8	Plug (4.5P)	3.937	0.713	1.713	0.323	0.242	0.406	0.412	0.417
1605012135	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	4.331	0.768	1.933	0.367	0.275	0.438	0.461	0.469
1605012118	●	1/2 - 13 UNC	H8	Bottom (1.5P)	4.331	0.768	1.933	0.367	0.275	0.438	0.461	0.469
1605012138	●	1/2 - 13 UNC	H8	Modified Bottom (2.5P)	4.331	0.768	1.933	0.367	0.275	0.438	0.461	0.469
1605012148	●	1/2 - 13 UNC	H8	Plug (4.5P)	4.331	0.768	1.933	0.367	0.275	0.438	0.461	0.469
1605012205	●	1/2 - 20 UNF	H5	Modified Bottom (2.5P)	3.937	0.768	1.933	0.367	0.275	0.438	0.475	0.480
1605012218	●	1/2 - 20 UNF	H8	Bottom (1.5P)	3.937	0.768	1.933	0.367	0.275	0.438	0.475	0.480
1605012208	●	1/2 - 20 UNF	H8	Modified Bottom (2.5P)	3.937	0.768	1.933	0.367	0.275	0.438	0.475	0.480
1605012248	●	1/2 - 20 UNF	H8	Plug (4.5P)	3.937	0.768	1.933	0.367	0.275	0.438	0.475	0.480
1605096127	●	9/16 - 12 UNC	H7	Modified Bottom (2.5P)	4.331	0.835	1.972	0.429	0.322	0.500	0.520	0.529
1605091110	●	9/16 - 12 UNC	H10	Bottom (1.5P)	4.331	0.835	1.972	0.429	0.322	0.500	0.520	0.529
1605096120	●	9/16 - 12 UNC	H10	Modified Bottom (2.5P)	4.331	0.835	1.972	0.429	0.322	0.500	0.520	0.529
1605091140	●	9/16 - 12 UNC	H10	Plug (4.5P)	4.331	0.835	1.972	0.429	0.322	0.500	0.520	0.529
1605096187	●	9/16 - 18 UNF	H7	Modified Bottom (2.5P)	3.937	0.835	1.972	0.429	0.322	0.500	0.534	0.540
1605091810	●	9/16 - 18 UNF	H10	Bottom (1.5P)	3.937	0.835	1.972	0.429	0.322	0.500	0.534	0.540
1605096180	●	9/16 - 18 UNF	H10	Modified Bottom (2.5P)	3.937	0.835	1.972	0.429	0.322	0.500	0.534	0.540
1605091840	●	9/16 - 18 UNF	H10	Plug (4.5P)	3.937	0.835	1.972	0.429	0.322	0.500	0.534	0.540
1605058117	●	5/8 - 11 UNC	H7	Modified Bottom (2.5P)	4.331	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1605058150	●	5/8 - 11 UNC	H10	Bottom (1.5P)	4.331	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1605058110	●	5/8 - 11 UNC	H10	Modified Bottom (2.5P)	4.331	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1605058140	●	5/8 - 11 UNC	H10	Plug (4.5P)	4.331	0.909	2.126	0.480	0.360	0.563	0.579	0.588

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

List 16050 (Continued)

EXOPRO® OIL-S-XPF, DIN Overall Length

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1605058187	●	5/8 - 18 UNF	H7	Modified Bottom (2.5P)	3.937	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1605058810	●	5/8 - 18 UNF	H10	Bottom (1.5P)	3.937	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1605058180	●	5/8 - 18 UNF	H10	Modified Bottom (2.5P)	3.937	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1605058840	●	5/8 - 18 UNF	H10	Plug (4.5P)	3.937	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1605034107	●	3/4 - 10 UNC	H7	Modified Bottom (2.5P)	4.921	1.000	2.433	0.590	0.442	0.688	0.699	0.709
1605034110	●	3/4 - 10 UNC	H10	Bottom (1.5P)	4.921	1.000	2.433	0.590	0.442	0.688	0.699	0.709
1605034100	●	3/4 - 10 UNC	H10	Modified Bottom (2.5P)	4.921	1.000	2.433	0.590	0.442	0.688	0.699	0.709
1605034140	●	3/4 - 10 UNC	H10	Plug (4.5P)	4.921	1.000	2.433	0.590	0.442	0.688	0.699	0.709
1605034167	●	3/4 - 16 UNF	H7	Modified Bottom (2.5P)	4.331	1.000	2.433	0.590	0.442	0.688	0.718	0.725
1605034610	●	3/4 - 16 UNF	H10	Bottom (1.5P)	4.331	1.000	2.433	0.590	0.442	0.688	0.718	0.725
1605034160	●	3/4 - 16 UNF	H10	Modified Bottom (2.5P)	4.331	1.000	2.433	0.590	0.442	0.688	0.718	0.725
1605034640	●	3/4 - 16 UNF	H10	Plug (4.5P)	4.331	1.000	2.433	0.590	0.442	0.688	0.718	0.725
1605078908	●	7/8 - 9 UNC	H8	Modified Bottom (2.5P)	5.512	1.110	2.654	0.697	0.523	0.750	0.818	0.830
1605078911	●	7/8 - 9 UNC	H11	Bottom (1.5P)	5.512	1.110	2.654	0.697	0.523	0.750	0.818	0.830
1605078901	●	7/8 - 9 UNC	H11	Modified Bottom (2.5P)	5.512	1.110	2.654	0.697	0.523	0.750	0.818	0.830
1605078941	●	7/8 - 9 UNC	H11	Plug (4.5P)	5.512	1.110	2.654	0.697	0.523	0.750	0.818	0.830
1605078148	●	7/8 - 14 UNF	H8	Modified Bottom (2.5P)	4.920	1.110	2.654	0.697	0.523	0.750	0.839	0.846
1605078149	●	7/8 - 14 UNF	H8	Plug (4.5P)	4.920	1.110	2.654	0.697	0.523	0.750	0.839	0.846
1605078111	●	7/8 - 14 UNF	H11	Bottom (1.5P)	4.920	1.110	2.654	0.697	0.523	0.750	0.839	0.846
1605078141	●	7/8 - 14 UNF	H11	Modified Bottom (2.5P)	4.920	1.110	2.654	0.697	0.523	0.750	0.839	0.846
1605078142	●	7/8 - 14 UNF	H11	Plug (4.5P)	4.920	1.110	2.654	0.697	0.523	0.750	0.839	0.846
1605001088	●	1 - 8 UNC	H8	Modified Bottom (2.5P)	6.300	1.252	3.012	0.800	0.600	0.813	0.936	0.949
1605018111	●	1 - 8 UNC	H11	Bottom (1.5P)	6.300	1.252	3.012	0.800	0.600	0.813	0.936	0.949
1605001081	●	1 - 8 UNC	H11	Modified Bottom (2.5P)	6.300	1.252	3.012	0.800	0.600	0.813	0.936	0.949
1605018411	●	1 - 8 UNC	H11	Plug (4.5P)	6.300	1.252	3.012	0.800	0.600	0.813	0.936	0.949
1605001128	●	1 - 12 UNF	H8	Modified Bottom (2.5P)	5.510	1.252	3.012	0.800	0.600	0.813	0.958	0.966
1605011211	●	1 - 12 UNF	H11	Bottom (1.5P)	5.510	1.252	3.012	0.800	0.600	0.813	0.958	0.966
1605001121	●	1 - 12 UNF	H11	Modified Bottom (2.5P)	5.510	1.252	3.012	0.800	0.600	0.813	0.958	0.966
1605011241	●	1 - 12 UNF	H11	Plug (4.5P)	5.510	1.252	3.012	0.800	0.600	0.813	0.958	0.966
1605011878	●	1- 1/8 - 7 UNC	H13	Modified Bottom (2.5P)	7.087	0.858	2.835	0.896	0.672	0.875	1.052	1.067
1605011888	●	1- 1/8 - 8 UN	H11	Modified Bottom (2.5P)	7.087	0.858	2.835	0.896	0.672	0.875	1.061	1.074
1605011826	●	1- 1/8 - 12 UNF	H11	Modified Bottom (2.5P)	5.906	0.835	2.362	0.896	0.672	0.875	1.083	1.091
1605012578	●	1- 1/4 - 7 UNC	H13	Modified Bottom (2.5P)	7.087	0.858	2.835	1.021	0.766	1.000	1.177	1.192
1605012588	●	1- 1/4 - 8 UN	H11	Modified Bottom (2.5P)	7.087	0.858	2.835	1.021	0.766	1.000	1.186	1.199
1605012526	●	1- 1/4 - 12 UNF	H11	Modified Bottom (2.5P)	5.906	0.835	2.362	1.021	0.766	1.000	1.208	1.216
1605013768	●	1- 3/8 - 6 UNC	H14	Modified Bottom (2.5P)	7.874	1.000	3.150	1.108	0.831	1.063	1.290	1.307
1605013788	●	1- 3/8 - 8 UN	H13	Modified Bottom (2.5P)	7.874	1.000	3.150	1.108	0.831	1.063	1.311	1.324
1605013126	●	1- 3/8 - 12 UNF	H11	Modified Bottom (2.5P)	6.693	0.835	2.677	1.108	0.831	1.063	1.333	1.341
1605011268	●	1- 1/2 - 6 UNC	H15	Modified Bottom (2.5P)	7.874	1.000	3.150	1.233	0.925	1.125	1.415	1.432
1605011288	●	1- 1/2 - 8 UN	H13	Modified Bottom (2.5P)	7.874	1.000	3.150	1.233	0.925	1.125	1.436	1.449
1605012126	●	1- 1/2 - 12 UNF	H11	Modified Bottom (2.5P)	6.693	0.835	2.677	1.233	0.925	1.125	1.458	1.466
1605016288	●	1- 5/8 - 8 UN	H13	Modified Bottom (2.5P)	7.874	1.000	3.150	1.305	0.979	1.125	1.561	1.574
1605017558	●	1- 3/4 - 5 UNC	H16	Modified Bottom (2.5P)	8.661	1.201	3.465	1.430	1.072	1.250	1.648	1.668
1605017588	●	1- 3/4 - 8 UN	H13	Modified Bottom (2.5P)	7.874	1.201	3.150	1.430	1.072	1.250	1.686	1.699

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
75-130SFM	75-130SFM	65-100SFM	65-100SFM	20-65SFM	20-50SFM	20-45SFM	15-40SFM		80-130SFM	75-110SFM	8-10SFM	8-10SFM	50-100SFM	8-20SFM		

*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16150

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EXOPRO® OIL-S-XPF, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1615006754	●	M6 x 0.75	D4	Modified Bottom (2.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1615067517	●	M6 x 0.75	D7	Bottom (1.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1615006757	●	M6 x 0.75	D7	Modified Bottom (2.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1615067547	●	M6 x 0.75	D7	Plug (4.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1615006015	●	M6 x 1	D5	Modified Bottom (2.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1615060118	●	M6 x 1	D8	Bottom (1.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1615006018	●	M6 x 1	D8	Modified Bottom (2.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1615060148	●	M6 x 1	D8	Plug (4.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1615007015	●	M7 x 1	D5	Modified Bottom (2.5P)	80.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1615070118	●	M7 x 1	D8	Bottom (1.5P)	80.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1615007018	●	M7 x 1	D8	Modified Bottom (2.5P)	80.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1615070148	●	M7 x 1	D8	Plug (4.5P)	80.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1615008754	●	M8 x 0.75	D4	Modified Bottom (2.5P)	80.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1615087517	●	M8 x 0.75	D7	Bottom (1.5P)	80.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1615008757	●	M8 x 0.75	D7	Modified Bottom (2.5P)	80.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1615087547	●	M8 x 0.75	D7	Plug (4.5P)	80.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1615008015	●	M8 x 1	D5	Modified Bottom (2.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1615080118	●	M8 x 1	D8	Bottom (1.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1615008018	●	M8 x 1	D8	Modified Bottom (2.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1615080148	●	M8 x 1	D8	Plug (4.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1615008255	●	M8 x 1.25	D5	Modified Bottom (2.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1615081219	●	M8 x 1.25	D9	Bottom (1.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1615008259	●	M8 x 1.25	D9	Modified Bottom (2.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1615081249	●	M8 x 1.25	D9	Plug (4.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1615010015	●	M10 x 1	D5	Modified Bottom (2.5P)	90.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1615010118	●	M10 x 1	D8	Bottom (1.5P)	90.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1615010018	●	M10 x 1	D8	Modified Bottom (2.5P)	90.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1615010148	●	M10 x 1	D8	Plug (4.5P)	90.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1615010255	●	M10 x 1.25	D5	Modified Bottom (2.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1615010119	●	M10 x 1.25	D9	Bottom (1.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1615010259	●	M10 x 1.25	D9	Modified Bottom (2.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1615010149	●	M10 x 1.25	D9	Plug (4.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1615010156	●	M10 x 1.5	D6	Modified Bottom (2.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1615010110	●	M10 x 1.5	D10	Bottom (1.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1615010150	●	M10 x 1.5	D10	Modified Bottom (2.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1615010140	●	M10 x 1.5	D10	Plug (4.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1615012106	●	M12 x 1	D6	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1615012110	●	M12 x 1	D10	Bottom (1.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1615012100	●	M12 x 1	D10	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1615012140	●	M12 x 1	D10	Plug (4.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1615012256	●	M12 x 1.25	D6	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1615012210	●	M12 x 1.25	D10	Bottom (1.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1615012250	●	M12 x 1.25	D10	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1615012240	●	M12 x 1.25	D10	Plug (4.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1615012156	●	M12 x 1.5	D6	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1615012111	●	M12 x 1.5	D11	Bottom (1.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1615012151	●	M12 x 1.5	D11	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1615012141	●	M12 x 1.5	D11	Plug (4.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1615012756	●	M12 x 1.75	D6	Modified Bottom (2.5P)	110.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29
1615012711	●	M12 x 1.75	D11	Bottom (1.5P)	110.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29
1615010751	●	M12 x 1.75	D11	Modified Bottom (2.5P)	110.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29
1615012541	●	M12 x 1.75	D11	Plug (4.5P)	110.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

List 16150 (Continued)

EXOPRO® OIL-S-XPF, DIN Overall Length

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1615014156	●	M14 x 1.5	D6	Modified Bottom (2.5P)	100.00	20.00	50.10	10.90	8.18	12.70	13.24	13.39
1615014511	●	M14 x 1.5	D11	Bottom (1.5P)	100.00	20.00	50.10	10.90	8.18	12.70	13.24	13.39
1615014151	●	M14 x 1.5	D11	Modified Bottom (2.5P)	100.00	20.00	50.10	10.90	8.18	12.70	13.24	13.39
1615014541	●	M14 x 1.5	D11	Plug (4.5P)	100.00	20.00	50.10	10.90	8.18	12.70	13.24	13.39
1615014027	●	M14 x 2	D7	Modified Bottom (2.5P)	110.00	20.00	50.10	10.90	8.18	12.70	12.98	13.18
1615014212	●	M14 x 2	D12	Bottom (1.5P)	110.00	20.00	50.10	10.90	8.18	12.70	12.98	13.18
1615014022	●	M14 x 2	D12	Modified Bottom (2.5P)	110.00	20.00	50.10	10.90	8.18	12.70	12.98	13.18
1615014242	●	M14 x 2	D12	Plug (4.5P)	110.00	20.00	50.10	10.90	8.18	12.70	12.98	13.18
1615016152	●	M16 x 1.5	D6	Modified Bottom (2.5P)	100.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1615016111	●	M16 x 1.5	D11	Bottom (1.5P)	100.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1615016151	●	M16 x 1.5	D11	Modified Bottom (2.5P)	100.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1615016141	●	M16 x 1.5	D11	Plug (4.5P)	100.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1615016207	●	M16 x 2	D7	Modified Bottom (2.5P)	110.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1615016212	●	M16 x 2	D12	Bottom (1.5P)	110.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1615016202	●	M16 x 2	D12	Modified Bottom (2.5P)	110.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1615016242	●	M16 x 2	D12	Plug (4.5P)	110.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1615018156	●	M18 x 1.5	D6	Modified Bottom (2.5P)	110.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1615018111	●	M18 x 1.5	D11	Bottom (1.5P)	110.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1615018151	●	M18 x 1.5	D11	Modified Bottom (2.5P)	110.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1615018141	●	M18 x 1.5	D11	Plug (4.5P)	110.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1615018257	●	M18 x 2.5	D7	Modified Bottom (2.5P)	125.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1615018212	●	M18 x 2.5	D12	Bottom (1.5P)	125.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1615018252	●	M18 x 2.5	D12	Modified Bottom (2.5P)	125.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1615018242	●	M18 x 2.5	D12	Plug (4.5P)	125.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1615020156	●	M20 x 1.5	D6	Modified Bottom (2.5P)	125.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1615020111	●	M20 x 1.5	D11	Bottom (1.5P)	125.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1615020151	●	M20 x 1.5	D11	Modified Bottom (2.5P)	125.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1615020141	●	M20 x 1.5	D11	Plug (4.5P)	125.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1615020257	●	M20 x 2.5	D7	Modified Bottom (2.5P)	140.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1615020212	●	M20 x 2.5	D12	Bottom (1.5P)	140.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1615020252	●	M20 x 2.5	D12	Modified Bottom (2.5P)	140.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1615020242	●	M20 x 2.5	D12	Plug (4.5P)	140.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1615022156	●	M22 x 1.5	D6	Modified Bottom (2.5P)	125.00	25.00	67.40	17.70	13.28	19.05	21.24	21.39
1615022111	●	M22 x 1.5	D11	Bottom (1.5P)	125.00	25.00	67.40	17.70	13.28	19.05	21.24	21.39
1615022151	●	M22 x 1.5	D11	Modified Bottom (2.5P)	125.00	25.00	67.40	17.70	13.28	19.05	21.24	21.39
1615022141	●	M22 x 1.5	D11	Plug (4.5P)	125.00	25.00	67.40	17.70	13.28	19.05	21.24	21.39
1615022207	●	M22 x 2	D7	Modified Bottom (2.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.98	21.18
1615022212	●	M22 x 2	D12	Bottom (1.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.98	21.18
1615022202	●	M22 x 2	D12	Modified Bottom (2.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.98	21.18
1615022242	●	M22 x 2	D12	Plug (4.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.98	21.18
1615022257	●	M22 x 2.5	D7	Modified Bottom (2.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.73	20.98
1615022512	●	M22 x 2.5	D12	Bottom (1.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.73	20.98
1615022252	●	M22 x 2.5	D12	Modified Bottom (2.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.73	20.98
1615022542	●	M22 x 2.5	D12	Plug (4.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.73	20.98
1615024156	●	M24 x 1.5	D6	Modified Bottom (2.5P)	140.00	25.00	68.40	19.30	14.48	19.05	23.24	23.39
1615024111	●	M24 x 1.5	D11	Bottom (1.5P)	140.00	25.00	68.40	19.30	14.48	19.05	23.24	23.39
1615024151	●	M24 x 1.5	D11	Modified Bottom (2.5P)	140.00	25.00	68.40	19.30	14.48	19.05	23.24	23.39

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
75-130 SFM	75-130 SFM	65-100 SFM	65-100 SFM	20-65 SFM	20-50 SFM	20-45 SFM	15-40 SFM		80-130 SFM	75-110 SFM	8-10 SFM	8-10 SFM	50-100 SFM	8-20 SFM		

*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16150 (Continued)

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EXOPRO® OIL-S-XPF, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1615024141	●	M24 x 1.5	D11	Plug (4.5P)	140.00	25.00	68.40	19.30	14.48	19.05	23.24	23.39
1615024207	●	M24 x 2	D7	Modified Bottom (2.5P)	140.00	30.00	68.40	19.30	14.48	19.05	22.98	23.18
1615024223	●	M24 x 2	D13	Bottom (1.5P)	140.00	30.00	68.40	19.30	14.48	19.05	22.98	23.18
1615024203	●	M24 x 2	D13	Modified Bottom (2.5P)	140.00	30.00	68.40	19.30	14.48	19.05	22.98	23.18
1615024243	●	M24 x 2	D13	Plug (4.5P)	140.00	30.00	68.40	19.30	14.48	19.05	22.98	23.18
1615024309	●	M24 x 3	D9	Modified Bottom (2.5P)	160.00	30.00	68.40	19.30	14.48	19.05	22.47	22.78
1615024349	●	M24 x 3	D9	Plug (4.5P)	160.00	30.00	68.40	19.30	14.48	19.05	22.47	22.78
1615024315	●	M24 x 3	D15	Bottom (1.5P)	160.00	30.00	68.40	19.30	14.48	19.05	22.47	22.78
1615024305	●	M24 x 3	D15	Modified Bottom (2.5P)	160.00	30.00	68.40	19.30	14.48	19.05	22.47	22.78
1615024345	●	M24 x 3	D15	Plug (4.5P)	160.00	30.00	68.40	19.30	14.48	19.05	22.47	22.78
1615027309	●	M27 x 3	D15	Modified Bottom (2.5P)	160.00	18.00	64.00	22.76	17.07	22.23	25.47	25.78
1615030350	●	M30 x 3.5	D15	Modified Bottom (2.5P)	180.00	21.00	72.00	25.93	19.46	25.40	28.22	28.57
1615033350	●	M33 x 3.5	D16	Modified Bottom (2.5P)	180.00	21.00	72.00	28.14	21.11	26.99	31.22	31.57
1615036411	●	M36 x 4	D17	Modified Bottom (2.5P)	200.00	24.00	80.00	31.32	23.50	28.58	33.96	34.37
1615042451	●	M42 x 4.5	D17	Modified Bottom (2.5P)	200.00	27.00	80.00	36.32	27.23	31.75	39.71	40.16
1615045451	●	M45 x 4.5	D17	Modified Bottom (2.5P)	220.00	27.00	88.00	38.58	28.93	31.75	42.41	43.16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
75-130 SFM	75-130 SFM	65-100 SFM	65-100 SFM	20-65 SFM	20-50 SFM	20-45 SFM	15-40 SFM		80-130 SFM	75-110 SFM	8-10 SFM	8-10 SFM	50-100 SFM	8-20 SFM		

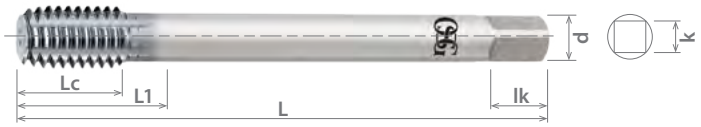
*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16250

EXOPRO® S-XPF, DIN Overall Length

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1625000802	●	No. 0 - 80 UNF	H2	Modified Bottom (2.5P)	1.640	0.321	0.360	0.141	0.110	0.188	0.054	0.055
1625008013	●	No. 0 - 80 UNF	H3	Bottom (1.5P)	1.640	0.321	0.360	0.141	0.110	0.188	0.054	0.055
1625000803	●	No. 0 - 80 UNF	H3	Modified Bottom (2.5P)	1.640	0.321	0.360	0.141	0.110	0.188	0.054	0.055
1625008043	●	No. 0 - 80 UNF	H3	Plug (4.5P)	1.640	0.321	0.360	0.141	0.110	0.188	0.054	0.055
1625001642	●	No. 1 - 64 UNC	H2	Modified Bottom (2.5P)	1.841	0.326	0.365	0.141	0.110	0.188	0.065	0.067
1625016413	●	No. 1 - 64 UNC	H3	Bottom (1.5P)	1.772	0.329	0.369	0.141	0.110	0.188	0.065	0.067
1625001643	●	No. 1 - 64 UNC	H3	Modified Bottom (2.5P)	1.841	0.326	0.365	0.141	0.110	0.188	0.065	0.067
1625016443	●	No. 1 - 64 UNC	H3	Plug (4.5P)	1.841	0.326	0.365	0.141	0.110	0.188	0.065	0.067
1625001722	●	No. 1 - 72 UNF	H2	Modified Bottom (2.5P)	1.839	0.324	0.363	0.141	0.110	0.188	0.066	0.067
1625017213	●	No. 1 - 72 UNF	H3	Bottom (1.5P)	1.772	0.327	0.366	0.141	0.110	0.188	0.066	0.067
1625001723	●	No. 1 - 72 UNF	H3	Modified Bottom (2.5P)	1.839	0.324	0.363	0.141	0.110	0.188	0.066	0.067
1625017243	●	No. 1 - 72 UNF	H3	Plug (4.5P)	1.841	0.326	0.365	0.141	0.110	0.188	0.066	0.067
1625002562	●	No. 2 - 56 UNC	H2	Modified Bottom (2.5P)	1.772	0.385	0.424	0.141	0.110	0.188	0.077	0.079
1625025613	●	No. 2 - 56 UNC	H3	Bottom (1.5P)	1.772	0.389	0.428	0.141	0.110	0.188	0.077	0.079
1625002563	●	No. 2 - 56 UNC	H3	Modified Bottom (2.5P)	1.772	0.384	0.424	0.141	0.110	0.188	0.077	0.079
1625025643	●	No. 2 - 56 UNC	H3	Plug (4.5P)	1.772	0.374	0.413	0.141	0.110	0.188	0.077	0.079
1625002642	●	No. 2 - 64 UNF	H2	Modified Bottom (2.5P)	1.772	0.381	0.421	0.141	0.110	0.188	0.078	0.080
1625026413	●	No. 2 - 64 UNF	H3	Bottom (1.5P)	1.772	0.385	0.424	0.141	0.110	0.188	0.078	0.080
1625002643	●	No. 2 - 64 UNF	H3	Modified Bottom (2.5P)	1.772	0.381	0.421	0.141	0.110	0.188	0.078	0.080
1625026443	●	No. 2 - 64 UNF	H3	Plug (4.5P)	1.772	0.374	0.413	0.141	0.110	0.188	0.078	0.080
1625003482	●	No. 3 - 48 UNC	H2	Modified Bottom (2.5P)	1.969	0.385	0.424	0.141	0.110	0.188	0.088	0.091
1625034813	●	No. 3 - 48 UNC	H3	Bottom (1.5P)	1.969	0.390	0.429	0.141	0.110	0.188	0.088	0.091
1625003483	●	No. 3 - 48 UNC	H3	Modified Bottom (2.5P)	1.969	0.385	0.424	0.141	0.110	0.188	0.088	0.091
1625034843	●	No. 3 - 48 UNC	H3	Plug (4.5P)	1.969	0.370	0.409	0.141	0.110	0.188	0.088	0.091
1625003562	●	No. 3 - 56 UNF	H2	Modified Bottom (2.5P)	1.969	0.381	0.421	0.141	0.110	0.188	0.090	0.092
1625035613	●	No. 3 - 56 UNF	H3	Bottom (1.5P)	1.969	0.385	0.425	0.141	0.110	0.188	0.090	0.092
1625003563	●	No. 3 - 56 UNF	H3	Modified Bottom (2.5P)	1.969	0.381	0.421	0.141	0.110	0.188	0.090	0.092
1625035643	●	No. 3 - 56 UNF	H3	Plug (4.5P)	1.969	0.370	0.409	0.141	0.110	0.188	0.090	0.092
1625004403	●	No. 4 - 40 UNC	H3	Modified Bottom (2.5P)	2.205	0.312	0.721	0.141	0.110	0.188	0.099	0.102
1625044015	●	No. 4 - 40 UNC	H5	Bottom (1.5P)	2.205	0.317	0.727	0.141	0.110	0.188	0.099	0.102
1625004405	●	No. 4 - 40 UNC	H5	Modified Bottom (2.5P)	2.205	0.311	0.721	0.141	0.110	0.188	0.099	0.102
1625044045	●	No. 4 - 40 UNC	H5	Plug (4.5P)	2.205	0.295	0.705	0.141	0.110	0.188	0.099	0.102
1625004483	●	No. 4 - 48 UNF	H3	Modified Bottom (2.5P)	2.205	0.311	0.720	0.141	0.110	0.188	0.101	0.104
1625044815	●	No. 4 - 48 UNF	H5	Bottom (1.5P)	2.205	0.315	0.724	0.141	0.110	0.188	0.101	0.104
1625004485	●	No. 4 - 48 UNF	H5	Modified Bottom (2.5P)	2.205	0.310	0.720	0.141	0.110	0.188	0.101	0.104
1625044845	●	No. 4 - 48 UNF	H5	Plug (4.5P)	2.205	0.299	0.709	0.141	0.110	0.188	0.101	0.104
1625005403	●	No. 5 - 40 UNC	H3	Modified Bottom (2.5P)	2.205	0.313	0.722	0.141	0.110	0.188	0.112	0.115
1625054015	●	No. 5 - 40 UNC	H5	Bottom (1.5P)	2.205	0.318	0.728	0.141	0.110	0.188	0.112	0.115
1625005405	●	No. 5 - 40 UNC	H5	Modified Bottom (2.5P)	2.205	0.312	0.722	0.141	0.110	0.188	0.112	0.115
1625054045	●	No. 5 - 40 UNC	H5	Plug (4.5P)	2.205	0.299	0.709	0.141	0.110	0.188	0.112	0.115
1625005443	●	No. 5 - 44 UNF	H3	Modified Bottom (2.5P)	2.205	0.310	0.719	0.141	0.110	0.188	0.113	0.116
1625054415	●	No. 5 - 44 UNF	H5	Bottom (1.5P)	2.205	0.315	0.724	0.141	0.110	0.188	0.113	0.116

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

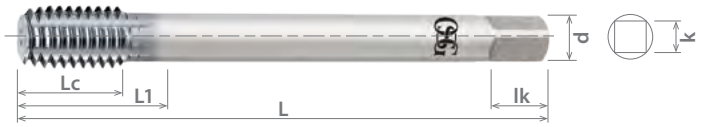
*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16250 (Continued)

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EXOPRO® S-XPF, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Diameter	Square Width	Square Length	Tap Drill Size	
					L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
1625005445	●	No. 5 - 44 UNF	H5	Modified Bottom (2.5P)	2.205	0.309	0.719	0.141	0.110	0.188	0.113	0.116
1625054445	●	No. 5 - 44 UNF	H5	Plug (4.5P)	2.205	0.299	0.709	0.141	0.110	0.188	0.113	0.116
1625006323	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.205	0.392	0.805	0.141	0.110	0.188	0.122	0.125
1625063215	●	No. 6 - 32 UNC	H5	Bottom (1.5P)	2.205	0.399	0.812	0.141	0.110	0.188	0.122	0.125
1625006325	●	No. 6 - 32 UNC	H5	Modified Bottom (2.5P)	2.205	0.391	0.805	0.141	0.110	0.188	0.122	0.125
1625063245	●	No. 6 - 32 UNC	H5	Plug (4.5P)	2.205	0.370	0.783	0.141	0.110	0.188	0.122	0.125
1625006403	●	No. 6 - 40 UNF	H3	Modified Bottom (2.5P)	2.205	0.388	0.802	0.141	0.110	0.188	0.125	0.128
1625064015	●	No. 6 - 40 UNF	H5	Bottom (1.5P)	2.205	0.394	0.807	0.141	0.110	0.188	0.125	0.128
1625006405	●	No. 6 - 40 UNF	H5	Modified Bottom (2.5P)	2.205	0.388	0.802	0.141	0.110	0.188	0.125	0.128
1625064045	●	No. 6 - 40 UNF	H5	Plug (4.5P)	2.205	0.374	0.787	0.141	0.110	0.188	0.125	0.128
1625008323	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.480	0.393	0.846	0.168	0.131	0.250	0.148	0.151
1625083215	●	No. 8 - 32 UNC	H5	Bottom (1.5P)	2.480	0.400	0.853	0.168	0.131	0.250	0.148	0.151
1625008325	●	No. 8 - 32 UNC	H5	Modified Bottom (2.5P)	2.480	0.393	0.846	0.168	0.131	0.250	0.148	0.151
1625083245	●	No. 8 - 32 UNC	H5	Plug (4.5P)	2.480	0.374	0.827	0.168	0.131	0.250	0.148	0.151
1625008363	●	No. 8 - 36 UNF	H3	Modified Bottom (2.5P)	2.480	0.389	0.842	0.168	0.131	0.250	0.150	0.153
1625083615	●	No. 8 - 36 UNF	H5	Bottom (1.5P)	2.480	0.395	0.848	0.168	0.131	0.250	0.150	0.153
1625008365	●	No. 8 - 36 UNF	H5	Modified Bottom (2.5P)	2.480	0.389	0.842	0.168	0.131	0.250	0.150	0.153
1625083645	●	No. 8 - 36 UNF	H5	Plug (4.5P)	2.480	0.374	0.827	0.168	0.131	0.250	0.150	0.153
1625010244	●	No. 10 - 24 UNC	H4	Modified Bottom (2.5P)	2.756	0.521	0.966	0.194	0.152	0.250	0.169	0.173
1625010216	●	No. 10 - 24 UNC	H6	Bottom (1.5P)	2.756	0.530	0.975	0.194	0.152	0.250	0.169	0.173
1625010246	●	No. 10 - 24 UNC	H6	Modified Bottom (2.5P)	2.756	0.520	0.965	0.194	0.152	0.250	0.169	0.173
1625010249	●	No. 10 - 24 UNC	H6	Plug (4.5P)	2.756	0.492	0.937	0.194	0.152	0.250	0.169	0.173
1625010324	●	No. 10 - 32 UNF	H4	Modified Bottom (2.5P)	2.756	0.516	0.961	0.194	0.152	0.250	0.174	0.177
1625010316	●	No. 10 - 32 UNF	H6	Bottom (1.5P)	2.756	0.523	0.968	0.194	0.152	0.250	0.174	0.177
1625010326	●	No. 10 - 32 UNF	H6	Modified Bottom (2.5P)	2.756	0.516	0.961	0.194	0.152	0.250	0.174	0.177
1625010346	●	No. 10 - 32 UNF	H6	Plug (4.5P)	2.756	0.500	0.945	0.194	0.152	0.250	0.174	0.177
1625012245	●	No. 12 - 24 UNC	H5	Modified Bottom (2.5P)	3.150	0.522	1.124	0.220	0.165	0.281	0.195	0.199
1625012417	●	No. 12 - 24 UNC	H7	Bottom (1.5P)	3.150	0.532	1.134	0.220	0.165	0.281	0.195	0.199
1625012247	●	No. 12 - 24 UNC	H7	Modified Bottom (2.5P)	3.150	0.522	1.124	0.220	0.165	0.281	0.195	0.199
1625012447	●	No. 12 - 24 UNC	H7	Plug (4.5P)	3.150	0.496	1.098	0.220	0.165	0.281	0.195	0.199
1625012285	●	No. 12 - 28 UNF	H5	Modified Bottom (2.5P)	3.150	0.519	1.121	0.220	0.165	0.281	0.198	0.201
1625012817	●	No. 12 - 28 UNF	H7	Bottom (1.5P)	3.150	0.523	1.130	0.220	0.165	0.281	0.198	0.201
1625012287	●	No. 12 - 28 UNF	H7	Modified Bottom (2.5P)	3.150	0.519	1.121	0.220	0.165	0.281	0.198	0.201
1625012847	●	No. 12 - 28 UNF	H7	Plug (4.5P)	3.150	0.500	1.102	0.220	0.165	0.281	0.198	0.201
1625014204	●	1/4 - 20 UNC	H4	Modified Bottom (2.5P)	3.150	0.526	1.207	0.255	0.191	0.313	0.225	0.230
1625014216	●	1/4 - 20 UNC	H6	Bottom (1.5P)	3.150	0.538	1.219	0.255	0.191	0.313	0.225	0.230
1625014206	●	1/4 - 20 UNC	H6	Modified Bottom (2.5P)	3.150	0.526	1.207	0.255	0.191	0.313	0.225	0.230
1625014246	●	1/4 - 20 UNC	H6	Plug (4.5P)	3.150	0.496	1.374	0.255	0.191	0.313	0.225	0.230
1625014284	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	3.150	0.509	1.190	0.255	0.191	0.313	0.232	0.235
1625014816	●	1/4 - 28 UNF	H6	Bottom (1.5P)	3.150	0.517	1.198	0.255	0.191	0.313	0.232	0.235
1625014286	●	1/4 - 28 UNF	H6	Modified Bottom (2.5P)	3.150	0.508	1.189	0.255	0.191	0.313	0.232	0.235
1625014846	●	1/4 - 28 UNF	H6	Plug (4.5P)	3.150	0.496	1.177	0.255	0.191	0.313	0.232	0.235
1625056185	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1625051617	●	5/16 - 18 UNC	H7	Bottom (1.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1625056187	●	5/16 - 18 UNC	H7	Modified Bottom (2.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1625051647	●	5/16 - 18 UNC	H7	Plug (4.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1625056245	●	5/16 - 24 UNF	H5	Modified Bottom (2.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1625056217	●	5/16 - 24 UNF	H7	Bottom (1.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1625056247	●	5/16 - 24 UNF	H7	Modified Bottom (2.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1625056249	●	5/16 - 24 UNF	H7	Plug (4.5P)	3.543	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1625038165	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	3.937	0.625	1.575	0.381	0.286	0.438	0.343	0.350
1625038117	●	3/8 - 16 UNC	H7	Bottom (1.5P)	3.937	0.625	1.575	0.381	0.286	0.438	0.343	0.350

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

List 16250 (Continued)

EXOPRO® S-XPF, DIN Overall Length

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Diameter	Square Width	Square Length	Tap Drill Size	
					L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
1625038167	●	3/8 - 16 UNC	H7	Modified Bottom (2.5P)	3.937	0.625	1.575	0.381	0.286	0.438	0.343	0.350
1625038147	●	3/8 - 16 UNC	H7	Plug (4.5P)	3.937	0.625	1.575	0.381	0.286	0.438	0.343	0.350
1625038245	●	3/8 - 24 UNF	H5	Modified Bottom (2.5P)	3.937	0.625	1.575	0.381	0.286	0.438	0.354	0.358
1625038217	●	3/8 - 24 UNF	H7	Bottom (1.5P)	3.937	0.625	1.575	0.381	0.286	0.438	0.354	0.358
1625038247	●	3/8 - 24 UNF	H7	Modified Bottom (2.5P)	3.937	0.625	1.575	0.381	0.286	0.438	0.354	0.358
1625038249	●	3/8 - 24 UNF	H7	Plug (4.5P)	3.937	0.625	1.575	0.381	0.286	0.438	0.354	0.358
1625076145	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.937	0.712	1.693	0.323	0.242	0.406	0.401	0.408
1625076118	●	7/16 - 14 UNC	H8	Bottom (1.5P)	3.937	0.712	1.693	0.323	0.242	0.406	0.401	0.408
1625076148	●	7/16 - 14 UNC	H8	Modified Bottom (2.5P)	3.937	0.712	1.693	0.323	0.242	0.406	0.401	0.408
1625076149	●	7/16 - 14 UNC	H8	Plug (4.5P)	3.937	0.712	1.693	0.323	0.242	0.406	0.401	0.408
1625076205	●	7/16 - 20 UNF	H5	Modified Bottom (2.5P)	3.937	0.712	1.693	0.323	0.242	0.406	0.412	0.417
1625076218	●	7/16 - 20 UNF	H8	Bottom (1.5P)	3.937	0.712	1.693	0.323	0.242	0.406	0.412	0.417
1625076208	●	7/16 - 20 UNF	H8	Modified Bottom (2.5P)	3.937	0.712	1.693	0.323	0.242	0.406	0.412	0.417
1625076248	●	7/16 - 20 UNF	H8	Plug (4.5P)	3.937	0.712	1.693	0.323	0.242	0.406	0.412	0.417
1625012135	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	4.331	0.767	1.929	0.367	0.275	0.438	0.461	0.469
1625012118	●	1/2 - 13 UNC	H8	Bottom (1.5P)	4.331	0.767	1.929	0.367	0.275	0.438	0.461	0.469
1625012138	●	1/2 - 13 UNC	H8	Modified Bottom (2.5P)	4.331	0.767	1.929	0.367	0.275	0.438	0.461	0.469
1625012148	●	1/2 - 13 UNC	H8	Plug (4.5P)	4.331	0.767	1.929	0.367	0.275	0.438	0.461	0.469
1625012205	●	1/2 - 20 UNF	H5	Modified Bottom (2.5P)	3.937	0.767	1.929	0.367	0.275	0.438	0.475	0.480
1625012218	●	1/2 - 20 UNF	H8	Bottom (1.5P)	3.937	0.767	1.929	0.367	0.275	0.438	0.475	0.480
1625012208	●	1/2 - 20 UNF	H8	Modified Bottom (2.5P)	3.937	0.767	1.929	0.367	0.275	0.438	0.475	0.480
1625012248	●	1/2 - 20 UNF	H8	Plug (4.5P)	3.937	0.767	1.929	0.367	0.275	0.438	0.475	0.480
1625091117	●	9/16 - 12 UNC	H7	Bottom (1.5P)	4.331	0.834	1.969	0.429	0.322	0.500	0.520	0.529
1625096127	●	9/16 - 12 UNC	H7	Modified Bottom (2.5P)	4.331	0.834	1.969	0.429	0.322	0.500	0.520	0.529
1625091147	●	9/16 - 12 UNC	H7	Plug (4.5P)	4.331	0.834	1.969	0.429	0.322	0.500	0.520	0.529
1625096120	●	9/16 - 12 UNC	H10	Modified Bottom (2.5P)	4.331	0.834	1.969	0.429	0.322	0.500	0.520	0.529
1625096187	●	9/16 - 18 UNF	H7	Modified Bottom (2.5P)	3.937	0.834	1.969	0.429	0.322	0.500	0.534	0.540
1625091810	●	9/16 - 18 UNF	H10	Bottom (1.5P)	3.937	0.834	1.969	0.429	0.322	0.500	0.534	0.540
1625096180	●	9/16 - 18 UNF	H10	Modified Bottom (2.5P)	3.937	0.834	1.969	0.429	0.322	0.500	0.534	0.540
1625091840	●	9/16 - 18 UNF	H10	Plug (4.5P)	3.937	0.834	1.969	0.429	0.322	0.500	0.534	0.540
1625058117	●	5/8 - 11 UNC	H7	Modified Bottom (2.5P)	4.331	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1625058410	●	5/8 - 11 UNC	H10	Bottom (1.5P)	4.331	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1625058110	●	5/8 - 11 UNC	H10	Modified Bottom (2.5P)	4.331	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1625058140	●	5/8 - 11 UNC	H10	Plug (4.5P)	4.331	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1625058187	●	5/8 - 18 UNF	H7	Modified Bottom (2.5P)	3.937	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1625058810	●	5/8 - 18 UNF	H10	Bottom (1.5P)	3.937	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1625058180	●	5/8 - 18 UNF	H10	Modified Bottom (2.5P)	3.937	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1625058840	●	5/8 - 18 UNF	H10	Plug (4.5P)	3.937	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1625034107	●	3/4 - 10 UNC	H7	Modified Bottom (2.5P)	4.921	1.000	2.441	0.590	0.442	0.688	0.699	0.709
1625034110	●	3/4 - 10 UNC	H10	Bottom (1.5P)	4.921	1.000	2.441	0.590	0.442	0.688	0.699	0.709
1625034100	●	3/4 - 10 UNC	H10	Modified Bottom (2.5P)	4.921	1.000	2.441	0.590	0.442	0.688	0.699	0.709
1625034140	●	3/4 - 10 UNC	H10	Plug (4.5P)	4.921	1.000	2.441	0.590	0.442	0.688	0.699	0.709
1625034167	●	3/4 - 16 UNF	H7	Modified Bottom (2.5P)	4.331	1.000	2.441	0.590	0.442	0.688	0.718	0.725
1625034610	●	3/4 - 16 UNF	H10	Bottom (1.5P)	4.331	1.000	2.441	0.590	0.442	0.688	0.718	0.725
1625034160	●	3/4 - 16 UNF	H10	Modified Bottom (2.5P)	4.331	1.000	2.441	0.590	0.442	0.688	0.718	0.725
1625034640	●	3/4 - 16 UNF	H10	Plug (4.5P)	4.331	1.000	2.441	0.590	0.442	0.688	0.718	0.725
1625078908	●	7/8 - 9 UNC	H8	Modified Bottom (2.5P)	5.512	1.110	2.638	0.697	0.523	0.750	0.818	0.830

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16250 (Continued)

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EXOPRO® S-XPF, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1625078911	●	7/8 - 9 UNC	H11	Bottom (1.5P)	5.512	1.110	2.638	0.697	0.523	0.750	0.818	0.830
1625078901	●	7/8 - 9 UNC	H11	Modified Bottom (2.5P)	5.512	1.110	2.638	0.697	0.523	0.750	0.818	0.830
1625078941	●	7/8 - 9 UNC	H11	Plug (4.5P)	5.512	1.110	2.638	0.697	0.523	0.750	0.818	0.830
1625078148	●	7/8 - 14 UNF	H8	Modified Bottom (2.5P)	4.921	1.110	2.638	0.697	0.523	0.750	0.839	0.846
1625078111	●	7/8 - 14 UNF	H11	Bottom (1.5P)	4.921	1.110	2.638	0.697	0.523	0.750	0.839	0.846
1625078141	●	7/8 - 14 UNF	H11	Modified Bottom (2.5P)	4.921	1.110	2.638	0.697	0.523	0.750	0.839	0.846
1625078149	●	7/8 - 14 UNF	H11	Plug (4.5P)	4.921	1.110	2.638	0.697	0.523	0.750	0.839	0.846
1625001088	●	1 - 8 UNC	H8	Modified Bottom (2.5P)	6.299	1.251	2.992	0.800	0.600	0.813	0.936	0.949
1625018111	●	1 - 8 UNC	H11	Bottom (1.5P)	6.299	1.251	2.992	0.800	0.600	0.813	0.936	0.949
1625001081	●	1 - 8 UNC	H11	Modified Bottom (2.5P)	6.299	1.251	2.992	0.800	0.600	0.813	0.936	0.949
1625018411	●	1 - 8 UNC	H11	Plug (4.5P)	6.299	1.251	2.992	0.800	0.600	0.813	0.936	0.949
1625001128	●	1 - 12 UNF	H8	Modified Bottom (2.5P)	5.512	1.251	2.992	0.800	0.600	0.813	0.958	0.966
1625011211	●	1 - 12 UNF	H11	Bottom (1.5P)	5.512	1.251	2.992	0.800	0.600	0.813	0.958	0.966
1625001121	●	1 - 12 UNF	H11	Modified Bottom (2.5P)	5.512	1.251	2.992	0.800	0.600	0.813	0.958	0.966
1625011241	●	1 - 12 UNF	H11	Plug (4.5P)	5.512	1.251	2.992	0.800	0.600	0.813	0.958	0.966
1625011878	●	1- 1/8 - 7 UNC	H13	Modified Bottom (2.5P)	7.087	0.858	2.834	0.896	0.672	0.875	1.052	1.067
1625011888	●	1- 1/8 - 8 UN	H11	Modified Bottom (2.5P)	7.087	0.858	2.834	0.896	0.672	0.875	1.061	1.074
1625011826	●	1- 1/8 - 12 UNF	H11	Modified Bottom (2.5P)	5.906	0.835	2.362	0.896	0.672	0.875	1.083	1.091
1625012578	●	1- 1/4 - 7 UNC	H13	Modified Bottom (2.5P)	7.087	0.858	2.834	1.021	0.766	1.000	1.177	1.192
1625012588	●	1- 1/4 - 8 UN	H11	Modified Bottom (2.5P)	7.087	0.858	2.834	1.021	0.766	1.000	1.186	1.199
1625012526	●	1- 1/4 - 12 UNF	H11	Modified Bottom (2.5P)	5.906	0.835	2.362	1.021	0.766	1.000	1.208	1.216
1625013768	●	1- 3/8 - 6 UNC	H14	Modified Bottom (2.5P)	7.870	1.000	3.149	1.108	0.831	1.063	1.290	1.307
1625013788	●	1- 3/8 - 8 UN	H13	Modified Bottom (2.5P)	7.870	1.000	3.149	1.108	0.831	1.063	1.311	1.324
1625013126	●	1- 3/8 - 12 UNF	H11	Modified Bottom (2.5P)	6.693	0.835	2.677	1.108	0.831	1.063	1.333	1.341
1625011268	●	1- 1/2 - 6 UNC	H15	Modified Bottom (2.5P)	7.874	1.000	3.149	1.233	0.925	1.125	1.415	1.432
1625011288	●	1- 1/2 - 8 UN	H13	Modified Bottom (2.5P)	7.874	1.000	3.149	1.233	0.925	1.125	1.436	1.449
1625012126	●	1- 1/2 - 12 UNF	H11	Modified Bottom (2.5P)	6.693	0.835	2.677	1.233	0.925	1.125	1.458	1.466
1625016288	●	1- 5/8 - 8 UN	H13	Modified Bottom (2.5P)	7.874	1.000	3.149	1.305	0.979	1.125	1.561	1.574
1625017558	●	1- 3/4 - 5 UNC	H16	Modified Bottom (2.5P)	8.661	1.201	3.465	1.430	1.072	1.250	1.648	1.668
1625017588	●	1- 3/4 - 8 UN	H13	Modified Bottom (2.5P)	7.874	1.201	3.149	1.430	1.072	1.250	1.686	1.699

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16350

EXOPRO® S-XPF, DIN Overall Length

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1635012515	●	M1 x 0.25	D5	Bottom (1.5P)	40.00	5.50	6.50	3.58	2.79	4.76	0.87	0.90
1635012525	●	M1 x 0.25	D5	Modified Bottom (2.5P)	40.00	5.50	6.50	3.58	2.79	4.76	0.87	0.90
1635012545	●	M1 x 0.25	D5	Plug (4.5P)	40.00	5.50	6.50	3.58	2.79	4.76	0.87	0.90
1635012215	●	M1.2 x 0.25	D5	Bottom (1.5P)	40.00	5.50	6.50	3.58	2.79	4.76	1.07	1.10
1635012225	●	M1.2 x 0.25	D5	Modified Bottom (2.5P)	40.00	5.50	6.50	3.58	2.79	4.76	1.07	1.10
1635012245	●	M1.2 x 0.25	D5	Plug (4.5P)	40.00	5.50	6.50	3.58	2.79	4.76	1.07	1.10
1635014315	●	M1.4 x 0.3	D5	Bottom (1.5P)	40.00	7.00	8.00	3.58	2.79	4.76	1.25	1.28
1635014325	●	M1.4 x 0.3	D5	Modified Bottom (2.5P)	40.00	7.00	8.00	3.58	2.79	4.76	1.25	1.28
1635014345	●	M1.4 x 0.3	D5	Plug (4.5P)	40.00	7.00	8.00	3.58	2.79	4.76	1.25	1.28
1635016353	●	M1.6 x 0.35	D3	Modified Bottom (2.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.42	1.46
1635016315	●	M1.6 x 0.35	D5	Bottom (1.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.42	1.46
1635016355	●	M1.6 x 0.35	D5	Modified Bottom (2.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.42	1.46
1635016345	●	M1.6 x 0.35	D5	Plug (4.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.42	1.46
1635017353	●	M1.7 x 0.35	D3	Modified Bottom (2.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.52	1.56
1635017315	●	M1.7 x 0.35	D5	Bottom (1.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.52	1.56
1635017355	●	M1.7 x 0.35	D5	Modified Bottom (2.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.52	1.56
1635017345	●	M1.7 x 0.35	D5	Plug (4.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.52	1.56
1635018353	●	M1.8 x 0.35	D3	Modified Bottom (2.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.62	1.66
1635018315	●	M1.8 x 0.35	D5	Bottom (1.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.62	1.66
1635018355	●	M1.8 x 0.35	D5	Modified Bottom (2.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.62	1.66
1635018345	●	M1.8 x 0.35	D5	Plug (4.5P)	40.00	8.00	9.00	3.58	2.79	4.76	1.62	1.66
1635002043	●	M2 x 0.4	D3	Modified Bottom (2.5P)	45.00	8.00	9.00	3.58	2.79	4.76	1.80	1.84
1635024155	●	M2 x 0.4	D5	Bottom (1.5P)	45.00	8.00	9.00	3.58	2.79	4.76	1.80	1.84
1635002045	●	M2 x 0.4	D5	Modified Bottom (2.5P)	45.00	8.00	9.00	3.58	2.79	4.76	1.80	1.84
1635024455	●	M2 x 0.4	D5	Plug (4.5P)	45.00	8.00	9.00	3.58	2.79	4.76	1.80	1.84
1635025453	●	M2.5 x 0.45	D3	Modified Bottom (2.5P)	50.00	9.80	10.80	3.58	2.79	4.76	2.27	2.32
1635025415	●	M2.5 x 0.45	D5	Bottom (1.5P)	50.00	9.80	10.80	3.58	2.79	4.76	2.27	2.32
1635025455	●	M2.5 x 0.45	D5	Modified Bottom (2.5P)	50.00	9.80	10.80	3.58	2.79	4.76	2.27	2.32
1635025445	●	M2.5 x 0.45	D5	Plug (4.5P)	50.00	9.80	10.80	3.58	2.79	4.76	2.27	2.32
1635026415	●	M2.6 x 0.45	D5	Bottom (1.5P)	50.00	9.80	10.80	3.58	2.79	4.76	2.37	2.42
1635026425	●	M2.6 x 0.45	D5	Modified Bottom (2.5P)	50.00	9.80	10.80	3.58	2.79	4.76	2.37	2.42
1635026445	●	M2.6 x 0.45	D5	Plug (4.5P)	50.00	9.80	10.80	3.58	2.79	4.76	2.37	2.42
1635003353	●	M3 x 0.35	D3	Modified Bottom (2.5P)	56.00	6.00	18.00	3.58	2.79	4.76	2.82	2.86
1635033515	●	M3 x 0.35	D5	Bottom (1.5P)	56.00	6.00	18.00	3.58	2.79	4.76	2.82	2.86
1635003355	●	M3 x 0.35	D5	Modified Bottom (2.5P)	56.00	6.00	18.00	3.58	2.79	4.76	2.82	2.86
1635033545	●	M3 x 0.35	D5	Plug (4.5P)	56.00	6.00	18.00	3.58	2.79	4.76	2.82	2.86
1635003053	●	M3 x 0.5	D3	Modified Bottom (2.5P)	56.00	6.00	18.00	3.58	2.79	4.76	2.75	2.80
1635030515	●	M3 x 0.5	D5	Bottom (1.5P)	56.00	6.00	18.00	3.58	2.79	4.76	2.75	2.80
1635003055	●	M3 x 0.5	D5	Modified Bottom (2.5P)	56.00	6.00	18.00	3.58	2.79	4.76	2.75	2.80
1635030545	●	M3 x 0.5	D5	Plug (4.5P)	56.00	6.00	18.00	3.58	2.79	4.76	2.75	2.80
1635035064	●	M3.5 x 0.6	D4	Modified Bottom (2.5P)	56.00	7.20	20.30	3.58	2.79	4.76	3.19	3.26
1635035616	●	M3.5 x 0.6	D6	Bottom (1.5P)	56.00	7.20	20.30	3.58	2.79	4.76	3.19	3.26

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16350 (Continued)

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EXOPRO® S-XPF, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1635035066	●	M3.5 x 0.6	D6	Modified Bottom (2.5P)	56.00	7.20	20.30	3.58	2.79	4.76	3.19	3.26
1635035646	●	M3.5 x 0.6	D6	Plug (4.5P)	56.00	7.20	20.30	3.58	2.79	4.76	3.19	3.26
1635004054	●	M4 x 0.5	D4	Modified Bottom (2.5P)	63.00	8.50	21.10	4.27	3.33	6.35	3.75	3.80
1635040516	●	M4 x 0.5	D6	Bottom (1.5P)	63.00	8.50	21.10	4.27	3.33	6.35	3.75	3.80
1635004056	●	M4 x 0.5	D6	Modified Bottom (2.5P)	63.00	8.50	21.10	4.27	3.33	6.35	3.75	3.80
1635040546	●	M4 x 0.5	D6	Plug (4.5P)	63.00	8.50	21.10	4.27	3.33	6.35	3.75	3.80
1635004074	●	M4 x 0.7	D4	Modified Bottom (2.5P)	63.00	8.50	21.10	4.27	3.33	6.35	3.64	3.71
1635040716	●	M4 x 0.7	D6	Bottom (1.5P)	63.00	8.50	21.10	4.27	3.33	6.35	3.64	3.71
1635004076	●	M4 x 0.7	D6	Modified Bottom (2.5P)	63.00	8.50	21.10	4.27	3.33	6.35	3.64	3.71
1635040746	●	M4 x 0.7	D6	Plug (4.5P)	63.00	8.50	21.10	4.27	3.33	6.35	3.64	3.71
1635045754	●	M4.5 x 0.75	D4	Modified Bottom (2.5P)	70.00	9.10	25.10	4.93	3.86	6.35	4.12	4.19
1635045716	●	M4.5 x 0.75	D6	Bottom (1.5P)	70.00	9.10	25.10	4.93	3.86	6.35	4.12	4.19
1635045756	●	M4.5 x 0.75	D6	Modified Bottom (2.5P)	70.00	9.10	25.10	4.93	3.86	6.35	4.12	4.19
1635045746	●	M4.5 x 0.75	D6	Plug (4.5P)	70.00	9.10	25.10	4.93	3.86	6.35	4.12	4.19
1635005053	●	M5 x 0.5	D3	Modified Bottom (2.5P)	70.00	9.60	25.00	4.93	3.86	6.35	4.75	4.80
1635050515	●	M5 x 0.5	D5	Bottom (1.5P)	70.00	9.60	25.00	4.93	3.86	6.35	4.75	4.80
1635005055	●	M5 x 0.5	D5	Modified Bottom (2.5P)	70.00	9.60	25.00	4.93	3.86	6.35	4.75	4.80
1635050545	●	M5 x 0.5	D5	Plug (4.5P)	70.00	9.60	25.00	4.93	3.86	6.35	4.75	4.80
1635005084	●	M5 x 0.8	D4	Modified Bottom (2.5P)	70.00	9.60	25.00	4.93	3.86	6.35	4.59	4.67
1635050817	●	M5 x 0.8	D7	Bottom (1.5P)	70.00	9.60	25.00	4.93	3.86	6.35	4.59	4.67
1635005087	●	M5 x 0.8	D7	Modified Bottom (2.5P)	70.00	9.60	25.00	4.93	3.86	6.35	4.59	4.67
1635050847	●	M5 x 0.8	D7	Plug (4.5P)	70.00	9.60	25.00	4.93	3.86	6.35	4.59	4.67
1635006754	●	M6 x 0.75	D4	Modified Bottom (2.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1635067517	●	M6 x 0.75	D7	Bottom (1.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1635006757	●	M6 x 0.75	D7	Modified Bottom (2.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1635067547	●	M6 x 0.75	D7	Plug (4.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1635006015	●	M6 x 1	D5	Modified Bottom (2.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1635060118	●	M6 x 1	D8	Bottom (1.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1635006018	●	M6 x 1	D8	Modified Bottom (2.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1635060148	●	M6 x 1	D8	Plug (4.5P)	80.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1635007015	●	M7 x 1	D5	Modified Bottom (2.5P)	80.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1635070118	●	M7 x 1	D8	Bottom (1.5P)	80.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1635007018	●	M7 x 1	D8	Modified Bottom (2.5P)	80.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1635070148	●	M7 x 1	D8	Plug (4.5P)	80.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1635008754	●	M8 x 0.75	D4	Modified Bottom (2.5P)	80.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1635087517	●	M8 x 0.75	D7	Bottom (1.5P)	80.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1635008757	●	M8 x 0.75	D7	Modified Bottom (2.5P)	80.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1635087547	●	M8 x 0.75	D7	Plug (4.5P)	80.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1635008015	●	M8 x 1	D5	Modified Bottom (2.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1635080118	●	M8 x 1	D8	Bottom (1.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1635008018	●	M8 x 1	D8	Modified Bottom (2.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1635080148	●	M8 x 1	D8	Plug (4.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1635008255	●	M8 x 1.25	D5	Modified Bottom (2.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1635081219	●	M8 x 1.25	D9	Bottom (1.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1635008259	●	M8 x 1.25	D9	Modified Bottom (2.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1635081249	●	M8 x 1.25	D9	Plug (4.5P)	90.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1635010015	●	M10 x 1	D5	Modified Bottom (2.5P)	90.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1635010118	●	M10 x 1	D8	Bottom (1.5P)	90.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1635010018	●	M10 x 1	D8	Modified Bottom (2.5P)	90.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1635010148	●	M10 x 1	D8	Plug (4.5P)	90.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1635010255	●	M10 x 1.25	D5	Modified Bottom (2.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1635010119	●	M10 x 1.25	D9	Bottom (1.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

List 16350 (Continued)

EXOPRO® S-XPF, DIN Overall Length

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1635010259	●	M10 x 1.25	D9	Modified Bottom (2.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1635010149	●	M10 x 1.25	D9	Plug (4.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1635010156	●	M10 x 1.5	D6	Modified Bottom (2.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1635010110	●	M10 x 1.5	D10	Bottom (1.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1635010150	●	M10 x 1.5	D10	Modified Bottom (2.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1635010140	●	M10 x 1.5	D10	Plug (4.5P)	100.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1635012110	●	M12 x 1	D10	Bottom (1.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1635012120	●	M12 x 1	D10	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1635012140	●	M12 x 1	D10	Plug (4.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1635012210	●	M12 x 1.25	D10	Bottom (1.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1635012220	●	M12 x 1.25	D10	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1635012240	●	M12 x 1.25	D10	Plug (4.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1635012156	●	M12 x 1.5	D6	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1635012111	●	M12 x 1.5	D11	Bottom (1.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1635012151	●	M12 x 1.5	D11	Modified Bottom (2.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1635012141	●	M12 x 1.5	D11	Plug (4.5P)	100.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1635012756	●	M12 x 1.75	D6	Modified Bottom (2.5P)	110.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29
1635012171	●	M12 x 1.75	D11	Bottom (1.5P)	110.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29
1635012751	●	M12 x 1.75	D11	Modified Bottom (2.5P)	110.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29
1635012541	●	M12 x 1.75	D11	Plug (4.5P)	110.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29
1635014156	●	M14 x 1.5	D6	Modified Bottom (2.5P)	100.00	20.00	50.10	10.90	8.18	12.70	13.24	13.39
1635014511	●	M14 x 1.5	D11	Bottom (1.5P)	100.00	20.00	50.10	10.90	8.18	12.70	13.24	13.39
1635014151	●	M14 x 1.5	D11	Modified Bottom (2.5P)	100.00	20.00	50.10	10.90	8.18	12.70	13.24	13.39
1635014541	●	M14 x 1.5	D11	Plug (4.5P)	100.00	20.00	50.10	10.90	8.18	12.70	13.24	13.39
1635014027	●	M14 x 2	D7	Modified Bottom (2.5P)	110.00	20.00	50.10	10.90	8.18	12.70	12.98	13.18
1635014212	●	M14 x 2	D12	Bottom (1.5P)	110.00	20.00	50.10	10.90	8.18	12.70	12.98	13.18
1635014022	●	M14 x 2	D12	Modified Bottom (2.5P)	110.00	20.00	50.10	10.90	8.18	12.70	12.98	13.18
1635014242	●	M14 x 2	D12	Plug (4.5P)	110.00	20.00	50.10	10.90	8.18	12.70	12.98	13.18
1635016156	●	M16 x 1.5	D6	Modified Bottom (2.5P)	100.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1635016111	●	M16 x 1.5	D11	Bottom (1.5P)	100.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1635016151	●	M16 x 1.5	D11	Modified Bottom (2.5P)	100.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1635016141	●	M16 x 1.5	D11	Plug (4.5P)	100.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1635016207	●	M16 x 2	D7	Modified Bottom (2.5P)	110.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1635016212	●	M16 x 2	D12	Bottom (1.5P)	110.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1635016202	●	M16 x 2	D12	Modified Bottom (2.5P)	110.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1635016242	●	M16 x 2	D12	Plug (4.5P)	110.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1635018156	●	M18 x 1.5	D6	Modified Bottom (2.5P)	110.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1635018111	●	M18 x 1.5	D11	Bottom (1.5P)	110.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1635018151	●	M18 x 1.5	D11	Modified Bottom (2.5P)	110.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1635018141	●	M18 x 1.5	D11	Plug (4.5P)	110.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1635018257	●	M18 x 2.5	D7	Modified Bottom (2.5P)	125.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1635018212	●	M18 x 2.5	D12	Bottom (1.5P)	125.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1635018252	●	M18 x 2.5	D12	Modified Bottom (2.5P)	125.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1635018242	●	M18 x 2.5	D12	Plug (4.5P)	125.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1635020156	●	M20 x 1.5	D6	Modified Bottom (2.5P)	125.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1635020111	●	M20 x 1.5	D11	Bottom (1.5P)	125.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1635020151	●	M20 x 1.5	D11	Modified Bottom (2.5P)	125.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

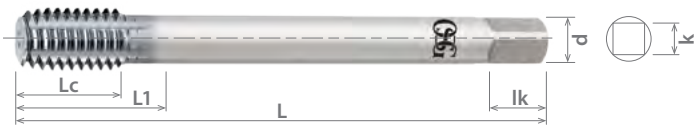
*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16350 (Continued)

FORMING | HSS-Co | V | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EXOPRO® S-XPF, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1635020141	●	M20 x 1.5	D11	Plug (4.5P)	125.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1635020257	●	M20 x 2.5	D7	Modified Bottom (2.5P)	140.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1635020212	●	M20 x 2.5	D12	Bottom (1.5P)	140.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1635020252	●	M20 x 2.5	D12	Modified Bottom (2.5P)	140.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1635020242	●	M20 x 2.5	D12	Plug (4.5P)	140.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1635022111	●	M22 x 1.5	D11	Bottom (1.5P)	125.00	25.00	67.40	17.70	13.28	19.05	21.24	21.39
1635022121	●	M22 x 1.5	D11	Modified Bottom (2.5P)	125.00	25.00	67.40	17.70	13.28	19.05	21.24	21.39
1635022141	●	M22 x 1.5	D11	Plug (4.5P)	125.00	25.00	67.40	17.70	13.28	19.05	21.24	21.39
1635022212	●	M22 x 2	D12	Bottom (1.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.98	21.18
1635022222	●	M22 x 2	D12	Modified Bottom (2.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.98	21.18
1635022242	●	M22 x 2	D12	Plug (4.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.98	21.18
1635022512	●	M22 x 2.5	D12	Bottom (1.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.73	20.98
1635022522	●	M22 x 2.5	D12	Modified Bottom (2.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.73	20.98
1635022542	●	M22 x 2.5	D12	Plug (4.5P)	140.00	25.00	67.40	17.70	13.28	19.05	20.73	20.98
1635024111	●	M24 x 1.5	D11	Bottom (1.5P)	140.00	25.00	68.40	19.30	14.48	19.05	23.24	23.39
1635024121	●	M24 x 1.5	D11	Modified Bottom (2.5P)	140.00	25.00	68.40	19.30	14.48	19.05	23.24	23.39
1635024141	●	M24 x 1.5	D11	Plug (4.5P)	140.00	25.00	68.40	19.30	14.48	19.05	23.24	23.39
1635024123	●	M24 x 2	D13	Bottom (1.5P)	140.00	30.00	68.40	19.30	14.48	19.05	22.98	23.18
1635024223	●	M24 x 2	D13	Modified Bottom (2.5P)	140.00	30.00	68.40	19.30	14.48	19.05	22.98	23.18
1635024243	●	M24 x 2	D13	Plug (4.5P)	140.00	30.00	68.40	19.30	14.48	19.05	22.98	23.18
1635024315	●	M24 x 3	D15	Bottom (1.5P)	160.00	30.00	68.40	19.30	14.48	19.05	22.47	22.78
1635024325	●	M24 x 3	D15	Modified Bottom (2.5P)	160.00	30.00	68.40	19.30	14.48	19.05	22.47	22.78
1635024345	●	M24 x 3	D15	Plug (4.5P)	160.00	30.00	68.40	19.30	14.48	19.05	22.47	22.78
1635027039	●	M27 x 3	D15	Modified Bottom (2.5P)	160.00	18.00	64.00	22.76	17.07	22.23	25.47	25.78
1635030350	●	M30 x 3.5	D15	Modified Bottom (2.5P)	180.00	21.00	72.00	25.93	19.46	25.40	28.22	28.57
1635033350	●	M33 x 3.5	D16	Modified Bottom (2.5P)	180.00	21.00	72.00	28.14	21.11	26.99	31.22	31.57
1635036411	●	M36 x 4	D17	Modified Bottom (2.5P)	200.00	24.00	80.00	31.32	23.50	28.58	33.96	34.37
1635042451	●	M42 x 4.5	D17	Modified Bottom (2.5P)	200.00	27.00	80.00	36.32	27.23	31.75	39.71	40.16
1635045451	●	M45 x 4.5	D17	Modified Bottom (2.5P)	220.00	27.00	88.00	38.58	28.93	31.75	42.71	43.16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

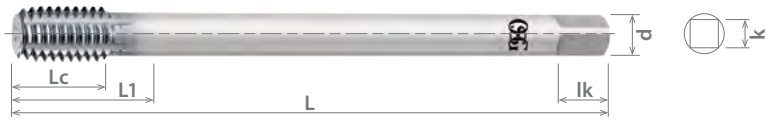
*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16255

FORMING | HSS-Co | V | C/2.5P | PACKED 1 PIECE

EXOPRO® LT-S-XPF, Long Shank



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1625554025	●	No. 5 - 40 UNC	H5	3.150	0.312	0.722	0.141	0.110	0.188	0.112	0.115
1625554255	●	No. 5 - 40 UNC	H5	4.724	0.312	0.722	0.141	0.110	0.188	0.112	0.115
1625554205	●	No. 5 - 44 UNF	H5	4.724	0.312	0.722	0.141	0.110	0.188	0.113	0.116
1625554425	●	No. 5 - 44 UNF	H5	3.150	0.312	0.722	0.141	0.110	0.188	0.113	0.116
1625563225	●	No. 6 - 32 UNC	H5	3.150	0.391	0.805	0.141	0.110	0.188	0.122	0.125
1625563255	●	No. 6 - 32 UNC	H5	4.724	0.391	0.805	0.141	0.110	0.188	0.122	0.125
1625564025	●	No. 6 - 40 UNF	H5	3.150	0.388	0.801	0.141	0.110	0.188	0.125	0.128
1625564255	●	No. 6 - 40 UNF	H5	4.724	0.388	0.801	0.141	0.110	0.188	0.125	0.128
1625583225	●	No. 8 - 32 UNC	H5	3.150	0.393	0.846	0.168	0.131	0.250	0.148	0.151
1625583255	●	No. 8 - 32 UNC	H5	4.724	0.393	0.846	0.168	0.131	0.250	0.148	0.151
1625583625	●	No. 8 - 36 UNF	H5	3.150	0.389	0.841	0.168	0.131	0.250	0.150	0.153
1625586255	●	No. 8 - 36 UNF	H5	4.724	0.389	0.841	0.168	0.131	0.250	0.150	0.153
1625510226	●	No. 10 - 24 UNC	H6	3.937	0.520	0.965	0.194	0.152	0.250	0.169	0.173
1625510426	●	No. 10 - 24 UNC	H6	5.906	0.520	0.965	0.194	0.152	0.250	0.169	0.173
1625510256	●	No. 10 - 32 UNF	H6	5.906	0.516	0.961	0.194	0.152	0.250	0.174	0.177
1625510326	●	No. 10 - 32 UNF	H6	3.937	0.516	0.961	0.194	0.152	0.250	0.174	0.177
1625512227	●	No. 12 - 24 UNC	H7	3.937	0.522	1.124	0.220	0.165	0.281	0.195	0.199
1625512427	●	No. 12 - 24 UNC	H7	5.906	0.522	1.124	0.220	0.165	0.281	0.195	0.199
1625512257	●	No. 12 - 28 UNF	H7	5.906	0.519	1.121	0.220	0.165	0.281	0.198	0.201
1625512827	●	No. 12 - 28 UNF	H7	3.937	0.519	1.121	0.220	0.165	0.281	0.198	0.201
1625514026	●	1/4 - 20 UNC	H6	5.906	0.526	1.207	0.255	0.191	0.313	0.225	0.230
1625514226	●	1/4 - 20 UNC	H6	3.937	0.526	1.207	0.255	0.191	0.313	0.225	0.230
1625514256	●	1/4 - 28 UNF	H6	5.906	0.526	1.207	0.255	0.191	0.313	0.232	0.235
1625514826	●	1/4 - 28 UNF	H6	3.937	0.526	1.207	0.255	0.191	0.313	0.232	0.235
1625551127	●	5/16 - 18 UNC	H7	4.331	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1625556127	●	5/16 - 18 UNC	H7	5.906	0.555	1.378	0.318	0.238	0.375	0.284	0.290
1625551227	●	5/16 - 24 UNF	H7	4.331	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1625551427	●	5/16 - 24 UNF	H7	5.906	0.555	1.378	0.318	0.238	0.375	0.291	0.296
1625538127	●	3/8 - 16 UNC	H7	4.724	0.626	1.575	0.381	0.286	0.438	0.343	0.350
1625538627	●	3/8 - 16 UNC	H7	5.906	0.626	1.575	0.381	0.286	0.438	0.343	0.350
1625538227	●	3/8 - 24 UNF	H7	4.724	0.626	1.575	0.381	0.286	0.438	0.354	0.358
1625538427	●	3/8 - 24 UNF	H7	5.906	0.626	1.575	0.381	0.286	0.438	0.354	0.358
1625571128	●	7/16 - 14 UNC	H8	4.724	0.713	1.713	0.323	0.242	0.406	0.401	0.408
1625576128	●	7/16 - 14 UNC	H8	5.906	0.713	1.713	0.323	0.242	0.406	0.401	0.408
1625571228	●	7/16 - 20 UNF	H8	4.724	0.713	1.713	0.323	0.242	0.406	0.412	0.417
1625576228	●	7/16 - 20 UNF	H8	5.906	0.713	1.713	0.323	0.242	0.406	0.412	0.417
1625512128	●	1/2 - 13 UNC	H8	5.906	0.768	1.933	0.367	0.275	0.438	0.461	0.469
1625512328	●	1/2 - 13 UNC	H8	7.087	0.768	1.933	0.367	0.275	0.438	0.461	0.469
1625512028	●	1/2 - 20 UNF	H8	7.087	0.768	1.933	0.367	0.275	0.438	0.475	0.480
1625512228	●	1/2 - 20 UNF	H8	5.906	0.768	1.933	0.367	0.275	0.438	0.475	0.480
1625591127	●	9/16 - 12 UNC	H7	5.906	0.835	1.972	0.429	0.322	0.500	0.520	0.529
1625591227	●	9/16 - 12 UNC	H7	7.087	0.835	1.972	0.429	0.322	0.500	0.520	0.529

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

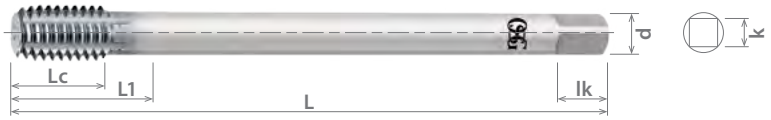
*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16255 (Continued)

FORMING | HSS-Co | V | C/2.5P | PACKED 1 PIECE

EXOPRO® LT-S-XPF, Long Shank



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1625591827	●	9/16 - 18 UNF	H7	5.906	0.835	1.972	0.429	0.322	0.500	0.534	0.540
1625596827	●	9/16 - 18 UNF	H7	7.087	0.835	1.972	0.429	0.322	0.500	0.534	0.540
1625558127	●	5/8 - 11 UNC	H7	5.906	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1625558257	●	5/8 - 11 UNC	H7	7.087	0.909	2.126	0.480	0.360	0.563	0.579	0.588
1625551827	●	5/8 - 18 UNF	H7	7.087	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1625558827	●	5/8 - 18 UNF	H7	5.906	0.909	2.126	0.480	0.360	0.563	0.597	0.602
1625534027	●	3/4 - 10 UNC	H7	8.661	1.000	2.433	0.590	0.442	0.688	0.699	0.709
1625534127	●	3/4 - 10 UNC	H7	7.087	1.000	2.433	0.590	0.442	0.688	0.699	0.709
1625534627	●	3/4 - 16 UNF	H7	7.087	1.000	2.433	0.590	0.442	0.688	0.718	0.725
1625531627	●	3/4 - 16 UNF	H7	8.661	1.000	2.433	0.590	0.442	0.688	0.718	0.725
1625575258	●	7/8 - 9 UNC	H8	8.661	1.110	2.654	0.697	0.523	0.750	0.818	0.830
1625579828	●	7/8 - 9 UNC	H8	7.087	1.110	2.654	0.697	0.523	0.750	0.818	0.830
1625578428	●	7/8 - 14 UNF	H8	8.661	1.110	2.654	0.697	0.523	0.750	0.839	0.846
1625578128	●	7/8 - 14 UNF	H8	7.087	1.110	2.654	0.697	0.523	0.750	0.839	0.846
1625518208	●	1 - 8 UNC	H8	7.087	1.252	3.012	0.800	0.600	0.813	0.936	0.949
1625518258	●	1 - 8 UNC	H8	8.661	1.252	3.012	0.800	0.600	0.813	0.936	0.949
1625511428	●	1 - 12 UNF	H8	7.087	1.252	3.012	0.800	0.600	0.813	0.958	0.966
1625514208	●	1 - 12 UNF	H8	8.661	1.252	3.012	0.800	0.600	0.813	0.958	0.966

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

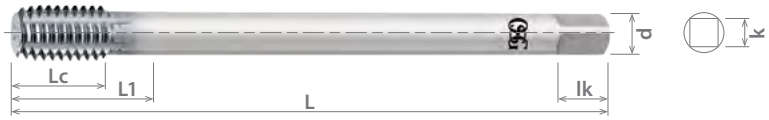
*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16355

FORMING | HSS-Co | V | C/2.5P | PACKED 1 PIECE

EXOPRO® LT-S-XPF, Long Shank



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1635530325	●	M3 x 0.35	D5	80.00	6.00	18.00	3.58	2.79	4.76	2.82	2.86
1635533525	●	M3 x 0.35	D5	120.00	6.00	18.00	3.58	2.79	4.76	2.82	2.86
1635530525	●	M3 x 0.5	D5	80.00	6.00	18.00	3.58	2.79	4.76	2.75	2.80
1635535025	●	M3 x 0.5	D5	120.00	6.00	18.00	3.58	2.79	4.76	2.75	2.80
1635535226	●	M3.5 x 0.6	D6	80.00	7.20	20.30	3.58	2.79	4.76	3.19	3.26
1635535626	●	M3.5 x 0.6	D6	120.00	7.20	20.30	3.58	2.79	4.76	3.19	3.26
1635540526	●	M4 x 0.5	D6	80.00	8.50	21.10	4.27	3.33	6.35	3.75	3.80
1635545256	●	M4 x 0.5	D6	120.00	8.50	21.10	4.27	3.33	6.35	3.75	3.80
1635540726	●	M4 x 0.7	D6	80.00	8.50	21.10	4.27	3.33	6.35	3.64	3.71
1635547256	●	M4 x 0.7	D6	120.00	8.50	21.10	4.27	3.33	6.35	3.64	3.71
1635545526	●	M4.5 x 0.75	D6	120.00	9.10	25.00	4.93	3.86	6.35	4.12	4.19
1635545726	●	M4.5 x 0.75	D6	90.00	9.10	25.00	4.93	3.86	6.35	4.12	4.19
1635550255	●	M5 x 0.5	D5	150.00	9.60	25.00	4.93	3.86	6.35	4.75	4.80
1635550525	●	M5 x 0.5	D5	100.00	9.60	25.00	4.93	3.86	6.35	4.75	4.80
1635550257	●	M5 x 0.8	D7	150.00	9.60	25.00	4.93	3.86	6.35	4.59	4.67
1635550827	●	M5 x 0.8	D7	100.00	9.60	25.00	4.93	3.86	6.35	4.59	4.67
1635560727	●	M6 x 0.75	D7	100.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1635567527	●	M6 x 0.75	D7	150.00	10.00	30.00	6.48	4.85	7.94	5.62	5.69
1635561028	●	M6 x 1	D8	100.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1635561258	●	M6 x 1	D8	150.00	10.00	30.00	6.48	4.85	7.94	5.49	5.59
1635571028	●	M7 x 1	D8	150.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1635571258	●	M7 x 1	D8	100.00	12.00	30.00	8.08	6.05	9.53	6.49	6.59
1635580727	●	M8 x 0.75	D7	110.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1635587527	●	M8 x 0.75	D7	150.00	12.00	30.00	8.08	6.05	9.53	7.62	7.69
1635581028	●	M8 x 1	D8	150.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1635581258	●	M8 x 1	D8	110.00	12.00	35.00	8.08	6.05	9.53	7.49	7.59
1635581229	●	M8 x 1.25	D9	110.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1635582529	●	M8 x 1.25	D9	150.00	12.00	35.00	8.08	6.05	9.53	7.36	7.49
1635510128	●	M10 x 1	D8	120.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1635510258	●	M10 x 1	D8	150.00	15.00	35.00	9.68	7.26	11.11	9.49	9.59
1635510129	●	M10 x 1.25	D9	120.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1635510229	●	M10 x 1.25	D9	150.00	15.00	39.00	9.68	7.26	11.11	9.36	9.49
1635510120	●	M10 x 1.5	D10	120.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1635510520	●	M10 x 1.5	D10	150.00	15.00	39.00	9.68	7.26	11.11	9.24	9.39
1635512120	●	M12 x 1	D10	150.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1635512210	●	M12 x 1	D10	180.00	17.00	49.10	9.32	6.99	11.11	11.49	11.59
1635512250	●	M12 x 1.25	D10	180.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1635512520	●	M12 x 1.25	D10	150.00	17.00	49.10	9.32	6.99	11.11	11.36	11.49
1635512121	●	M12 x 1.5	D11	150.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1635512251	●	M12 x 1.5	D11	180.00	17.00	49.10	9.32	6.99	11.11	11.24	11.39
1635512721	●	M12 x 1.75	D11	150.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29
1635512751	●	M12 x 1.75	D11	180.00	17.00	49.10	9.32	6.99	11.11	11.11	11.29

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 16355 (Continued)

FORMING | HSS-Co | V | C/2.5P | PACKED 1 PIECE

EXOPRO® LT-S-XPF, Long Shank



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1635514121	●	M14 x 1.5	D11	150.00	20.00	51.10	10.90	8.18	12.70	13.24	13.39
1635514521	●	M14 x 1.5	D11	180.00	20.00	51.10	10.90	8.18	12.70	13.24	13.39
1635514222	●	M14 x 2	D12	150.00	20.00	51.10	10.90	8.18	12.70	12.98	13.18
1635514252	●	M14 x 2	D12	180.00	20.00	51.10	10.90	8.18	12.70	12.98	13.18
1635516121	●	M16 x 1.5	D11	150.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1635516521	●	M16 x 1.5	D11	180.00	20.00	54.00	12.19	9.14	14.29	15.24	15.39
1635516222	●	M16 x 2	D12	150.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1635516252	●	M16 x 2	D12	180.00	20.00	54.00	12.19	9.14	14.29	14.98	15.18
1635518121	●	M18 x 1.5	D11	150.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1635518521	●	M18 x 1.5	D11	180.00	25.00	55.00	13.77	10.31	15.88	17.24	17.39
1635518252	●	M18 x 2.5	D12	150.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1635518552	●	M18 x 2.5	D12	180.00	25.00	55.00	13.77	10.31	15.88	16.73	16.98
1635520121	●	M20 x 1.5	D11	180.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1635520521	●	M20 x 1.5	D11	220.00	25.00	61.80	16.56	12.42	17.46	19.24	19.39
1635520222	●	M20 x 2.5	D12	220.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98
1635520252	●	M20 x 2.5	D12	180.00	25.00	61.80	16.56	12.42	17.46	18.73	18.98

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	8-25 SFM		

*For Stainless Steel, please use non-water-soluble coolant or highly concentrated water-soluble coolant.

○ Good ◎ Best

List 14153

FORMING | CARBIDE | BR | C/1.5P | PACKED 1 PIECE

EXOCARB® OTC-NRT, JIS, Carbide Inlaid, DIN/DIN



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1415310100	●	M6 x 1	RH7	80.00	12.00	30.00	6.00	4.90	8.00	5.49	5.59
1415310200	●	M8 x 1.25	RH7	90.00	15.00	35.00	8.00	6.20	9.00	7.36	7.49
1415310300	●	M10 x 1.25	RH7	100.00	18.00	39.00	10.00	8.00	11.00	9.36	9.49
1415310400	●	M10 x 1.5	RH7	100.00	18.00	39.00	10.00	8.00	11.00	9.24	9.39

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: See page 784 for tap drill recommendations.

HTE

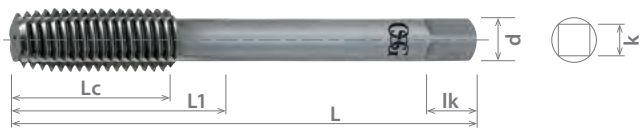
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									65-150 SFM	50-120 SFM						

○ Good ◎ Best

List 369

FORMING | CARBIDE | BR | C/2P | C/4P | PACKED 1 PIECE

EXOCARB® OT-NRT, JIS



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
8315055	●	M3 x 0.5	RH5	Bottom (2P)	46.00	10.00	19.00	4.00	3.20	6.00	2.75	2.80
8315061	●	M4 x 0.7	RH6	Bottom (2P)	52.00	13.00	21.00	5.00	4.00	7.00	3.64	3.71
8315067	●	M5 x 0.8	RH6	Bottom (2P)	60.00	15.90	23.90	5.50	4.50	7.00	4.59	4.67
8315073	●	M6 x 1	RH7	Bottom (2P)	62.00	19.00	29.00	6.00	4.50	7.00	5.49	5.59
8315085	●	M8 x 1.25	RH7	Bottom (2P)	70.00	22.00	-	6.20	5.00	8.00	7.36	7.49
8315103	●	M10 x 1.25	RH7	Bottom (2P)	75.00	24.00	-	7.00	5.50	8.00	9.36	9.49
8315097	●	M10 x 1.5	RH7	Bottom (2P)	75.00	24.00	-	7.00	5.50	8.00	9.24	9.39
8315127	●	M12 x 1.25	RH7	Bottom (2P)	82.00	29.00	-	8.50	6.50	9.00	11.36	11.49
8315121	●	M12 x 1.5	RH7	Bottom (2P)	82.00	29.00	-	8.50	6.50	9.00	11.24	11.39
8315115	●	M12 x 1.75	RH8	Bottom (2P)	82.00	29.00	-	8.50	6.50	9.00	11.11	11.29

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request. See page 784 for tap drill recommendations.

HTE

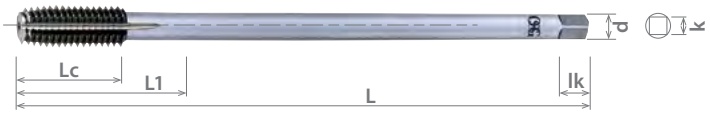
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									65-150 SFM	50-120 SFM						

○ Good ◎ Best

List 357

FORMING | CARBIDE | BR | C/2P | PACKED 1 PIECE

EXOCARB® OT-LT-NRT, JIS, Long Shank



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
8315633	●	M6 x 1	RH7	100.00	19.00	29.00	6.00	4.50	7.00	5.49	5.59
8315639	●	M8 x 1.25	RH7	150.00	22.00	-	6.20	5.00	8.00	7.36	7.49
8315649	●	M10 x 1.25	RH7	150.00	24.00	-	7.00	5.50	8.00	9.36	9.49
8315645	●	M10 x 1.5	RH7	150.00	24.00	-	7.00	5.50	8.00	9.24	9.39
8315661	●	M12 x 1.25	RH8	150.00	29.00	-	8.50	6.50	9.00	11.36	11.49
8315657	●	M12 x 1.5	RH7	150.00	29.00	-	8.50	6.50	9.00	11.24	11.39
8315653	●	M12 x 1.75	RH8	150.00	29.00	-	8.50	6.50	9.00	11.11	11.29

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request. See page 784 for tap drill recommendations.

HTE

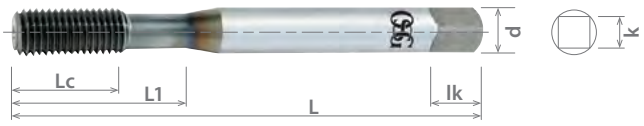
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									65-150 SFM	50-120 SFM						

○ Good ◎ Best

List 14050

FORMING | VC10 | V | C/1.5P | C/2.5P | PACKED 1 PIECE

EXOTAP® VP-NRT



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1405000008	●	No. 0 - 80 UNF	H2	Bottom (1.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
1405000208	●	No. 0 - 80 UNF	H2	Modified Bottom (2.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
1405000108	●	No. 0 - 80 UNF	H3	Bottom (1.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
1405000308	●	No. 0 - 80 UNF	H3	Modified Bottom (2.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
1405000408	●	No. 1 - 64 UNC	H2	Bottom (1.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
1405000608	●	No. 1 - 64 UNC	H2	Modified Bottom (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
1405000508	●	No. 1 - 64 UNC	H3	Bottom (1.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
1405000708	●	No. 1 - 64 UNC	H3	Modified Bottom (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
1405000808	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
1405001108	●	No. 2 - 56 UNC	H2	Modified Bottom (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
1405000908	●	No. 2 - 56 UNC	H3	Bottom (1.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
1405001208	●	No. 2 - 56 UNC	H3	Modified Bottom (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
1405001008	●	No. 2 - 56 UNC	H4	Bottom (1.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
1405001308	●	No. 2 - 56 UNC	H4	Modified Bottom (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
1405001408	●	No. 3 - 48 UNC	H2	Bottom (1.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
1405001708	●	No. 3 - 48 UNC	H2	Modified Bottom (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
1405001508	●	No. 3 - 48 UNC	H3	Bottom (1.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
1405001808	●	No. 3 - 48 UNC	H3	Modified Bottom (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
1405001608	●	No. 3 - 48 UNC	H4	Bottom (1.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
1405001908	●	No. 3 - 48 UNC	H4	Modified Bottom (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
1405002008	●	No. 4 - 40 UNC	H3	Bottom (1.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
1405002308	●	No. 4 - 40 UNC	H3	Modified Bottom (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
1405002108	●	No. 4 - 40 UNC	H4	Bottom (1.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
1405002408	●	No. 4 - 40 UNC	H4	Modified Bottom (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
1405002208	●	No. 4 - 40 UNC	H5	Bottom (1.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
1405002508	●	No. 4 - 40 UNC	H5	Modified Bottom (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
1405002608	●	No. 5 - 40 UNC	H3	Bottom (1.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
1405002908	●	No. 5 - 40 UNC	H3	Modified Bottom (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
1405002708	●	No. 5 - 40 UNC	H4	Bottom (1.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
1405003008	●	No. 5 - 40 UNC	H4	Modified Bottom (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
1405002808	●	No. 5 - 40 UNC	H5	Bottom (1.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
1405003108	●	No. 5 - 40 UNC	H5	Modified Bottom (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
1405003208	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
1405003608	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
1405003308	●	No. 6 - 32 UNC	H4	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
1405003708	●	No. 6 - 32 UNC	H4	Modified Bottom (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
1405003408	●	No. 6 - 32 UNC	H5	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
1405003808	●	No. 6 - 32 UNC	H5	Modified Bottom (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
1405003508	●	No. 6 - 32 UNC	H6	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
1405003908	●	No. 6 - 32 UNC	H6	Modified Bottom (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
1405004008	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
1405004408	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
1405004108	●	No. 8 - 32 UNC	H4	Bottom (1.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
1405004508	●	No. 8 - 32 UNC	H4	Modified Bottom (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
1405004208	●	No. 8 - 32 UNC	H5	Bottom (1.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
1405004608	●	No. 8 - 32 UNC	H5	Modified Bottom (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
1405004308	●	No. 8 - 32 UNC	H6	Bottom (1.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
1405004708	●	No. 8 - 32 UNC	H6	Modified Bottom (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
1405004808	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
1405005208	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
1405004908	●	No. 10 - 24 UNC	H4	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
1405005308	●	No. 10 - 24 UNC	H4	Modified Bottom (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 14050 (Continued)

EXOTAP® VP-NRT

FORMING | VC10 | V | C/1.5P | C/2.5P | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1405005008	●	No. 10 - 24 UNC	H5	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
1405005408	●	No. 10 - 24 UNC	H5	Modified Bottom (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
1405005108	●	No. 10 - 24 UNC	H6	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
1405005508	●	No. 10 - 24 UNC	H6	Modified Bottom (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
1405005608	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
1405006008	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
1405005708	●	No. 10 - 32 UNF	H4	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
1405006108	●	No. 10 - 32 UNF	H4	Modified Bottom (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
1405005808	●	No. 10 - 32 UNF	H5	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
1405006208	●	No. 10 - 32 UNF	H5	Modified Bottom (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
1405005908	●	No. 10 - 32 UNF	H6	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
1405006308	●	No. 10 - 32 UNF	H6	Modified Bottom (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
1405006408	●	No. 12 - 24 UNC	H5	Bottom (1.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
1405006608	●	No. 12 - 24 UNC	H5	Modified Bottom (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
1405006508	●	No. 12 - 24 UNC	H7	Bottom (1.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
1405006708	●	No. 12 - 24 UNC	H7	Modified Bottom (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
1405006808	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
1405007208	●	1/4 - 20 UNC	H5	Modified Bottom (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
1405006908	●	1/4 - 20 UNC	H6	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
1405007308	●	1/4 - 20 UNC	H6	Modified Bottom (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
1405007008	●	1/4 - 20 UNC	H7	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
1405007408	●	1/4 - 20 UNC	H7	Modified Bottom (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
1405007108	●	1/4 - 20 UNC	H8	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
1405007508	●	1/4 - 20 UNC	H8	Modified Bottom (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
1405007608	●	1/4 - 28 UNF	H4	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
1405008008	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
1405007708	●	1/4 - 28 UNF	H5	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
1405008108	●	1/4 - 28 UNF	H5	Modified Bottom (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
1405007808	●	1/4 - 28 UNF	H6	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
1405008208	●	1/4 - 28 UNF	H6	Modified Bottom (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
1405007908	●	1/4 - 28 UNF	H7	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
1405008308	●	1/4 - 28 UNF	H7	Modified Bottom (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
1405008408	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405008908	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405008508	●	5/16 - 18 UNC	H6	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405009008	●	5/16 - 18 UNC	H6	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405008608	●	5/16 - 18 UNC	H7	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405009108	●	5/16 - 18 UNC	H7	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405008708	●	5/16 - 18 UNC	H8	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405009208	●	5/16 - 18 UNC	H8	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405008808	●	5/16 - 18 UNC	H9	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405009308	●	5/16 - 18 UNC	H9	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
1405009408	●	5/16 - 24 UNF	H4	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405009908	●	5/16 - 24 UNF	H4	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405009508	●	5/16 - 24 UNF	H5	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405010008	●	5/16 - 24 UNF	H5	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405009608	●	5/16 - 24 UNF	H6	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

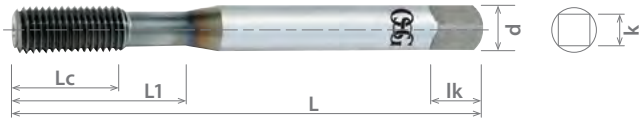
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	○		◎	◎			○			
35-130 SFM	20-50 SFM	15-30 SFM	15-30SFM	15-20 SFM	15-50 SFM	15-50 SFM	15-40 SFM		65-150 SFM	65-130 SFM			10-15 SFM			

○ Good ◎ Best

List 14050 (Continued)

FORMING | VC10 | V | C/1.5P | C/2.5P | PACKED 1 PIECE

EXOTAP® VP-NRT



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1405010108	●	5/16 - 24 UNF	H6	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405009708	●	5/16 - 24 UNF	H7	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405010208	●	5/16 - 24 UNF	H7	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405009808	●	5/16 - 24 UNF	H8	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405010308	●	5/16 - 24 UNF	H8	Modified Bottom (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
1405010408	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405010908	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405010508	●	3/8 - 16 UNC	H6	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405011008	●	3/8 - 16 UNC	H6	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405010608	●	3/8 - 16 UNC	H7	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405011108	●	3/8 - 16 UNC	H7	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405010708	●	3/8 - 16 UNC	H8	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405011208	●	3/8 - 16 UNC	H8	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405010808	●	3/8 - 16 UNC	H9	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405011308	●	3/8 - 16 UNC	H9	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
1405011408	●	3/8 - 24 UNF	H4	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405011908	●	3/8 - 24 UNF	H4	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405011508	●	3/8 - 24 UNF	H5	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405012008	●	3/8 - 24 UNF	H5	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405011608	●	3/8 - 24 UNF	H6	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405012108	●	3/8 - 24 UNF	H6	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405011708	●	3/8 - 24 UNF	H7	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405012208	●	3/8 - 24 UNF	H7	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405011808	●	3/8 - 24 UNF	H8	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
1405012308	●	3/8 - 24 UNF	H8	Modified Bottom (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

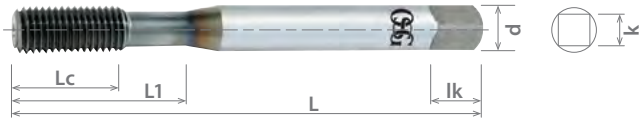
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	○		◎	◎			○			
35-130 SFM	20-50 SFM	15-30 SFM	15-30SFM	15-20 SFM	15-50 SFM	15-50 SFM	15-40 SFM		65-150 SFM	65-130 SFM			10-15 SFM			

○ Good ◎ Best

List 14150

EXOTAP® VP-NRT

FORMING | VC10 | V | C/1.5P | C/2.5P | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1415000008	●	M1.6 x 0.35	D3	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46
1415000108	●	M1.6 x 0.35	D5	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46
1415000208	●	M1.7 x 0.35	D3	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56
1415000308	●	M1.7 x 0.35	D5	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56
1415000408	●	M2 x 0.4	D3	Modified Bottom (2.5P)	44.50	11.10	12.10	3.58	2.79	4.76	1.80	1.84
1415000508	●	M2 x 0.4	D5	Modified Bottom (2.5P)	44.50	11.10	12.10	3.58	2.79	4.76	1.80	1.84
1415000608	●	M2.5 x 0.45	D3	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32
1415000708	●	M2.5 x 0.45	D5	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32
1415000808	●	M2.6 x 0.45	D3	Modified Bottom (2.5P)	47.60	12.70	13.70	3.58	2.79	4.76	2.37	2.42
1415000908	●	M2.6 x 0.45	D5	Modified Bottom (2.5P)	47.60	12.70	13.70	3.58	2.79	4.76	2.37	2.42
1415001008	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80
1415001208	●	M3 x 0.5	D3	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80
1415001108	●	M3 x 0.5	D5	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80
1415001308	●	M3 x 0.5	D5	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80
1415001408	●	M3.5 x 0.6	D4	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26
1415001608	●	M3.5 x 0.6	D4	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26
1415001508	●	M3.5 x 0.6	D6	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26
1415001708	●	M3.5 x 0.6	D6	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26
1415001808	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71
1415002008	●	M4 x 0.7	D4	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71
1415001908	●	M4 x 0.7	D6	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71
1415002108	●	M4 x 0.7	D6	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71
1415002208	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	9.60	22.20	4.93	3.86	6.35	4.59	4.67
1415002408	●	M5 x 0.8	D4	Modified Bottom (2.5P)	60.30	9.60	22.20	4.93	3.86	6.35	4.59	4.67
1415002308	●	M5 x 0.8	D7	Bottom (1.5P)	60.30	9.60	22.20	4.93	3.86	6.35	4.59	4.67
1415002508	●	M5 x 0.8	D7	Modified Bottom (2.5P)	60.30	9.60	22.20	4.93	3.86	6.35	4.59	4.67
1415002608	●	M6 x 1	D5	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59
1415002808	●	M6 x 1	D5	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59
1415002708	●	M6 x 1	D8	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59
1415002908	●	M6 x 1	D8	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59
1415003008	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49
1415003208	●	M8 x 1.25	D5	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49
1415003108	●	M8 x 1.25	D9	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49
1415003308	●	M8 x 1.25	D9	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49
1415003408	●	M10 x 1	D5	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.49	9.59
1415003608	●	M10 x 1	D5	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.49	9.59
1415003508	●	M10 x 1	D9	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.49	9.59
1415003708	●	M10 x 1	D9	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.49	9.59
1415004608	●	M10 x 1.25	D5	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.36	9.49
1415004808	●	M10 x 1.25	D5	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.36	9.49
1415004708	●	M10 x 1.25	D9	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.36	9.49
1415004908	●	M10 x 1.25	D9	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.36	9.49

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

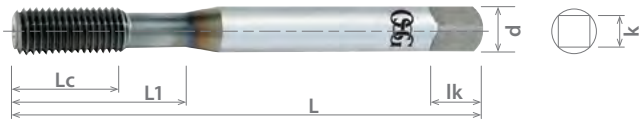
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	○		◎	◎			○			
35-130 SFM	20-50 SFM	15-30 SFM	15-30SFM	15-20 SFM	15-50 SFM	15-50 SFM	15-40 SFM		65-150 SFM	65-130 SFM			10-15 SFM			

○ Good ◎ Best

List 14150 (Continued)

FORMING | VC10 | V | C/1.5P | C/2.5P | PACKED 1 PIECE

EXOTAP® VP-NRT



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1415003808	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39
1415004008	●	M10 x 1.5	D6	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39
1415003908	●	M10 x 1.5	D10	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39
1415004108	●	M10 x 1.5	D10	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39
1415004208	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	21.00	49.00	9.32	6.99	11.11	11.11	11.29
1415004408	●	M12 x 1.75	D6	Modified Bottom (2.5P)	85.70	21.00	49.00	9.32	6.99	11.11	11.11	11.29
1415004308	●	M12 x 1.75	D11	Bottom (1.5P)	85.70	21.00	49.00	9.32	6.99	11.11	11.11	11.29
1415004508	●	M12 x 1.75	D11	Modified Bottom (2.5P)	85.70	21.00	49.00	9.32	6.99	11.11	11.11	11.29

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

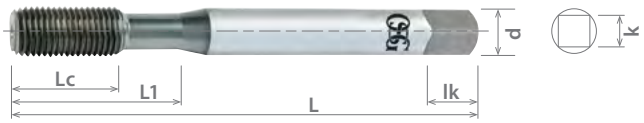
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	○		◎	◎			○			
35-130 SFM	20-50 SFM	15-30 SFM	15-30SFM	15-20 SFM	15-50 SFM	15-50 SFM	15-40 SFM		65-150 SFM	65-130 SFM			10-15 SFM			

○ Good ◎ Best

List 14001

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix														
		BR	S/O	TiN	TiCN				L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
14001000	●	00	01	05	08	No. 0 - 80 UNF	H2	Bottom (1.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
14001002	●	00	01	05	08	No. 0 - 80 UNF	H2	Mod Btm (2.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
14001001	●	00	01	05	08	No. 0 - 80 UNF	H3	Bottom (1.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
14001003	●	00	01	05	08	No. 0 - 80 UNF	H3	Mod Btm (2.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
14001004	●	00	01	05	08	No. 0 - 80 UNF	H4	Mod Btm (2.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
14001005	●	00	01	05	08	No. 0 - 80 UNF	H5	Mod Btm (2.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
14001006	●	00	01	-	08	No. 0 - 80 UNF	H6	Mod Btm (2.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
14001007	●	00	01	-	08	No. 0 - 80 UNF	H7	Mod Btm (2.5P)	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055
14001008	●	00	01	05	08	No. 1 - 64 UNC	H2	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
14001009	●	00	01	05	08	No. 1 - 64 UNC	H3	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
14001010	●	00	01	05	08	No. 1 - 64 UNC	H4	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
14001011	●	00	01	05	08	No. 1 - 64 UNC	H5	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
14001012	●	00	01	-	08	No. 1 - 64 UNC	H6	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
14001013	●	00	01	-	08	No. 1 - 64 UNC	H7	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.065	0.067
14001014	●	00	01	05	08	No. 1 - 72 UNF	H2	Bottom (1.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.066	0.067
14001016	●	00	01	05	08	No. 1 - 72 UNF	H2	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.066	0.067
14001015	●	00	01	05	08	No. 1 - 72 UNF	H3	Bottom (1.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.066	0.067
14001017	●	00	01	05	08	No. 1 - 72 UNF	H3	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.066	0.067
14001018	●	00	01	05	08	No. 1 - 72 UNF	H4	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.066	0.067
14001019	●	00	01	05	08	No. 1 - 72 UNF	H5	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.066	0.067
14001020	●	00	01	05	08	No. 1 - 72 UNF	H6	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.066	0.067
14001021	●	00	01	-	08	No. 1 - 72 UNF	H7	Mod Btm (2.5P)	1.688	0.374	0.413	0.141	0.110	0.188	0.066	0.067
14001022	●	00	01	05	08	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001025	●	00	01	05	08	No. 2 - 56 UNC	H2	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001023	●	00	01	05	08	No. 2 - 56 UNC	H3	Bottom (1.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001026	●	00	01	05	08	No. 2 - 56 UNC	H3	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001024	●	00	01	05	08	No. 2 - 56 UNC	H4	Bottom (1.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001027	●	00	01	05	08	No. 2 - 56 UNC	H4	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001028	●	00	01	05	08	No. 2 - 56 UNC	H5	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001029	●	00	01	05	08	No. 2 - 56 UNC	H6	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001030	●	00	01	05	08	No. 2 - 56 UNC	H7	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001578	●	00	-	-	08	No. 2 - 56 UNC	H8	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001579	●	00	-	-	08	No. 2 - 56 UNC	H9	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079
14001031	●	00	01	05	08	No. 2 - 64 UNF	H2	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.078	0.080
14001032	●	00	01	05	08	No. 2 - 64 UNF	H3	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.078	0.080
14001033	●	00	01	05	08	No. 2 - 64 UNF	H4	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.078	0.080
14001034	●	00	01	-	08	No. 2 - 64 UNF	H5	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.078	0.080
14001035	●	00	01	-	08	No. 2 - 64 UNF	H6	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.078	0.080
14001036	●	00	01	-	08	No. 2 - 64 UNF	H7	Mod Btm (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	0.078	0.080
14001037	●	00	01	05	08	No. 3 - 48 UNC	H2	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
14001038	●	00	01	05	08	No. 3 - 48 UNC	H3	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
14001039	●	00	01	05	08	No. 3 - 48 UNC	H4	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
14001040	●	00	01	-	08	No. 3 - 48 UNC	H5	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

CONTINUED ❯

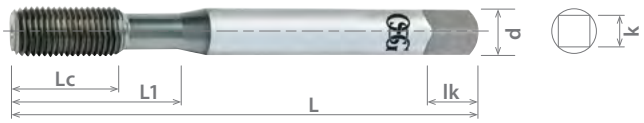
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100 SFM	20-50 SFM	15-25 SFM	15-25 SFM	15-20 SFM	15-40 SFM	15-40 SFM	10-25 SFM		50-90 SFM	45-100 SFM			10-15 SFM			

○ Good ◎ Best

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix							L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
		BR	S/O	TiN	TiCN											
14001041	●	00	01	-	08	No. 3 - 48 UNC	H6	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
14001042	●	00	01	-	08	No. 3 - 48 UNC	H7	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091
14001043	●	00	01	05	08	No. 3 - 56 UNF	H2	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.090	0.092
14001044	●	00	01	05	08	No. 3 - 56 UNF	H3	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.090	0.092
14001045	●	00	01	05	08	No. 3 - 56 UNF	H4	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.090	0.092
14001046	●	00	01	05	08	No. 3 - 56 UNF	H5	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.090	0.092
14001047	●	00	01	05	08	No. 3 - 56 UNF	H6	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.090	0.092
14001048	●	00	01	-	08	No. 3 - 56 UNF	H7	Mod Btm (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	0.090	0.092
14001052	●	00	01	05	08	No. 4 - 40 UNC	H2	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001058	●	00	01	05	08	No. 4 - 40 UNC	H2	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001049	●	00	01	05	08	No. 4 - 40 UNC	H3	Bottom (1.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001053	●	00	01	05	08	No. 4 - 40 UNC	H3	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001059	●	00	01	05	08	No. 4 - 40 UNC	H3	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001050	●	00	01	05	08	No. 4 - 40 UNC	H4	Bottom (1.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001054	●	00	01	05	08	No. 4 - 40 UNC	H4	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001060	●	00	01	05	08	No. 4 - 40 UNC	H4	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001051	●	00	01	05	08	No. 4 - 40 UNC	H5	Bottom (1.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001055	●	00	01	05	08	No. 4 - 40 UNC	H5	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001061	●	00	01	05	08	No. 4 - 40 UNC	H5	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001573	●	00	01	05	08	No. 4 - 40 UNC	H6	Bottom (1.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001056	●	00	01	05	08	No. 4 - 40 UNC	H6	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001062	●	00	01	05	08	No. 4 - 40 UNC	H6	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001574	●	00	01	05	08	No. 4 - 40 UNC	H7	Bottom (1.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001057	●	00	01	05	08	No. 4 - 40 UNC	H7	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001063	●	00	01	05	08	No. 4 - 40 UNC	H7	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001580	●	00	-	-	08	No. 4 - 40 UNC	H8	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001581	●	00	-	-	08	No. 4 - 40 UNC	H9	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001582	●	00	-	-	08	No. 4 - 40 UNC	H10	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001598	●	00	-	-	08	No. 4 - 40 UNC	H14	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102
14001064	●	00	01	05	08	No. 4 - 48 UNF	H2	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001070	●	00	01	05	08	No. 4 - 48 UNF	H2	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001065	●	00	01	05	08	No. 4 - 48 UNF	H3	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001071	●	00	01	05	08	No. 4 - 48 UNF	H3	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001066	●	00	01	05	08	No. 4 - 48 UNF	H4	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001072	●	00	01	-	08	No. 4 - 48 UNF	H4	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001067	●	00	01	05	08	No. 4 - 48 UNF	H5	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001073	●	00	01	-	08	No. 4 - 48 UNF	H5	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001068	●	00	01	-	08	No. 4 - 48 UNF	H6	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001074	●	00	01	-	08	No. 4 - 48 UNF	H6	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001069	●	00	01	-	08	No. 4 - 48 UNF	H7	Mod Btm (2.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001075	●	00	01	-	08	No. 4 - 48 UNF	H7	Plug (4.5P)	1.875	0.295	0.559	0.141	0.110	0.188	0.101	0.104
14001076	●	00	01	-	08	No. 5 - 40 UNC	H2	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001082	●	00	01	05	08	No. 5 - 40 UNC	H2	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001077	●	00	01	05	08	No. 5 - 40 UNC	H3	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001083	●	00	01	05	08	No. 5 - 40 UNC	H3	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001078	●	00	01	-	08	No. 5 - 40 UNC	H4	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001084	●	00	01	05	08	No. 5 - 40 UNC	H4	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001079	●	00	01	05	08	No. 5 - 40 UNC	H5	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001085	●	00	01	05	08	No. 5 - 40 UNC	H5	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001080	●	00	01	05	08	No. 5 - 40 UNC	H6	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001086	●	00	01	05	08	No. 5 - 40 UNC	H6	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001081	●	00	01	05	08	No. 5 - 40 UNC	H7	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001087	●	00	01	05	08	No. 5 - 40 UNC	H7	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.112	0.115
14001088	●	00	01	05	08	No. 5 - 44 UNF	H2	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix							L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
		BR	S/O	TiN	TiCN											
14001094	●	00	01	05	08	No. 5 - 44 UNF	H2	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001089	●	00	01	05	08	No. 5 - 44 UNF	H3	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001095	●	00	01	05	08	No. 5 - 44 UNF	H3	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001090	●	00	01	05	08	No. 5 - 44 UNF	H4	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001096	●	00	01	05	08	No. 5 - 44 UNF	H4	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001091	●	00	01	05	08	No. 5 - 44 UNF	H5	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001097	●	00	01	05	08	No. 5 - 44 UNF	H5	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001092	●	00	01	05	08	No. 5 - 44 UNF	H6	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001098	●	00	01	05	08	No. 5 - 44 UNF	H6	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001093	●	00	01	05	08	No. 5 - 44 UNF	H7	Mod Btm (2.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001099	●	00	01	05	08	No. 5 - 44 UNF	H7	Plug (4.5P)	1.938	0.299	0.626	0.141	0.110	0.188	0.113	0.116
14001103	●	00	01	05	08	No. 6 - 32 UNC	H2	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001112	●	00	01	05	08	No. 6 - 32 UNC	H2	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001100	●	00	01	05	08	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001104	●	00	01	05	08	No. 6 - 32 UNC	H3	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001113	●	00	01	05	08	No. 6 - 32 UNC	H3	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001101	●	00	01	05	08	No. 6 - 32 UNC	H4	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001105	●	00	01	05	08	No. 6 - 32 UNC	H4	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001114	●	00	01	05	08	No. 6 - 32 UNC	H4	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001102	●	00	01	05	08	No. 6 - 32 UNC	H5	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001106	●	00	01	05	08	No. 6 - 32 UNC	H5	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001115	●	00	01	05	08	No. 6 - 32 UNC	H5	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001575	●	00	01	-	-	No. 6 - 32 UNC	H6	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001107	●	00	01	05	08	No. 6 - 32 UNC	H6	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001116	●	00	01	05	08	No. 6 - 32 UNC	H6	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001576	●	00	01	-	-	No. 6 - 32 UNC	H7	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001108	●	00	01	05	08	No. 6 - 32 UNC	H7	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001117	●	00	01	05	08	No. 6 - 32 UNC	H7	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001577	●	00	01	-	-	No. 6 - 32 UNC	H8	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001109	●	00	01	05	-	No. 6 - 32 UNC	H8	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001118	●	00	01	05	08	No. 6 - 32 UNC	H8	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001110	●	00	01	05	08	No. 6 - 32 UNC	H9	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001119	●	00	01	05	08	No. 6 - 32 UNC	H9	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001111	●	00	01	05	08	No. 6 - 32 UNC	H10	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001120	●	00	01	05	08	No. 6 - 32 UNC	H10	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001583	●	00	-	-	08	No. 6 - 32 UNC	H11	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001584	●	00	-	-	08	No. 6 - 32 UNC	H12	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001599	●	00	-	-	08	No. 6 - 32 UNC	H14	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125
14001121	●	00	01	05	08	No. 6 - 40 UNF	H2	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001130	●	00	01	05	08	No. 6 - 40 UNF	H2	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001122	●	00	01	05	08	No. 6 - 40 UNF	H3	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001131	●	00	01	05	08	No. 6 - 40 UNF	H3	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001123	●	00	01	05	08	No. 6 - 40 UNF	H4	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001132	●	00	01	05	08	No. 6 - 40 UNF	H4	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001124	●	00	01	05	08	No. 6 - 40 UNF	H5	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001133	●	00	01	05	08	No. 6 - 40 UNF	H5	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001125	●	00	01	05	08	No. 6 - 40 UNF	H6	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001134	●	00	01	05	08	No. 6 - 40 UNF	H6	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001126	●	00	01	05	08	No. 6 - 40 UNF	H7	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

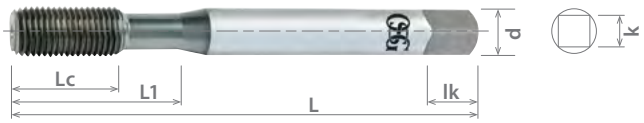
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100 SFM	20-50 SFM	15-25 SFM	15-25 SFM	15-20 SFM	15-40 SFM	15-40 SFM	10-25 SFM		50-90 SFM	45-100 SFM			10-15 SFM			

○ Good ◎ Best

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix							L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
		BR	S/O	TiN	TiCN											
14001135	●	00	01	05	08	No. 6 - 40 UNF	H7	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001127	●	00	01	05	08	No. 6 - 40 UNF	H8	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001136	●	00	01	05	08	No. 6 - 40 UNF	H8	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001128	●	00	01	05	08	No. 6 - 40 UNF	H9	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001137	●	00	01	05	08	No. 6 - 40 UNF	H9	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001129	●	00	01	05	08	No. 6 - 40 UNF	H10	Mod Btm (2.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001138	●	00	01	05	08	No. 6 - 40 UNF	H10	Plug (4.5P)	2.000	0.370	0.685	0.141	0.110	0.188	0.125	0.128
14001142	●	00	01	05	08	No. 8 - 32 UNC	H2	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001151	●	00	01	05	08	No. 8 - 32 UNC	H2	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001139	●	00	01	05	08	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001143	●	00	01	05	08	No. 8 - 32 UNC	H3	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001152	●	00	01	05	08	No. 8 - 32 UNC	H3	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001140	●	00	01	05	08	No. 8 - 32 UNC	H4	Bottom (1.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001144	●	00	01	05	08	No. 8 - 32 UNC	H4	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001153	●	00	01	05	08	No. 8 - 32 UNC	H4	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001141	●	00	01	05	08	No. 8 - 32 UNC	H5	Bottom (1.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001145	●	00	01	05	08	No. 8 - 32 UNC	H5	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001154	●	00	01	05	08	No. 8 - 32 UNC	H5	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001146	●	00	01	05	08	No. 8 - 32 UNC	H6	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001155	●	00	01	05	08	No. 8 - 32 UNC	H6	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001147	●	00	01	05	08	No. 8 - 32 UNC	H7	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001156	●	00	01	05	08	No. 8 - 32 UNC	H7	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001148	●	00	01	05	08	No. 8 - 32 UNC	H8	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001157	●	00	01	05	08	No. 8 - 32 UNC	H8	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001149	●	00	01	05	08	No. 8 - 32 UNC	H9	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001158	●	00	01	05	08	No. 8 - 32 UNC	H9	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001150	●	00	01	05	08	No. 8 - 32 UNC	H10	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001159	●	00	01	05	08	No. 8 - 32 UNC	H10	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001585	●	00	-	-	08	No. 8 - 32 UNC	H11	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001586	●	00	-	-	08	No. 8 - 32 UNC	H12	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001600	●	00	-	-	08	No. 8 - 32 UNC	H14	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151
14001160	●	00	01	05	08	No. 8 - 36 UNF	H2	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001169	●	00	01	05	08	No. 8 - 36 UNF	H2	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001161	●	00	01	05	08	No. 8 - 36 UNF	H3	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001170	●	00	01	05	08	No. 8 - 36 UNF	H3	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001162	●	00	01	05	08	No. 8 - 36 UNF	H4	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001171	●	00	01	05	08	No. 8 - 36 UNF	H4	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001163	●	00	01	05	08	No. 8 - 36 UNF	H5	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001172	●	00	01	05	08	No. 8 - 36 UNF	H5	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001164	●	00	01	05	08	No. 8 - 36 UNF	H6	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001173	●	00	01	05	08	No. 8 - 36 UNF	H6	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001165	●	00	01	05	08	No. 8 - 36 UNF	H7	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001174	●	00	01	05	08	No. 8 - 36 UNF	H7	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001166	●	00	01	05	08	No. 8 - 36 UNF	H8	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001175	●	00	01	05	08	No. 8 - 36 UNF	H8	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001167	●	00	01	05	08	No. 8 - 36 UNF	H9	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001176	●	00	01	05	08	No. 8 - 36 UNF	H9	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001168	●	00	01	05	08	No. 8 - 36 UNF	H10	Mod Btm (2.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001177	●	00	01	05	08	No. 8 - 36 UNF	H10	Plug (4.5P)	2.125	0.374	0.752	0.168	0.131	0.250	0.150	0.153
14001181	●	00	01	05	08	No. 10 - 24 UNC	H2	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001190	●	00	01	05	08	No. 10 - 24 UNC	H2	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001178	●	00	01	05	08	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001182	●	00	01	05	08	No. 10 - 24 UNC	H3	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001191	●	00	01	05	08	No. 10 - 24 UNC	H3	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix							L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
		BR	S/O	TiN	TiCN											
14001179	●	00	01	05	08	No. 10 - 24 UNC	H4	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001183	●	00	01	05	08	No. 10 - 24 UNC	H4	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001192	●	00	01	05	08	No. 10 - 24 UNC	H4	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001180	●	00	01	05	08	No. 10 - 24 UNC	H5	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001184	●	00	01	05	08	No. 10 - 24 UNC	H5	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001193	●	00	01	05	08	No. 10 - 24 UNC	H5	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001571	●	00	01	05	08	No. 10 - 24 UNC	H6	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001185	●	00	01	05	08	No. 10 - 24 UNC	H6	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001194	●	00	01	05	08	No. 10 - 24 UNC	H6	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001186	●	00	01	05	08	No. 10 - 24 UNC	H7	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001195	●	00	01	05	08	No. 10 - 24 UNC	H7	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001187	●	00	01	05	08	No. 10 - 24 UNC	H8	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001196	●	00	01	05	08	No. 10 - 24 UNC	H8	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001188	●	00	01	05	08	No. 10 - 24 UNC	H9	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001197	●	00	01	05	08	No. 10 - 24 UNC	H9	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001189	●	00	01	05	08	No. 10 - 24 UNC	H10	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001198	●	00	01	05	08	No. 10 - 24 UNC	H10	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173
14001202	●	00	01	05	08	No. 10 - 32 UNF	H2	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001211	●	00	01	05	08	No. 10 - 32 UNF	H2	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001199	●	00	01	05	08	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001203	●	00	01	05	08	No. 10 - 32 UNF	H3	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001212	●	00	01	05	08	No. 10 - 32 UNF	H3	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001200	●	00	01	05	08	No. 10 - 32 UNF	H4	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001204	●	00	01	05	08	No. 10 - 32 UNF	H4	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001213	●	00	01	05	08	No. 10 - 32 UNF	H4	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001201	●	00	01	05	08	No. 10 - 32 UNF	H5	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001205	●	00	01	05	08	No. 10 - 32 UNF	H5	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001214	●	00	01	05	08	No. 10 - 32 UNF	H5	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001572	●	00	01	05	08	No. 10 - 32 UNF	H6	Bottom (1.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001206	●	00	01	05	08	No. 10 - 32 UNF	H6	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001215	●	00	01	05	08	No. 10 - 32 UNF	H6	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001207	●	00	01	05	08	No. 10 - 32 UNF	H7	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001216	●	00	01	05	08	No. 10 - 32 UNF	H7	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001208	●	00	01	05	08	No. 10 - 32 UNF	H8	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001217	●	00	01	05	08	No. 10 - 32 UNF	H8	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001209	●	00	01	05	08	No. 10 - 32 UNF	H9	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001218	●	00	01	05	08	No. 10 - 32 UNF	H9	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001210	●	00	01	05	08	No. 10 - 32 UNF	H10	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001219	●	00	01	05	08	No. 10 - 32 UNF	H10	Plug (4.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001587	●	00	-	-	08	No. 10 - 32 UNF	H11	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001588	●	00	-	-	08	No. 10 - 32 UNF	H12	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001601	●	00	-	-	08	No. 10 - 32 UNF	H14	Mod Btm (2.5P)	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177
14001220	●	00	01	05	08	No. 12 - 24 UNC	H2	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001229	●	00	01	05	08	No. 12 - 24 UNC	H2	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001221	●	00	01	05	08	No. 12 - 24 UNC	H3	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001230	●	00	01	05	08	No. 12 - 24 UNC	H3	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001222	●	00	01	05	08	No. 12 - 24 UNC	H4	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001231	●	00	01	05	08	No. 12 - 24 UNC	H4	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001223	●	00	01	05	08	No. 12 - 24 UNC	H5	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

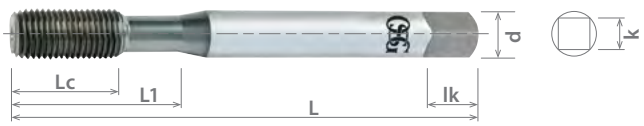
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100 SFM	20-50 SFM	15-25 SFM	15-25 SFM	15-20 SFM	15-40 SFM	15-40 SFM	10-25 SFM		50-90 SFM	45-100 SFM			10-15 SFM			

○ Good ◎ Best

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix							L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
		BR	S/O	TiN	TiCN											
14001232	●	00	01	05	08	No. 12 - 24 UNC	H5	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001224	●	00	01	05	08	No. 12 - 24 UNC	H6	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001233	●	00	01	05	08	No. 12 - 24 UNC	H6	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001225	●	00	01	05	08	No. 12 - 24 UNC	H7	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001234	●	00	01	05	08	No. 12 - 24 UNC	H7	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001226	●	00	01	05	08	No. 12 - 24 UNC	H8	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001235	●	00	01	05	08	No. 12 - 24 UNC	H8	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001227	●	00	01	05	08	No. 12 - 24 UNC	H9	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001236	●	00	01	05	08	No. 12 - 24 UNC	H9	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001228	●	00	01	05	08	No. 12 - 24 UNC	H10	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001237	●	00	01	05	08	No. 12 - 24 UNC	H10	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.195	0.199
14001238	●	00	01	05	08	No. 12 - 28 UNF	H2	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001247	●	00	01	05	08	No. 12 - 28 UNF	H2	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001239	●	00	01	05	08	No. 12 - 28 UNF	H3	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001248	●	00	01	05	08	No. 12 - 28 UNF	H3	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001240	●	00	01	05	08	No. 12 - 28 UNF	H4	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001249	●	00	01	05	08	No. 12 - 28 UNF	H4	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001241	●	00	01	05	08	No. 12 - 28 UNF	H5	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001250	●	00	01	05	08	No. 12 - 28 UNF	H5	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001242	●	00	01	05	08	No. 12 - 28 UNF	H6	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001251	●	00	01	05	08	No. 12 - 28 UNF	H6	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001243	●	00	01	05	08	No. 12 - 28 UNF	H7	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001252	●	00	01	05	08	No. 12 - 28 UNF	H7	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001244	●	00	01	05	08	No. 12 - 28 UNF	H8	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001253	●	00	01	05	08	No. 12 - 28 UNF	H8	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001245	●	00	01	05	08	No. 12 - 28 UNF	H9	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001254	●	00	01	05	08	No. 12 - 28 UNF	H9	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001246	●	00	01	05	08	No. 12 - 28 UNF	H10	Mod Btm (2.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001255	●	00	01	05	08	No. 12 - 28 UNF	H10	Plug (4.5P)	2.375	0.496	0.933	0.220	0.165	0.281	0.198	0.201
14001260	●	00	01	05	08	1/4 - 20 UNC	H2	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001269	●	00	01	05	08	1/4 - 20 UNC	H2	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001261	●	00	01	05	08	1/4 - 20 UNC	H3	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001270	●	00	01	05	08	1/4 - 20 UNC	H3	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001262	●	00	01	05	08	1/4 - 20 UNC	H4	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001271	●	00	01	05	08	1/4 - 20 UNC	H4	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001256	●	00	01	05	08	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001263	●	00	01	05	08	1/4 - 20 UNC	H5	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001272	●	00	01	05	08	1/4 - 20 UNC	H5	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001257	●	00	01	05	08	1/4 - 20 UNC	H6	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001264	●	00	01	05	08	1/4 - 20 UNC	H6	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001273	●	00	01	05	08	1/4 - 20 UNC	H6	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001258	●	00	01	05	08	1/4 - 20 UNC	H7	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001265	●	00	01	05	08	1/4 - 20 UNC	H7	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001274	●	00	01	05	08	1/4 - 20 UNC	H7	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001259	●	00	01	05	08	1/4 - 20 UNC	H8	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001266	●	00	01	05	08	1/4 - 20 UNC	H8	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001275	●	00	01	05	08	1/4 - 20 UNC	H8	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001267	●	00	01	05	08	1/4 - 20 UNC	H9	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001276	●	00	01	05	08	1/4 - 20 UNC	H9	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001268	●	00	01	05	08	1/4 - 20 UNC	H10	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001277	●	00	01	05	08	1/4 - 20 UNC	H10	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001589	●	00	-	-	08	1/4 - 20 UNC	H11	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001590	●	00	-	-	08	1/4 - 20 UNC	H12	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230
14001591	●	00	-	-	08	1/4 - 20 UNC	H13	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix														
		BR	S/O	TiN	TiCN				L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
14001282	●	00	01	05	08	1/4 - 28 UNF	H2	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001291	●	00	01	05	08	1/4 - 28 UNF	H2	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001283	●	00	01	05	08	1/4 - 28 UNF	H3	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001292	●	00	01	05	08	1/4 - 28 UNF	H3	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001278	●	00	01	05	08	1/4 - 28 UNF	H4	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001284	●	00	01	05	08	1/4 - 28 UNF	H4	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001293	●	00	01	05	08	1/4 - 28 UNF	H4	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001279	●	00	01	05	08	1/4 - 28 UNF	H5	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001285	●	00	01	05	08	1/4 - 28 UNF	H5	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001294	●	00	01	05	08	1/4 - 28 UNF	H5	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001280	●	00	01	05	08	1/4 - 28 UNF	H6	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001286	●	00	01	05	08	1/4 - 28 UNF	H6	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001295	●	00	01	05	08	1/4 - 28 UNF	H6	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001281	●	00	01	05	08	1/4 - 28 UNF	H7	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001287	●	00	01	05	08	1/4 - 28 UNF	H7	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001296	●	00	01	05	08	1/4 - 28 UNF	H7	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001288	●	00	01	05	08	1/4 - 28 UNF	H8	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001297	●	00	01	05	08	1/4 - 28 UNF	H8	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001289	●	00	01	05	08	1/4 - 28 UNF	H9	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001298	●	00	01	05	08	1/4 - 28 UNF	H9	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001290	●	00	01	05	08	1/4 - 28 UNF	H10	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001299	●	00	01	05	08	1/4 - 28 UNF	H10	Plug (4.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001592	●	00	-	-	08	1/4 - 28 UNF	H11	Mod Btm (2.5P)	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235
14001304	●	00	01	05	08	5/16 - 18 UNC	H2	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001313	●	00	01	05	08	5/16 - 18 UNC	H2	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001305	●	00	01	05	08	5/16 - 18 UNC	H3	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001314	●	00	01	05	08	5/16 - 18 UNC	H3	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001306	●	00	01	05	08	5/16 - 18 UNC	H4	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001315	●	00	01	05	08	5/16 - 18 UNC	H4	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001307	●	00	01	05	08	5/16 - 18 UNC	H5	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001316	●	00	01	05	08	5/16 - 18 UNC	H5	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001300	●	00	01	05	08	5/16 - 18 UNC	H6	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001308	●	00	01	05	08	5/16 - 18 UNC	H6	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001317	●	00	01	05	08	5/16 - 18 UNC	H6	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001301	●	00	01	05	08	5/16 - 18 UNC	H7	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001309	●	00	01	05	08	5/16 - 18 UNC	H7	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001318	●	00	01	05	08	5/16 - 18 UNC	H7	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001302	●	00	01	05	08	5/16 - 18 UNC	H8	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001310	●	00	01	05	08	5/16 - 18 UNC	H8	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001319	●	00	01	05	08	5/16 - 18 UNC	H8	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001303	●	00	01	05	08	5/16 - 18 UNC	H9	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001311	●	00	01	05	08	5/16 - 18 UNC	H9	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001320	●	00	01	05	08	5/16 - 18 UNC	H9	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001312	●	00	01	05	08	5/16 - 18 UNC	H10	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001321	●	00	01	05	08	5/16 - 18 UNC	H10	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001593	●	00	-	-	08	5/16 - 18 UNC	H11	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001594	●	00	-	-	08	5/16 - 18 UNF	H12	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290
14001327	●	00	01	05	08	5/16 - 24 UNF	H2	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001336	●	00	01	05	08	5/16 - 24 UNF	H2	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

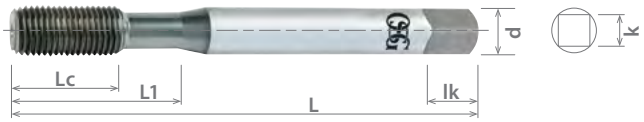
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100 SFM	20-50 SFM	15-25 SFM	15-25 SFM	15-20 SFM	15-40 SFM	15-40 SFM	10-25 SFM		50-90 SFM	45-100 SFM			10-15 SFM			

○ Good ◎ Best

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix							L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
		BR	S/O	TiN	TiCN											
14001328	●	00	01	05	08	5/16 - 24 UNF	H3	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001337	●	00	01	05	08	5/16 - 24 UNF	H3	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001322	●	00	01	05	08	5/16 - 24 UNF	H4	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001329	●	00	01	05	08	5/16 - 24 UNF	H4	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001338	●	00	01	05	08	5/16 - 24 UNF	H4	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001323	●	00	01	05	08	5/16 - 24 UNF	H5	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001330	●	00	01	05	08	5/16 - 24 UNF	H5	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001339	●	00	01	05	08	5/16 - 24 UNF	H5	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001324	●	00	01	05	08	5/16 - 24 UNF	H6	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001331	●	00	01	05	08	5/16 - 24 UNF	H6	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001340	●	00	01	05	08	5/16 - 24 UNF	H6	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001325	●	00	01	05	08	5/16 - 24 UNF	H7	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001332	●	00	01	05	08	5/16 - 24 UNF	H7	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001341	●	00	01	05	08	5/16 - 24 UNF	H7	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001326	●	00	01	05	08	5/16 - 24 UNF	H8	Bottom (1.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001333	●	00	01	05	08	5/16 - 24 UNF	H8	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001342	●	00	01	05	08	5/16 - 24 UNF	H8	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001334	●	00	01	05	08	5/16 - 24 UNF	H9	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001343	●	00	01	05	08	5/16 - 24 UNF	H9	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001335	●	00	01	05	08	5/16 - 24 UNF	H10	Mod Btm (2.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001344	●	00	01	05	08	5/16 - 24 UNF	H10	Plug (4.5P)	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296
14001350	●	00	01	05	08	3/8 - 16 UNC	H4	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001359	●	00	01	05	08	3/8 - 16 UNC	H4	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001345	●	00	01	05	08	3/8 - 16 UNC	H5	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001351	●	00	01	05	08	3/8 - 16 UNC	H5	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001360	●	00	01	05	08	3/8 - 16 UNC	H5	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001346	●	00	01	05	08	3/8 - 16 UNC	H6	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001352	●	00	01	05	08	3/8 - 16 UNC	H6	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001361	●	00	01	05	08	3/8 - 16 UNC	H6	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001347	●	00	01	05	08	3/8 - 16 UNC	H7	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001353	●	00	01	05	08	3/8 - 16 UNC	H7	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001362	●	00	01	05	08	3/8 - 16 UNC	H7	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001348	●	00	01	05	08	3/8 - 16 UNC	H8	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001354	●	00	01	05	08	3/8 - 16 UNC	H8	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001363	●	00	01	05	08	3/8 - 16 UNC	H8	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001349	●	00	01	05	08	3/8 - 16 UNC	H9	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001355	●	00	01	05	08	3/8 - 16 UNC	H9	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001364	●	00	01	05	08	3/8 - 16 UNC	H9	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001356	●	00	01	05	08	3/8 - 16 UNC	H10	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001365	●	00	01	05	08	3/8 - 16 UNC	H10	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001357	●	00	01	05	08	3/8 - 16 UNC	H11	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001366	●	00	01	05	08	3/8 - 16 UNC	H11	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001358	●	00	01	05	08	3/8 - 16 UNC	H12	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001367	●	00	01	05	08	3/8 - 16 UNC	H12	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001595	●	00	-	-	08	3/8 - 16 UNF	H13	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350
14001368	●	00	01	05	08	3/8 - 24 UNF	H4	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001373	●	00	01	05	08	3/8 - 24 UNF	H4	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001382	●	00	01	05	08	3/8 - 24 UNF	H4	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001369	●	00	01	05	08	3/8 - 24 UNF	H5	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001374	●	00	01	05	08	3/8 - 24 UNF	H5	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001383	●	00	01	05	08	3/8 - 24 UNF	H5	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001370	●	00	01	05	08	3/8 - 24 UNF	H6	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001375	●	00	01	05	08	3/8 - 24 UNF	H6	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001384	●	00	01	05	08	3/8 - 24 UNF	H6	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix														
		BR	S/O	TiN	TiCN				L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
14001371	●	00	01	05	08	3/8 - 24 UNF	H7	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001376	●	00	01	05	08	3/8 - 24 UNF	H7	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001385	●	00	01	05	08	3/8 - 24 UNF	H7	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001372	●	00	01	05	08	3/8 - 24 UNF	H8	Bottom (1.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001377	●	00	01	05	08	3/8 - 24 UNF	H8	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001386	●	00	01	05	08	3/8 - 24 UNF	H8	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001378	●	00	01	05	08	3/8 - 24 UNF	H9	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001387	●	00	01	05	08	3/8 - 24 UNF	H9	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001379	●	00	01	05	08	3/8 - 24 UNF	H10	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001388	●	00	01	05	08	3/8 - 24 UNF	H10	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001380	●	00	01	05	08	3/8 - 24 UNF	H11	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001389	●	00	01	05	08	3/8 - 24 UNF	H11	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001381	●	00	01	05	08	3/8 - 24 UNF	H12	Mod Btm (2.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001390	●	00	01	05	08	3/8 - 24 UNF	H12	Plug (4.5P)	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358
14001391	●	00	01	05	08	7/16 - 14 UNC	H4	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001400	●	00	01	05	08	7/16 - 14 UNC	H4	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001392	●	00	01	05	08	7/16 - 14 UNC	H5	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001401	●	00	01	05	08	7/16 - 14 UNC	H5	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001393	●	00	01	05	08	7/16 - 14 UNC	H6	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001402	●	00	01	05	08	7/16 - 14 UNC	H6	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001394	●	00	01	05	08	7/16 - 14 UNC	H7	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001403	●	00	01	05	08	7/16 - 14 UNC	H7	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001395	●	00	01	05	08	7/16 - 14 UNC	H8	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001404	●	00	01	05	08	7/16 - 14 UNC	H8	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001396	●	00	01	05	08	7/16 - 14 UNC	H9	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001405	●	00	01	05	08	7/16 - 14 UNC	H9	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001397	●	00	01	05	08	7/16 - 14 UNC	H10	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001406	●	00	01	05	08	7/16 - 14 UNC	H10	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001398	●	00	01	05	08	7/16 - 14 UNC	H11	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001407	●	00	01	05	08	7/16 - 14 UNC	H11	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001399	●	00	01	05	08	7/16 - 14 UNC	H12	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001408	●	00	01	05	08	7/16 - 14 UNC	H12	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408
14001409	●	00	01	05	08	7/16 - 20 UNF	H4	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001418	●	00	01	05	08	7/16 - 20 UNF	H4	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001410	●	00	01	05	08	7/16 - 20 UNF	H5	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001419	●	00	01	05	08	7/16 - 20 UNF	H5	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001411	●	00	01	05	08	7/16 - 20 UNF	H6	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001420	●	00	01	05	08	7/16 - 20 UNF	H6	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001412	●	00	01	05	08	7/16 - 20 UNF	H7	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001421	●	00	01	05	08	7/16 - 20 UNF	H7	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001413	●	00	01	05	08	7/16 - 20 UNF	H8	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001422	●	00	01	05	08	7/16 - 20 UNF	H8	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001414	●	00	01	05	08	7/16 - 20 UNF	H9	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001423	●	00	01	05	08	7/16 - 20 UNF	H9	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001415	●	00	01	05	08	7/16 - 20 UNF	H10	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001424	●	00	01	05	08	7/16 - 20 UNF	H10	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001416	●	00	01	05	08	7/16 - 20 UNF	H11	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001425	●	00	01	05	08	7/16 - 20 UNF	H11	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001417	●	00	01	05	08	7/16 - 20 UNF	H12	Mod Btm (2.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

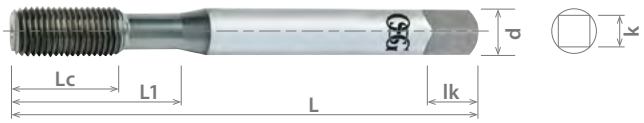
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100 SFM	20-50 SFM	15-25 SFM	15-25 SFM	15-20 SFM	15-40 SFM	15-40 SFM	10-25 SFM		50-90 SFM	45-100 SFM			10-15 SFM			

○ Good ◎ Best

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix							L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
		BR	S/O	TiN	TiCN											
14001426	●	00	01	05	08	7/16 - 20 UNF	H12	Plug (4.5P)	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417
14001427	●	00	01	05	08	1/2 - 13 UNC	H4	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001436	●	00	01	05	08	1/2 - 13 UNC	H4	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001428	●	00	01	05	08	1/2 - 13 UNC	H5	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001437	●	00	01	05	08	1/2 - 13 UNC	H5	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001429	●	00	01	05	08	1/2 - 13 UNC	H6	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001438	●	00	01	05	08	1/2 - 13 UNC	H6	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001430	●	00	01	05	08	1/2 - 13 UNC	H7	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001439	●	00	01	05	08	1/2 - 13 UNC	H7	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001431	●	00	01	05	08	1/2 - 13 UNC	H8	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001440	●	00	01	05	08	1/2 - 13 UNC	H8	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001432	●	00	01	05	08	1/2 - 13 UNC	H9	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001441	●	00	01	05	08	1/2 - 13 UNC	H9	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001433	●	00	01	05	08	1/2 - 13 UNC	H10	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001442	●	00	01	05	08	1/2 - 13 UNC	H10	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001434	●	00	01	05	08	1/2 - 13 UNC	H11	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001443	●	00	01	05	08	1/2 - 13 UNC	H11	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001435	●	00	01	05	08	1/2 - 13 UNC	H12	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001444	●	00	01	05	08	1/2 - 13 UNC	H12	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001596	●	00	-	-	08	1/2 - 13 UNF	H13	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001597	●	00	-	-	08	1/2 - 13 UNF	H14	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469
14001445	●	00	01	05	08	1/2 - 20 UNF	H4	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001454	●	00	01	05	08	1/2 - 20 UNF	H4	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001446	●	00	01	05	08	1/2 - 20 UNF	H5	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001455	●	00	01	05	08	1/2 - 20 UNF	H5	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001447	●	00	01	05	08	1/2 - 20 UNF	H6	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001456	●	00	01	05	08	1/2 - 20 UNF	H6	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001448	●	00	01	05	08	1/2 - 20 UNF	H7	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001457	●	00	01	05	08	1/2 - 20 UNF	H7	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001449	●	00	01	05	08	1/2 - 20 UNF	H8	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001458	●	00	01	05	08	1/2 - 20 UNF	H8	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001450	●	00	01	05	08	1/2 - 20 UNF	H9	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001459	●	00	01	05	08	1/2 - 20 UNF	H9	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001451	●	00	01	05	08	1/2 - 20 UNF	H10	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001460	●	00	01	05	08	1/2 - 20 UNF	H10	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001452	●	00	01	05	08	1/2 - 20 UNF	H11	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001461	●	00	01	05	08	1/2 - 20 UNF	H11	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001453	●	00	01	05	08	1/2 - 20 UNF	H12	Mod Btm (2.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001462	●	00	01	05	08	1/2 - 20 UNF	H12	Plug (4.5P)	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480
14001463	●	00	01	05	08	9/16 - 12 UNC	H4	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001472	●	00	01	05	08	9/16 - 12 UNC	H4	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001464	●	00	01	05	08	9/16 - 12 UNC	H5	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001473	●	00	01	05	08	9/16 - 12 UNC	H5	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001465	●	00	01	05	08	9/16 - 12 UNC	H6	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001474	●	00	01	05	08	9/16 - 12 UNC	H6	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001466	●	00	01	05	08	9/16 - 12 UNC	H7	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001475	●	00	01	05	08	9/16 - 12 UNC	H7	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001467	●	00	01	05	08	9/16 - 12 UNC	H8	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001476	●	00	01	05	08	9/16 - 12 UNC	H8	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001468	●	00	01	05	08	9/16 - 12 UNC	H9	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001477	●	00	01	05	08	9/16 - 12 UNC	H9	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001469	●	00	01	05	08	9/16 - 12 UNC	H10	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001478	●	00	01	05	08	9/16 - 12 UNC	H10	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001470	●	00	01	05	08	9/16 - 12 UNC	H11	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix														
		BR	S/O	TiN	TiCN				L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
14001479	●	00	01	05	08	9/16 - 12 UNC	H11	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001471	●	00	01	05	08	9/16 - 12 UNC	H12	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001480	●	00	01	05	08	9/16 - 12 UNC	H12	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.520	0.529
14001481	●	00	01	05	08	9/16 - 18 UNF	H4	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001490	●	00	01	05	08	9/16 - 18 UNF	H4	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001482	●	00	01	05	08	9/16 - 18 UNF	H5	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001491	●	00	01	05	08	9/16 - 18 UNF	H5	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001483	●	00	01	05	08	9/16 - 18 UNF	H6	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001492	●	00	01	05	08	9/16 - 18 UNF	H6	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001484	●	00	01	05	08	9/16 - 18 UNF	H7	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001493	●	00	01	05	08	9/16 - 18 UNF	H7	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001485	●	00	01	05	08	9/16 - 18 UNF	H8	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001494	●	00	01	05	08	9/16 - 18 UNF	H8	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001486	●	00	01	05	08	9/16 - 18 UNF	H9	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001495	●	00	01	05	08	9/16 - 18 UNF	H9	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001487	●	00	01	05	08	9/16 - 18 UNF	H10	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001496	●	00	01	05	08	9/16 - 18 UNF	H10	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001488	●	00	01	05	08	9/16 - 18 UNF	H11	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001497	●	00	01	05	08	9/16 - 18 UNF	H11	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001489	●	00	01	05	08	9/16 - 18 UNF	H12	Mod Btm (2.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001498	●	00	01	05	08	9/16 - 18 UNF	H12	Plug (4.5P)	3.594	1.000	1.972	0.429	0.322	0.500	0.534	0.540
14001499	●	00	01	05	08	5/8 - 11 UNC	H4	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001508	●	00	01	05	08	5/8 - 11 UNC	H4	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001500	●	00	01	05	08	5/8 - 11 UNC	H5	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001509	●	00	01	05	08	5/8 - 11 UNC	H5	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001501	●	00	01	05	08	5/8 - 11 UNC	H6	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001510	●	00	01	05	08	5/8 - 11 UNC	H6	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001502	●	00	01	05	08	5/8 - 11 UNC	H7	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001511	●	00	01	05	08	5/8 - 11 UNC	H7	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001503	●	00	01	05	08	5/8 - 11 UNC	H8	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001512	●	00	01	05	08	5/8 - 11 UNC	H8	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001504	●	00	01	05	08	5/8 - 11 UNC	H9	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001513	●	00	01	05	08	5/8 - 11 UNC	H9	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001505	●	00	01	05	08	5/8 - 11 UNC	H10	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001514	●	00	01	05	08	5/8 - 11 UNC	H10	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001506	●	00	01	05	08	5/8 - 11 UNC	H11	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001515	●	00	01	05	08	5/8 - 11 UNC	H11	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001507	●	00	01	05	08	5/8 - 11 UNC	H12	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001516	●	00	01	05	08	5/8 - 11 UNC	H12	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.579	0.588
14001517	●	00	01	05	08	5/8 - 18 UNF	H4	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001526	●	00	01	05	08	5/8 - 18 UNF	H4	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001518	●	00	01	05	08	5/8 - 18 UNF	H5	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001527	●	00	01	05	08	5/8 - 18 UNF	H5	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001519	●	00	01	05	08	5/8 - 18 UNF	H6	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001528	●	00	01	05	08	5/8 - 18 UNF	H6	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001520	●	00	01	05	08	5/8 - 18 UNF	H7	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001529	●	00	01	05	08	5/8 - 18 UNF	H7	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001521	●	00	01	05	08	5/8 - 18 UNF	H8	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001530	●	00	01	05	08	5/8 - 18 UNF	H8	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

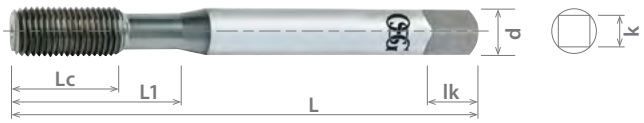
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100 SFM	20-50 SFM	15-25 SFM	15-25 SFM	15-20 SFM	15-40 SFM	15-40 SFM	10-25 SFM		50-90 SFM	45-100 SFM			10-15 SFM			

○ Good ◎ Best

List 14001 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number						Thread Size	Thread Limit	Chamfer Type	Overall Length	Thread Length	Neck Length	Shank Dia.	Square Width	Square Length	Tap Drill Size	
Base EDP #		Coating Suffix							L (Inch)	Lc (Inch)	L1 (Inch)	d (Inch)	k (Inch)	lk (Inch)	Min (Inch)	Max (Inch)
		BR	S/O	TiN	TiCN											
14001522	●	00	01	05	08	5/8 - 18 UNF	H9	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001531	●	00	01	05	08	5/8 - 18 UNF	H9	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001523	●	00	01	05	08	5/8 - 18 UNF	H10	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001532	●	00	01	05	08	5/8 - 18 UNF	H10	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001524	●	00	01	05	08	5/8 - 18 UNF	H11	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001533	●	00	01	05	08	5/8 - 18 UNF	H11	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001525	●	00	01	05	08	5/8 - 18 UNF	H12	Mod Btm (2.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001534	●	00	01	05	08	5/8 - 18 UNF	H12	Plug (4.5P)	3.813	1.091	2.126	0.480	0.360	0.563	0.597	0.602
14001535	●	00	01	05	08	3/4 - 10 UNC	H6	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001544	●	00	01	05	08	3/4 - 10 UNC	H6	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001536	●	00	01	05	08	3/4 - 10 UNC	H7	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001545	●	00	01	05	08	3/4 - 10 UNC	H7	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001537	●	00	01	05	08	3/4 - 10 UNC	H8	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001546	●	00	01	05	08	3/4 - 10 UNC	H8	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001538	●	00	01	05	08	3/4 - 10 UNC	H9	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001547	●	00	01	05	08	3/4 - 10 UNC	H9	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001539	●	00	01	05	08	3/4 - 10 UNC	H10	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001548	●	00	01	05	08	3/4 - 10 UNC	H10	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001540	●	00	01	05	08	3/4 - 10 UNC	H11	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001549	●	00	01	05	08	3/4 - 10 UNC	H11	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001541	●	00	01	05	08	3/4 - 10 UNC	H12	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001550	●	00	01	05	08	3/4 - 10 UNC	H12	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001542	●	00	01	05	08	3/4 - 10 UNC	H13	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001551	●	00	01	05	08	3/4 - 10 UNC	H13	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001543	●	00	01	05	08	3/4 - 10 UNC	H14	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001552	●	00	01	05	08	3/4 - 10 UNC	H14	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.699	0.709
14001553	●	00	01	05	08	3/4 - 16 UNF	H6	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001562	●	00	01	05	08	3/4 - 16 UNF	H6	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001554	●	00	01	05	08	3/4 - 16 UNF	H7	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001563	●	00	01	05	08	3/4 - 16 UNF	H7	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001555	●	00	01	05	08	3/4 - 16 UNF	H8	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001564	●	00	01	05	08	3/4 - 16 UNF	H8	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001556	●	00	01	05	08	3/4 - 16 UNF	H9	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001565	●	00	01	05	08	3/4 - 16 UNF	H9	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001557	●	00	01	05	08	3/4 - 16 UNF	H10	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001566	●	00	01	05	08	3/4 - 16 UNF	H10	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001558	●	00	01	05	08	3/4 - 16 UNF	H11	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001567	●	00	01	05	08	3/4 - 16 UNF	H11	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001559	●	00	01	05	08	3/4 - 16 UNF	H12	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001568	●	00	01	05	08	3/4 - 16 UNF	H12	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001560	●	00	01	05	08	3/4 - 16 UNF	H13	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001569	●	00	01	05	08	3/4 - 16 UNF	H13	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001561	●	00	01	05	08	3/4 - 16 UNF	H14	Mod Btm (2.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725
14001570	●	00	01	05	08	3/4 - 16 UNF	H14	Plug (4.5P)	4.250	1.201	2.433	0.590	0.442	0.688	0.718	0.725

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

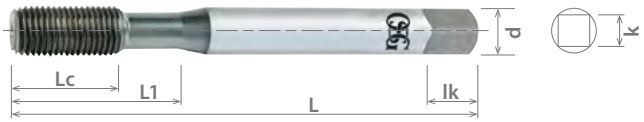
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100 SFM	20-50 SFM	15-25 SFM	15-25 SFM	15-20 SFM	15-40 SFM	15-40 SFM	10-25 SFM		50-90 SFM	45-100 SFM			10-15 SFM			

○ Good ◎ Best

List 14101

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiCN | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)	Surface Treatment
1410100000	●	M1.6 x 0.35	D3	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46	Bright
1410100001	●	M1.6 x 0.35	D3	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46	Steam Oxide
1410100005	●	M1.6 x 0.35	D3	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46	TiN
1410100008	●	M1.6 x 0.35	D3	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46	TiCN
1410100100	●	M1.6 x 0.35	D5	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46	Bright
1410100101	●	M1.6 x 0.35	D5	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46	Steam Oxide
1410100105	●	M1.6 x 0.35	D5	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46	TiN
1410100108	●	M1.6 x 0.35	D5	Modified Bottom (2.5P)	41.30	7.90	8.90	3.58	2.79	4.76	1.42	1.46	TiCN
1410100200	●	M1.7 x 0.35	D3	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56	Bright
1410100201	●	M1.7 x 0.35	D3	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56	Steam Oxide
1410100205	●	M1.7 x 0.35	D3	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56	TiN
1410100208	●	M1.7 x 0.35	D3	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56	TiCN
1410100300	●	M1.7 x 0.35	D5	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56	Bright
1410100301	●	M1.7 x 0.35	D5	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56	Steam Oxide
1410100305	●	M1.7 x 0.35	D5	Modified Bottom (2.5P)	42.90	9.50	10.50	3.58	2.79	4.76	1.52	1.56	TiN
1410100400	●	M2 x 0.4	D3	Bottom (1.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Bright
1410100401	●	M2 x 0.4	D3	Bottom (1.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Steam Oxide
1410100405	●	M2 x 0.4	D3	Bottom (1.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiN
1410100408	●	M2 x 0.4	D3	Bottom (1.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiCN
1410100600	●	M2 x 0.4	D3	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Bright
1410100601	●	M2 x 0.4	D3	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Steam Oxide
1410100605	●	M2 x 0.4	D3	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiN
1410100608	●	M2 x 0.4	D3	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiCN
1410106100	●	M2 x 0.4	D4	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Bright
1410106108	●	M2 x 0.4	D4	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiCN
1410100500	●	M2 x 0.4	D5	Bottom (1.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Bright
1410100501	●	M2 x 0.4	D5	Bottom (1.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Steam Oxide
1410100505	●	M2 x 0.4	D5	Bottom (1.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiN
1410100508	●	M2 x 0.4	D5	Bottom (1.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiCN
1410100700	●	M2 x 0.4	D5	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Bright
1410100701	●	M2 x 0.4	D5	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Steam Oxide
1410100705	●	M2 x 0.4	D5	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiN
1410100708	●	M2 x 0.4	D5	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiCN
1410106200	●	M2 x 0.4	D6	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Bright
1410106208	●	M2 x 0.4	D6	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiCN
1410106300	●	M2 x 0.4	D7	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Bright
1410106308	●	M2 x 0.4	D7	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiCN
1410106400	●	M2 x 0.4	D8	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	Bright
1410106408	●	M2 x 0.4	D8	Modified Bottom (2.5P)	44.30	11.10	12.10	3.58	2.79	4.76	1.80	1.84	TiCN
1410100800	●	M2.5 x 0.45	D3	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Bright
1410100801	●	M2.5 x 0.45	D3	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Steam Oxide
1410100805	●	M2.5 x 0.45	D3	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

CONTINUED ›

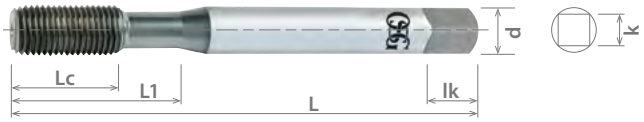
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100	20-50	15-25	15-25	15-20	15-40	15-40	10-25		50-90	45-100			10-15			

○ Good ◎ Best

List 14101 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)	Surface Treatment
1410100808	●	M2.5 x 0.45	D3	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiCN
1410101000	●	M2.5 x 0.45	D3	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Bright
1410101001	●	M2.5 x 0.45	D3	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Steam Oxide
1410101005	●	M2.5 x 0.45	D3	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiN
1410101008	●	M2.5 x 0.45	D3	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiCN
1410106500	●	M2.5 x 0.45	D4	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Bright
1410106508	●	M2.5 x 0.45	D4	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiCN
1410100900	●	M2.5 x 0.45	D5	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Bright
1410100901	●	M2.5 x 0.45	D5	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Steam Oxide
1410100905	●	M2.5 x 0.45	D5	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiN
1410100908	●	M2.5 x 0.45	D5	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiCN
1410101100	●	M2.5 x 0.45	D5	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Bright
1410101101	●	M2.5 x 0.45	D5	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Steam Oxide
1410101105	●	M2.5 x 0.45	D5	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiN
1410101108	●	M2.5 x 0.45	D5	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiCN
1410106600	●	M2.5 x 0.45	D6	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Bright
1410106608	●	M2.5 x 0.45	D6	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiCN
1410106700	●	M2.5 x 0.45	D7	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Bright
1410106708	●	M2.5 x 0.45	D7	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiCN
1410106800	●	M2.5 x 0.45	D8	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	Bright
1410106808	●	M2.5 x 0.45	D8	Modified Bottom (2.5P)	46.00	12.80	13.80	3.58	2.79	4.76	2.27	2.32	TiCN
1410101200	●	M2.6 x 0.45	D3	Modified Bottom (2.5P)	46.00	12.70	13.70	3.58	2.79	4.76	2.37	2.42	Bright
1410101201	●	M2.6 x 0.45	D3	Modified Bottom (2.5P)	46.00	12.70	13.70	3.58	2.79	4.76	2.37	2.42	Steam Oxide
1410101205	●	M2.6 x 0.45	D3	Modified Bottom (2.5P)	46.00	12.70	13.70	3.58	2.79	4.76	2.37	2.42	TiN
1410101300	●	M2.6 x 0.45	D5	Modified Bottom (2.5P)	46.00	12.70	13.70	3.58	2.79	4.76	2.37	2.42	Bright
1410101301	●	M2.6 x 0.45	D5	Modified Bottom (2.5P)	46.00	12.70	13.70	3.58	2.79	4.76	2.37	2.42	Steam Oxide
1410101305	●	M2.6 x 0.45	D5	Modified Bottom (2.5P)	46.00	12.70	13.70	3.58	2.79	4.76	2.37	2.42	TiN
1410101400	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410101401	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Steam Oxide
1410101405	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiN
1410101408	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410101600	●	M3 x 0.5	D3	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410101601	●	M3 x 0.5	D3	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Steam Oxide
1410101605	●	M3 x 0.5	D3	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiN
1410101608	●	M3 x 0.5	D3	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410106900	●	M3 x 0.5	D4	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410106908	●	M3 x 0.5	D4	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410101500	●	M3 x 0.5	D5	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410101501	●	M3 x 0.5	D5	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Steam Oxide
1410101505	●	M3 x 0.5	D5	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiN
1410101508	●	M3 x 0.5	D5	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410101700	●	M3 x 0.5	D5	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410101701	●	M3 x 0.5	D5	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Steam Oxide
1410101705	●	M3 x 0.5	D5	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiN
1410101708	●	M3 x 0.5	D5	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410110700	●	M3 x 0.5	D5	Plug (4.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410106000	●	M3 x 0.5	D6	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410107000	●	M3 x 0.5	D6	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410107008	●	M3 x 0.5	D6	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410107100	●	M3 x 0.5	D7	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410107108	●	M3 x 0.5	D7	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410107200	●	M3 x 0.5	D8	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 14101 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)	Surface Treatment
1410107208	●	M3 x 0.5	D8	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410107300	●	M3 x 0.5	D9	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410107308	●	M3 x 0.5	D9	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410107400	●	M3 x 0.5	D10	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410107408	●	M3 x 0.5	D10	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410107500	●	M3 x 0.5	D11	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	Bright
1410107508	●	M3 x 0.5	D11	Modified Bottom (2.5P)	49.20	6.20	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
1410101800	●	M3.5 x 0.6	D4	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410101801	●	M3.5 x 0.6	D4	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Steam Oxide
1410101805	●	M3.5 x 0.6	D4	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiN
1410101808	●	M3.5 x 0.6	D4	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410102000	●	M3.5 x 0.6	D4	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410102001	●	M3.5 x 0.6	D4	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Steam Oxide
1410102005	●	M3.5 x 0.6	D4	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiN
1410102008	●	M3.5 x 0.6	D4	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410102200	●	M3.5 x 0.6	D4	Plug (4.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410102201	●	M3.5 x 0.6	D4	Plug (4.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Steam Oxide
1410102205	●	M3.5 x 0.6	D4	Plug (4.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiN
1410102208	●	M3.5 x 0.6	D4	Plug (4.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410107600	●	M3.5 x 0.6	D5	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410107608	●	M3.5 x 0.6	D5	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410101900	●	M3.5 x 0.6	D6	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410101901	●	M3.5 x 0.6	D6	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Steam Oxide
1410101905	●	M3.5 x 0.6	D6	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiN
1410101908	●	M3.5 x 0.6	D6	Bottom (1.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410102100	●	M3.5 x 0.6	D6	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410102101	●	M3.5 x 0.6	D6	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Steam Oxide
1410102105	●	M3.5 x 0.6	D6	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiN
1410102108	●	M3.5 x 0.6	D6	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410102300	●	M3.5 x 0.6	D6	Plug (4.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410102301	●	M3.5 x 0.6	D6	Plug (4.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Steam Oxide
1410102305	●	M3.5 x 0.6	D6	Plug (4.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiN
1410102308	●	M3.5 x 0.6	D6	Plug (4.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410107700	●	M3.5 x 0.6	D7	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410107708	●	M3.5 x 0.6	D7	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410107800	●	M3.5 x 0.6	D8	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	Bright
1410107808	●	M3.5 x 0.6	D8	Modified Bottom (2.5P)	50.80	6.20	17.50	3.58	2.79	4.76	3.19	3.26	TiCN
1410102400	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410102401	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Steam Oxide
1410102405	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiN
1410102408	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410102600	●	M4 x 0.7	D4	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410102601	●	M4 x 0.7	D4	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Steam Oxide
1410102605	●	M4 x 0.7	D4	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiN
1410102608	●	M4 x 0.7	D4	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410102800	●	M4 x 0.7	D4	Plug (4.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410102801	●	M4 x 0.7	D4	Plug (4.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYT

CONTINUED ›

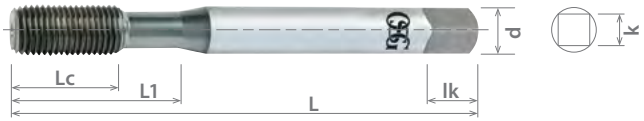
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100	20-50	15-25	15-25	15-20	15-40	15-40	10-25		50-90	45-100			10-15			

○ Good ◎ Best

List 14101 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)	Surface Treatment
1410102805	●	M4 x 0.7	D4	Plug (4.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiN
1410102808	●	M4 x 0.7	D4	Plug (4.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410107900	●	M4 x 0.7	D5	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410107908	●	M4 x 0.7	D5	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410102500	●	M4 x 0.7	D6	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410102501	●	M4 x 0.7	D6	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Steam Oxide
1410102505	●	M4 x 0.7	D6	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiN
1410102508	●	M4 x 0.7	D6	Bottom (1.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410102700	●	M4 x 0.7	D6	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410102701	●	M4 x 0.7	D6	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Steam Oxide
1410102705	●	M4 x 0.7	D6	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiN
1410102708	●	M4 x 0.7	D6	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410102900	●	M4 x 0.7	D6	Plug (4.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410102901	●	M4 x 0.7	D6	Plug (4.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Steam Oxide
1410102905	●	M4 x 0.7	D6	Plug (4.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiN
1410102908	●	M4 x 0.7	D6	Plug (4.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410108000	●	M4 x 0.7	D7	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410108008	●	M4 x 0.7	D7	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410108100	●	M4 x 0.7	D8	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410108108	●	M4 x 0.7	D8	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410108200	●	M4 x 0.7	D9	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410108208	●	M4 x 0.7	D9	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410108300	●	M4 x 0.7	D10	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410108308	●	M4 x 0.7	D10	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410108400	●	M4 x 0.7	D11	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	Bright
1410108408	●	M4 x 0.7	D11	Modified Bottom (2.5P)	54.00	8.40	19.60	4.27	3.33	6.35	3.64	3.71	TiCN
1410103000	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410103001	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Steam Oxide
1410103005	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiN
1410103008	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410103200	●	M5 x 0.8	D4	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410103201	●	M5 x 0.8	D4	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Steam Oxide
1410103205	●	M5 x 0.8	D4	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiN
1410103208	●	M5 x 0.8	D4	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410103400	●	M5 x 0.8	D4	Plug (4.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410103401	●	M5 x 0.8	D4	Plug (4.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Steam Oxide
1410103405	●	M5 x 0.8	D4	Plug (4.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiN
1410103408	●	M5 x 0.8	D4	Plug (4.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410108500	●	M5 x 0.8	D5	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410108508	●	M5 x 0.8	D5	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410108600	●	M5 x 0.8	D6	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410108608	●	M5 x 0.8	D6	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410103100	●	M5 x 0.8	D7	Bottom (1.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410103101	●	M5 x 0.8	D7	Bottom (1.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Steam Oxide
1410103105	●	M5 x 0.8	D7	Bottom (1.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiN
1410103108	●	M5 x 0.8	D7	Bottom (1.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410103300	●	M5 x 0.8	D7	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410103301	●	M5 x 0.8	D7	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Steam Oxide
1410103305	●	M5 x 0.8	D7	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiN
1410103308	●	M5 x 0.8	D7	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410103500	●	M5 x 0.8	D7	Plug (4.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410103501	●	M5 x 0.8	D7	Plug (4.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 14101 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)	Surface Treatment
1410103505	●	M5 x 0.8	D7	Plug (4.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiN
1410103508	●	M5 x 0.8	D7	Plug (4.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410108700	●	M5 x 0.8	D8	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410108708	●	M5 x 0.8	D8	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410108800	●	M5 x 0.8	D9	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410108808	●	M5 x 0.8	D9	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410108900	●	M5 x 0.8	D10	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410108908	●	M5 x 0.8	D10	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410109000	●	M5 x 0.8	D11	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410109008	●	M5 x 0.8	D11	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410110500	●	M5 x 0.8	D14	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	Bright
1410110508	●	M5 x 0.8	D14	Modified Bottom (2.5P)	60.30	10.00	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
1410103600	●	M6 x 1	D5	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410103601	●	M6 x 1	D5	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Steam Oxide
1410103605	●	M6 x 1	D5	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiN
1410103608	●	M6 x 1	D5	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410103800	●	M6 x 1	D5	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410103801	●	M6 x 1	D5	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Steam Oxide
1410103805	●	M6 x 1	D5	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiN
1410103808	●	M6 x 1	D5	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410104000	●	M6 x 1	D5	Plug (4.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410104001	●	M6 x 1	D5	Plug (4.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Steam Oxide
1410104005	●	M6 x 1	D5	Plug (4.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiN
1410104008	●	M6 x 1	D5	Plug (4.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410109100	●	M6 x 1	D6	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410109108	●	M6 x 1	D6	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410109200	●	M6 x 1	D7	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410109208	●	M6 x 1	D7	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410103700	●	M6 x 1	D8	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410103701	●	M6 x 1	D8	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Steam Oxide
1410103705	●	M6 x 1	D8	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiN
1410103708	●	M6 x 1	D8	Bottom (1.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410103900	●	M6 x 1	D8	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410103901	●	M6 x 1	D8	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Steam Oxide
1410103905	●	M6 x 1	D8	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiN
1410103908	●	M6 x 1	D8	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410104100	●	M6 x 1	D8	Plug (4.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410104101	●	M6 x 1	D8	Plug (4.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Steam Oxide
1410104105	●	M6 x 1	D8	Plug (4.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiN
1410104108	●	M6 x 1	D8	Plug (4.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410109300	●	M6 x 1	D9	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410109308	●	M6 x 1	D9	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410109400	●	M6 x 1	D10	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410109408	●	M6 x 1	D10	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410109500	●	M6 x 1	D11	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410109508	●	M6 x 1	D11	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410109600	●	M6 x 1	D12	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ❯

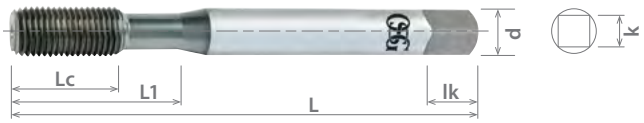
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100	20-50	15-25	15-25	15-20	15-40	15-40	10-25		50-90	45-100			10-15			

○ Good ◎ Best

List 14101 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)	Surface Treatment
1410109608	●	M6 x 1	D12	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410109700	●	M6 x 1	D13	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410109708	●	M6 x 1	D13	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410110600	●	M6 x 1	D14	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	Bright
1410110608	●	M6 x 1	D14	Modified Bottom (2.5P)	63.50	12.00	25.40	6.48	4.85	7.94	5.49	5.59	TiCN
1410104200	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Bright
1410104201	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Steam Oxide
1410104205	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiN
1410104208	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiCN
1410104400	●	M8 x 1.25	D5	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Bright
1410104401	●	M8 x 1.25	D5	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Steam Oxide
1410104405	●	M8 x 1.25	D5	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiN
1410104408	●	M8 x 1.25	D5	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiCN
1410104600	●	M8 x 1.25	D5	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Bright
1410104601	●	M8 x 1.25	D5	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Steam Oxide
1410104605	●	M8 x 1.25	D5	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiN
1410104608	●	M8 x 1.25	D5	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiCN
1410104300	●	M8 x 1.25	D9	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Bright
1410104301	●	M8 x 1.25	D9	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Steam Oxide
1410104305	●	M8 x 1.25	D9	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiN
1410104308	●	M8 x 1.25	D9	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiCN
1410104500	●	M8 x 1.25	D9	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Bright
1410104501	●	M8 x 1.25	D9	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Steam Oxide
1410104505	●	M8 x 1.25	D9	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiN
1410104508	●	M8 x 1.25	D9	Modified Bottom (2.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiCN
1410104700	●	M8 x 1.25	D9	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Bright
1410104701	●	M8 x 1.25	D9	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	Steam Oxide
1410104705	●	M8 x 1.25	D9	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiN
1410104708	●	M8 x 1.25	D9	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	7.36	7.49	TiCN
1410104800	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410104801	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Steam Oxide
1410104805	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiN
1410104808	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410105000	●	M10 x 1.5	D6	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410105001	●	M10 x 1.5	D6	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Steam Oxide
1410105005	●	M10 x 1.5	D6	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiN
1410105008	●	M10 x 1.5	D6	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410105200	●	M10 x 1.5	D6	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410105201	●	M10 x 1.5	D6	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Steam Oxide
1410105205	●	M10 x 1.5	D6	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiN
1410105208	●	M10 x 1.5	D6	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410109800	●	M10 x 1.5	D7	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410109808	●	M10 x 1.5	D7	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410109900	●	M10 x 1.5	D8	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410109908	●	M10 x 1.5	D8	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410110000	●	M10 x 1.5	D9	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410110008	●	M10 x 1.5	D9	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410104900	●	M10 x 1.5	D10	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410104901	●	M10 x 1.5	D10	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Steam Oxide
1410104905	●	M10 x 1.5	D10	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiN
1410104908	●	M10 x 1.5	D10	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410105100	●	M10 x 1.5	D10	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYT

List 14101 (Continued)

HY-PRO® NRT

FORMING | HSS-Co | BR | S/O | TiN | C/1.5P | C/2.5P | C/4.5P | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)	Surface Treatment
1410105101	●	M10 x 1.5	D10	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Steam Oxide
1410105105	●	M10 x 1.5	D10	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiN
1410105108	●	M10 x 1.5	D10	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410105300	●	M10 x 1.5	D10	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410105301	●	M10 x 1.5	D10	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Steam Oxide
1410105305	●	M10 x 1.5	D10	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiN
1410105308	●	M10 x 1.5	D10	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410110100	●	M10 x 1.5	D11	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410110108	●	M10 x 1.5	D11	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410110200	●	M10 x 1.5	D12	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410110208	●	M10 x 1.5	D12	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410110300	●	M10 x 1.5	D13	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	Bright
1410110308	●	M10 x 1.5	D13	Modified Bottom (2.5P)	74.60	18.00	31.80	9.68	7.26	11.11	9.24	9.39	TiCN
1410105400	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Bright
1410105401	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Steam Oxide
1410105405	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiN
1410105408	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiCN
1410105600	●	M12 x 1.75	D6	Modified Bottom (2.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Bright
1410105601	●	M12 x 1.75	D6	Modified Bottom (2.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Steam Oxide
1410105605	●	M12 x 1.75	D6	Modified Bottom (2.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiN
1410105608	●	M12 x 1.75	D6	Modified Bottom (2.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiCN
1410105800	●	M12 x 1.75	D6	Plug (4.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Bright
1410105801	●	M12 x 1.75	D6	Plug (4.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Steam Oxide
1410105805	●	M12 x 1.75	D6	Plug (4.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiN
1410105808	●	M12 x 1.75	D6	Plug (4.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiCN
1410105500	●	M12 x 1.75	D11	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Bright
1410105501	●	M12 x 1.75	D11	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Steam Oxide
1410105505	●	M12 x 1.75	D11	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiN
1410105508	●	M12 x 1.75	D11	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiCN
1410105700	●	M12 x 1.75	D11	Modified Bottom (2.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Bright
1410105701	●	M12 x 1.75	D11	Modified Bottom (2.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Steam Oxide
1410105705	●	M12 x 1.75	D11	Modified Bottom (2.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiN
1410105708	●	M12 x 1.75	D11	Modified Bottom (2.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiCN
1410105900	●	M12 x 1.75	D11	Plug (4.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Bright
1410105901	●	M12 x 1.75	D11	Plug (4.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Steam Oxide
1410105905	●	M12 x 1.75	D11	Plug (4.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiN
1410105908	●	M12 x 1.75	D11	Plug (4.5P)	85.70	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

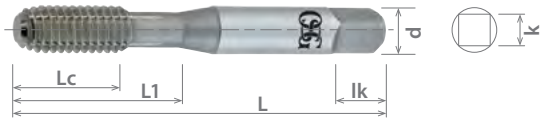
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○		◎	◎			○			
35-100	20-50	15-25	15-25	15-20	15-40	15-40	10-25		50-90	45-100			10-15			

○ Good ◎ Best

List 285

FORMING | HSS | BR | TiCN | TiN | C/2.25P | PACKED 1 PIECE

HY-PRO® SEVEN NRT



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Dia. d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)	Surface Treatment
2864200	●	No. 0 - 80 UNF	2B	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055	Bright
2864208	●	No. 0 - 80 UNF	2B	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055	TiCN
2864205	●	No. 0 - 80 UNF	2B	1.625	0.317	0.357	0.141	0.110	0.188	0.054	0.055	TiN
2864400	●	No. 2 - 56 UNC	2B	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079	Bright
2864408	●	No. 2 - 56 UNC	2B	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079	TiCN
2864405	●	No. 2 - 56 UNC	2B	1.750	0.437	0.476	0.141	0.110	0.188	0.077	0.079	TiN
2864600	●	No. 3 - 48 UNC	2B	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091	Bright
2864608	●	No. 3 - 48 UNC	2B	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091	TiCN
2864605	●	No. 3 - 48 UNC	2B	1.813	0.496	0.535	0.141	0.110	0.188	0.088	0.091	TiN
2864800	●	No. 4 - 40 UNC	2B	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102	Bright
2864808	●	No. 4 - 40 UNC	2B	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102	TiCN
2864805	●	No. 4 - 40 UNC	2B	1.875	0.295	0.559	0.141	0.110	0.188	0.099	0.102	TiN
2865000	●	No. 6 - 32 UNC	2B	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125	Bright
2865008	●	No. 6 - 32 UNC	2B	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125	TiCN
2865005	●	No. 6 - 32 UNC	2B	2.000	0.370	0.685	0.141	0.110	0.188	0.122	0.125	TiN
2865200	●	No. 8 - 32 UNC	2B	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151	Bright
2865208	●	No. 8 - 32 UNC	2B	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151	TiCN
2865205	●	No. 8 - 32 UNC	2B	2.125	0.374	0.752	0.168	0.131	0.250	0.148	0.151	TiN
2865400	●	No. 10 - 24 UNC	2B	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173	Bright
2865408	●	No. 10 - 24 UNC	2B	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173	TiCN
2865405	●	No. 10 - 24 UNC	2B	2.375	0.492	0.866	0.194	0.152	0.250	0.169	0.173	TiN
2865600	●	No. 10 - 32 UNF	2B	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177	Bright
2865608	●	No. 10 - 32 UNF	2B	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177	TiCN
2865605	●	No. 10 - 32 UNF	2B	2.375	0.492	0.866	0.194	0.152	0.250	0.174	0.177	TiN
2865800	●	1/4 - 20 UNC	2B	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230	Bright
2865808	●	1/4 - 20 UNC	2B	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230	TiCN
2865805	●	1/4 - 20 UNC	2B	2.500	0.594	0.996	0.255	0.191	0.313	0.225	0.230	TiN
2866000	●	1/4 - 28 UNF	2B	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235	Bright
2866008	●	1/4 - 28 UNF	2B	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235	TiCN
2866005	●	1/4 - 28 UNF	2B	2.500	0.594	0.996	0.255	0.191	0.313	0.232	0.235	TiN
2866200	●	5/16 - 18 UNC	2B	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290	Bright
2866208	●	5/16 - 18 UNC	2B	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290	TiCN
2866205	●	5/16 - 18 UNC	2B	2.719	0.665	1.126	0.318	0.238	0.375	0.284	0.290	TiN
2866400	●	5/16 - 24 UNF	2B	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296	Bright
2866408	●	5/16 - 24 UNF	2B	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296	TiCN
2866405	●	5/16 - 24 UNF	2B	2.719	0.665	1.126	0.318	0.238	0.375	0.291	0.296	TiN
2866600	●	3/8 - 16 UNC	2B	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350	Bright
2866608	●	3/8 - 16 UNC	2B	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350	TiCN
2866605	●	3/8 - 16 UNC	2B	2.938	0.752	1.252	0.381	0.286	0.438	0.343	0.350	TiN
2866800	●	3/8 - 24 UNF	2B	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358	Bright
2866808	●	3/8 - 24 UNF	2B	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358	TiCN
2866805	●	3/8 - 24 UNF	2B	2.938	0.752	1.252	0.381	0.286	0.438	0.354	0.358	TiN
2867000	●	7/16 - 14 UNC	2B	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408	Bright
2867008	●	7/16 - 14 UNC	2B	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408	TiCN
2867005	●	7/16 - 14 UNC	2B	3.156	0.858	1.713	0.323	0.242	0.406	0.401	0.408	TiN
2867200	●	7/16 - 20 UNF	2B	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417	Bright
2867208	●	7/16 - 20 UNF	2B	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417	TiCN
2867205	●	7/16 - 20 UNF	2B	3.156	0.858	1.713	0.323	0.242	0.406	0.412	0.417	TiN
2867400	●	1/2 - 13 UNC	2B	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469	Bright
2867408	●	1/2 - 13 UNC	2B	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469	TiCN
2867405	●	1/2 - 13 UNC	2B	3.375	0.921	1.933	0.367	0.275	0.438	0.461	0.469	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request. See page 784 for tap drill recommendations.

STT

List 285 (Continued)

HY-PRO® SEVEN NRT

FORMING | HSS | BR | TiCN | TiN | C/2.25P | PACKED 1 PIECE

EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Dia. d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)	Surface Treatment
2867600	●	1/2 - 20 UNF	2B	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480	Bright
2867608	●	1/2 - 20 UNF	2B	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480	TiCN
2867605	●	1/2 - 20 UNF	2B	3.375	0.921	1.933	0.367	0.275	0.438	0.475	0.480	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request. See page 784 for tap drill recommendations.

STT

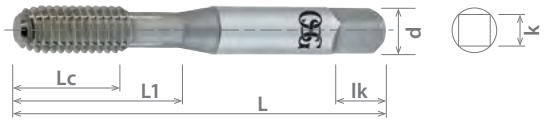
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○								◎	◎						
35-100 SFM	20-50 SFM								45-100 SFM	45-100 SFM						

○ Good ◎ Best

List 286

FORMING | HSS | BR | TiCN | TiN | C/2.25P | PACKED 1 PIECE

HY-PRO® SEVEN NRT



EDP Number		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)	Surface Treatment
2868100	●	M3 x 0.5	6H	50.00	6.00	16.00	3.58	2.79	4.76	2.75	2.80	Bright
2868108	●	M3 x 0.5	6H	50.00	6.00	16.00	3.58	2.79	4.76	2.75	2.80	TiCN
2868105	●	M3 x 0.5	6H	50.00	6.00	16.00	3.58	2.79	4.76	2.75	2.80	TiN
2868300	●	M4 x 0.7	6H	55.00	8.40	19.10	4.27	3.33	6.35	3.64	3.71	Bright
2868308	●	M4 x 0.7	6H	55.00	8.40	19.10	4.27	3.33	6.35	3.64	3.71	TiCN
2868305	●	M4 x 0.7	6H	55.00	8.40	19.10	4.27	3.33	6.35	3.64	3.71	TiN
2868500	●	M5 x 0.8	6H	62.00	9.60	22.20	4.93	3.86	6.35	4.59	4.67	Bright
2868508	●	M5 x 0.8	6H	62.00	9.60	22.20	4.93	3.86	6.35	4.59	4.67	TiCN
2868505	●	M5 x 0.8	6H	62.00	9.60	22.20	4.93	3.86	6.35	4.59	4.67	TiN
2868700	●	M6 x 1	6H	65.00	12.00	25.40	6.48	4.85	7.30	5.49	5.59	Bright
2868708	●	M6 x 1	6H	65.00	12.00	25.40	6.48	4.85	7.30	5.49	5.59	TiCN
2868705	●	M6 x 1	6H	65.00	12.00	25.40	6.48	4.85	7.30	5.49	5.59	TiN
2868900	●	M8 x 1.25	6H	75.00	15.00	28.60	8.08	6.05	8.70	7.36	7.49	Bright
2868908	●	M8 x 1.25	6H	75.00	15.00	28.60	8.08	6.05	8.70	7.36	7.49	TiCN
2868905	●	M8 x 1.25	6H	75.00	15.00	28.60	8.08	6.05	8.70	7.36	7.49	TiN
2869100	●	M10 x 1.5	6H	82.00	18.00	31.80	9.68	7.26	10.10	9.24	9.39	Bright
2869108	●	M10 x 1.5	6H	82.00	18.00	31.80	9.68	7.26	10.10	9.24	9.39	TiCN
2869105	●	M10 x 1.5	6H	82.00	18.00	31.80	9.68	7.26	10.10	9.24	9.39	TiN
2869300	●	M12 x 1.75	6H	85.00	21.00	49.10	9.32	6.99	11.11	11.11	11.29	Bright
2869308	●	M12 x 1.75	6H	85.00	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiCN
2869305	●	M12 x 1.75	6H	85.00	21.00	49.10	9.32	6.99	11.11	11.11	11.29	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request. See page 784 for tap drill recommendations.

STT

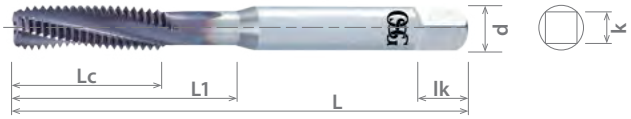
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○								◎	◎						
35-100 SFM	20-50 SFM								45-100 SFM	45-100 SFM						

○ Good ◎ Best

List 16605

A BRAND A-CSF, DIN Overall Length

SPIRAL FLUTE | CARBIDE | BR | 3 FLUTE | C/1.5P | C/2.5P | 15° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Dia. d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1660500100	●	1/4 - 20 UNC	H5	Bottom (1.5P)	3.140	0.598	1.181	0.255	0.191	0.313
1660500000	●	1/4 - 20 UNC	H5	Modified Bottom (2.5P)	3.140	0.598	1.181	0.255	0.191	0.313
1660500300	●	1/4 - 28 UNF	H4	Bottom (1.5P)	3.140	0.598	1.181	0.255	0.191	0.313
1660500200	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	3.140	0.598	1.181	0.255	0.191	0.313
1660500500	●	5/16 - 18 UNC	H5	Bottom (1.5P)	3.540	0.665	1.377	0.318	0.238	0.375
1660500400	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	3.540	0.665	1.377	0.318	0.238	0.375
1660500700	●	3/8 - 16 UNC	H5	Bottom (1.5P)	3.930	0.751	1.377	0.381	0.286	0.438
1660500600	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	3.930	0.751	1.377	0.381	0.286	0.438
1660500900	●	7/16 - 14 UNC	H5	Bottom (1.5P)	3.930	0.858	-	0.323	0.242	0.406
1660500800	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.930	0.858	-	0.323	0.242	0.406
1660501100	●	1/2 - 13 UNC	H5	Bottom (1.5P)	4.330	0.921	-	0.367	0.275	0.438
1660501000	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	4.330	0.921	-	0.367	0.275	0.438

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.
Reduce SFM 50% - 70% while using external coolant.

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎	◎	◎						
								15-50 SFM	30-330 SFM	30-330 SFM						

○ Good ◎ Best

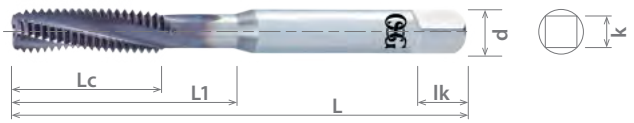
A Brand *A-CSF*

Advanced Performance Carbide Coolant-Through Taps for Cast Iron and Aluminum Alloy

List 16600

A BRAND A-CSF, DIN Overall Length

A | SPIRAL FLUTE | CARBIDE | BR | 3 FLUTE | C/1.5P | C/2.5P | 15° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)
1660000000	●	M5 x 0.8	D4	Bottom (1.5P)	70.00	10.00	25.00	4.93	3.86	6.35
1660000100	●	M5 x 0.8	D4	Modified Bottom (2.5P)	70.00	10.00	25.00	4.93	3.86	6.35
1660000200	●	M6 x 1	D5	Bottom (1.5P)	80.00	12.00	31.00	6.48	4.85	7.94
1660000300	●	M6 x 1	D5	Modified Bottom (2.5P)	80.00	12.00	31.00	6.48	4.85	7.94
1660000400	●	M8 x 1.25	D5	Bottom (1.5P)	90.00	15.00	35.00	8.08	6.05	9.53
1660000500	●	M8 x 1.25	D5	Modified Bottom (2.5P)	90.00	15.00	35.00	8.08	6.05	9.53
1660000800	●	M10 x 1.25	D5	Bottom (1.5P)	100.00	18.00	39.00	9.68	7.26	11.11
1660000900	●	M10 x 1.25	D5	Modified Bottom (2.5P)	100.00	18.00	39.00	9.68	7.26	11.11
1660000600	●	M10 x 1.5	D6	Bottom (1.5P)	100.00	18.00	39.00	9.68	7.26	11.11
1660000700	●	M10 x 1.5	D6	Modified Bottom (2.5P)	100.00	18.00	39.00	9.68	7.26	11.11
1660001000	●	M12 x 1.75	D6	Bottom (1.5P)	110.00	21.00	-	9.32	6.99	11.11
1660001100	●	M12 x 1.75	D6	Modified Bottom (2.5P)	110.00	21.00	-	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request. Note: Reduce SFM 50% - 70% while using external coolant.

ATP

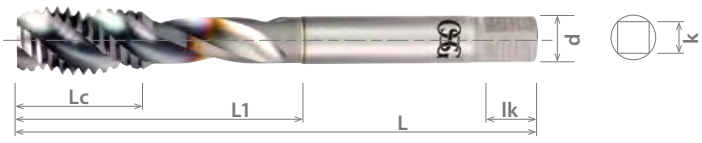
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎	◎	◎						
								15-50 SFM	30-330 SFM	30-330 SFM						

○ Good ◎ Best

List 16505

A BRAND A-SFT, DIN Overall Length

A | SPIRAL FLUTE | VC10 | V | C/1.5P | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Dia. d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1650508908	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	2.205	0.196	0.740	0.141	0.110	0.188	2
1650500108	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	2.205	0.196	0.740	0.141	0.110	0.188	2
1650509008	●	No. 4 - 48 UNF	H2	Bottom (1.5P)	2.205	0.196	0.740	0.141	0.110	0.188	2
1650500208	●	No. 4 - 48 UNF	H2	Modified Bottom (2.5P)	2.205	0.196	0.740	0.141	0.110	0.188	2
1650509108	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	2.205	0.200	0.780	0.141	0.110	0.188	2
1650500308	●	No. 5 - 40 UNC	H2	Modified Bottom (2.5P)	2.205	0.200	0.780	0.141	0.110	0.188	2
1650509208	●	No. 5 - 44 UNF	H2	Bottom (1.5P)	2.205	0.200	0.780	0.141	0.110	0.188	2
1650500408	●	No. 5 - 44 UNF	H2	Modified Bottom (2.5P)	2.205	0.200	0.780	0.141	0.110	0.188	2
1650509308	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.205	0.248	0.783	0.141	0.110	0.188	3
1650500608	●	No. 6 - 32 UNC	H2	Modified Bottom (2.5P)	2.205	0.248	0.783	0.141	0.110	0.188	2
1650513108	●	No. 6 - 32 UNC	H2	Modified Bottom (2.5P)	2.205	0.248	0.783	0.141	0.110	0.188	3
1650513208	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.205	0.248	0.783	0.141	0.110	0.188	2
1650509408	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.205	0.248	0.783	0.141	0.110	0.188	3
1650500508	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.205	0.248	0.783	0.141	0.110	0.188	2
1650509508	●	No. 6 - 40 UNF	H2	Bottom (1.5P)	2.205	0.248	0.783	0.141	0.110	0.188	3
1650500708	●	No. 6 - 40 UNF	H2	Modified Bottom (2.5P)	2.205	0.248	0.783	0.141	0.110	0.188	2
1650509608	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.480	0.251	0.826	0.168	0.131	0.250	3
1650500908	●	No. 8 - 32 UNC	H2	Modified Bottom (2.5P)	2.480	0.251	0.826	0.168	0.131	0.250	2
1650509708	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.480	0.251	0.826	0.168	0.131	0.250	3
1650500808	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.480	0.251	0.826	0.168	0.131	0.250	2
1650509808	●	No. 8 - 36 UNF	H2	Bottom (1.5P)	2.480	0.251	0.826	0.168	0.131	0.250	3
1650501008	●	No. 8 - 36 UNF	H2	Modified Bottom (2.5P)	2.480	0.251	0.826	0.168	0.131	0.250	2
1650509908	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.756	0.326	0.976	0.194	0.152	0.250	3
1650501108	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.756	0.326	0.976	0.194	0.152	0.250	2
1650510008	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.756	0.326	1.590	0.194	0.152	0.250	3
1650501308	●	No. 10 - 32 UNF	H2	Modified Bottom (2.5P)	2.756	0.326	0.976	0.194	0.152	0.250	2
1650510108	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.756	0.326	1.590	0.194	0.152	0.250	3
1650501208	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.756	0.326	0.976	0.194	0.152	0.250	2
1650510208	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	3.150	0.330	1.177	0.220	0.165	0.281	3
1650501408	●	No. 12 - 24 UNC	H3	Modified Bottom (2.5P)	3.150	0.330	1.177	0.220	0.165	0.281	2
1650510308	●	No. 12 - 28 UNF	H3	Bottom (1.5P)	3.150	0.330	1.177	0.220	0.165	0.281	3
1650501508	●	No. 12 - 28 UNF	H3	Modified Bottom (2.5P)	3.150	0.330	1.177	0.220	0.165	0.281	2
1650510408	●	No. 12 - 32 UNEF	H3	Bottom (1.5P)	3.150	0.330	1.177	0.220	0.165	0.281	3
1650505608	●	No. 12 - 32 UNEF	H3	Modified Bottom (2.5P)	3.150	0.330	1.177	0.220	0.165	0.281	2
1650510608	●	1/4 - 20 UNC	H3	Bottom (1.5P)	3.150	0.397	1.177	0.255	0.191	0.313	3
1650501708	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	3.150	0.397	1.177	0.255	0.191	0.313	2
1650510708	●	1/4 - 20 UNC	H5	Bottom (1.5P)	3.150	0.397	1.177	0.255	0.191	0.313	3
1650501608	●	1/4 - 20 UNC	H5	Modified Bottom (2.5P)	3.150	0.397	1.177	0.255	0.191	0.313	2
1650510908	●	1/4 - 28 UNF	H3	Bottom (1.5P)	3.150	0.397	1.177	0.255	0.191	0.313	3
1650501908	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	3.150	0.397	1.177	0.255	0.191	0.313	2
1650510808	●	1/4 - 28 UNF	H4	Bottom (1.5P)	3.150	0.397	1.177	0.255	0.191	0.313	3
1650501808	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	3.150	0.397	1.177	0.255	0.191	0.313	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

CONTINUED ›

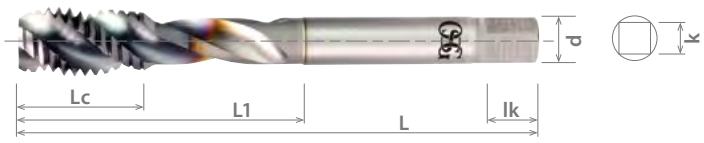
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	35-50 SFM	20-40 SFM	15-35 SFM	15-35 SFM	15-25 SFM	50-80 SFM	70-120 SFM	70-120 SFM			30-55 SFM			

○ Good ◎ Best

List 16505 (Continued)

A BRAND A-SFT, DIN Overall Length

A | SPIRAL FLUTE | VC10 | V | C/1.5P | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Dia. d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1650510508	●	1/4 - 32 UNEF	H3	Bottom (1.5P)	3.150	0.397	1.177	0.255	0.191	0.313	2
1650511008	●	1/4 - 32 UNEF	H3	Bottom (1.5P)	3.150	0.397	1.177	0.255	0.191	0.313	3
1650505708	●	1/4 - 32 UNEF	H3	Modified Bottom (2.5P)	3.150	0.397	1.177	0.255	0.191	0.313	2
1650511108	●	5/16 - 18 UNC	H3	Bottom (1.5P)	3.543	0.444	1.377	0.318	0.238	0.375	3
1650502108	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	3.543	0.444	1.377	0.318	0.238	0.375	3
1650511208	●	5/16 - 18 UNC	H5	Bottom (1.5P)	3.543	0.444	1.377	0.318	0.238	0.375	3
1650502008	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	3.543	0.444	1.377	0.318	0.238	0.375	3
1650511308	●	5/16 - 24 UNF	H3	Bottom (1.5P)	3.543	0.444	1.377	0.318	0.238	0.375	3
1650502308	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	3.543	0.444	1.377	0.318	0.238	0.375	3
1650511408	●	5/16 - 24 UNF	H4	Bottom (1.5P)	3.543	0.444	1.377	0.318	0.238	0.375	3
1650502208	●	5/16 - 24 UNF	H4	Modified Bottom (2.5P)	3.543	0.444	1.377	0.318	0.238	0.375	3
1650511508	●	5/16 - 32 UNEF	H3	Bottom (1.5P)	3.150	0.444	1.377	0.318	0.238	0.375	3
1650505808	●	5/16 - 32 UNEF	H3	Modified Bottom (2.5P)	3.150	0.444	1.377	0.318	0.238	0.375	3
1650511608	●	3/8 - 16 UNC	H3	Bottom (1.5P)	3.937	0.500	1.535	0.381	0.286	0.438	3
1650502508	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	3.937	0.500	1.535	0.381	0.286	0.438	3
1650511708	●	3/8 - 16 UNC	H5	Bottom (1.5P)	3.937	0.500	1.535	0.381	0.286	0.438	3
1650502408	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	3.937	0.500	1.535	0.381	0.286	0.438	3
1650511808	●	3/8 - 24 UNF	H3	Bottom (1.5P)	3.543	0.500	1.377	0.381	0.286	0.438	3
1650502708	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	3.543	0.500	1.377	0.381	0.286	0.438	3
1650511908	●	3/8 - 24 UNF	H4	Bottom (1.5P)	3.543	0.500	1.377	0.381	0.286	0.438	3
1650502608	●	3/8 - 24 UNF	H4	Modified Bottom (2.5P)	3.543	0.500	1.377	0.381	0.286	0.438	3
1650505908	●	3/8 - 32 UNEF	H3	Modified Bottom (2.5P)	3.543	0.500	1.377	0.381	0.286	0.438	3
1650512008	●	3/8 - 32 UNEF	H4	Bottom (1.5P)	3.543	0.500	1.377	0.381	0.286	0.438	3
1650512108	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.937	0.570	1.712	0.323	0.242	0.406	3
1650502908	●	7/16 - 14 UNC	H3	Modified Bottom (2.5P)	3.937	0.570	1.712	0.323	0.242	0.406	3
1650512208	●	7/16 - 14 UNC	H5	Bottom (1.5P)	3.937	0.570	1.712	0.323	0.242	0.406	3
1650502808	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.937	0.570	1.712	0.323	0.242	0.406	3
1650512308	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.937	0.570	1.712	0.323	0.242	0.406	3
1650503108	●	7/16 - 20 UNF	H3	Modified Bottom (2.5P)	3.937	0.570	1.712	0.323	0.242	0.406	3
1650512408	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.937	0.570	1.712	0.323	0.242	0.406	3
1650503008	●	7/16 - 20 UNF	H5	Modified Bottom (2.5P)	3.937	0.570	1.712	0.323	0.242	0.406	3
1650512508	●	7/16 - 28 UNEF	H4	Bottom (1.5P)	3.543	0.570	1.712	0.323	0.242	0.406	3
1650506008	●	7/16 - 28 UNEF	H4	Modified Bottom (2.5P)	3.543	0.570	1.712	0.323	0.242	0.406	3
1650512608	●	1/2 - 13 UNC	H3	Bottom (1.5P)	4.331	0.614	1.933	0.367	0.275	0.438	3
1650503308	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	4.331	0.614	1.933	0.367	0.275	0.438	3
1650512708	●	1/2 - 13 UNC	H5	Bottom (1.5P)	4.331	0.614	1.933	0.367	0.275	0.438	3
1650503208	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	4.331	0.614	1.933	0.367	0.275	0.438	3
1650512808	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.937	0.614	1.933	0.367	0.275	0.438	3
1650503508	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	3.937	0.614	1.933	0.367	0.275	0.438	3
1650512908	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.937	0.614	1.933	0.367	0.275	0.438	3
1650503408	●	1/2 - 20 UNF	H5	Modified Bottom (2.5P)	3.937	0.614	1.933	0.367	0.275	0.438	3
1650513008	●	1/2 - 28 UNEF	H4	Bottom (1.5P)	3.937	0.614	1.933	0.367	0.275	0.438	3
1650506108	●	1/2 - 28 UNEF	H4	Modified Bottom (2.5P)	3.937	0.614	1.933	0.367	0.275	0.438	3
1650503708	●	9/16 - 12 UNC	H3	Modified Bottom (2.5P)	4.331	0.665	1.972	0.429	0.322	0.500	3
1650503608	●	9/16 - 12 UNC	H5	Modified Bottom (2.5P)	4.331	0.665	1.972	0.429	0.322	0.500	3
1650503908	●	9/16 - 18 UNF	H3	Modified Bottom (2.5P)	3.937	0.665	1.972	0.429	0.322	0.500	3
1650503808	●	9/16 - 18 UNF	H5	Modified Bottom (2.5P)	3.937	0.665	1.972	0.429	0.322	0.500	3
1650506208	●	9/16 - 24 UNEF	H4	Modified Bottom (2.5P)	3.937	0.665	1.972	0.429	0.322	0.500	3
1650504108	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	4.331	0.728	2.125	0.480	0.360	0.563	3
1650504008	●	5/8 - 11 UNC	H5	Modified Bottom (2.5P)	4.331	0.728	2.125	0.480	0.360	0.563	3
1650504308	●	5/8 - 18 UNF	H3	Modified Bottom (2.5P)	3.937	0.728	2.125	0.480	0.360	0.563	3
1650504208	●	5/8 - 18 UNF	H5	Modified Bottom (2.5P)	3.937	0.728	2.125	0.480	0.360	0.563	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

List 16505 (Continued)

A BRAND A-SFT, DIN Overall Length

A | SPIRAL FLUTE | VC10 | V | C/1.5P | C/2.5P | 45° | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Dia. d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1650506308	●	5/8 - 24 UNEF	H4	Modified Bottom (2.5P)	3.937	0.728	2.125	0.480	0.360	0.563	3
1650506408	●	11/16 - 24 UNEF	H4	Modified Bottom (2.5P)	4.331	0.909	2.165	0.542	0.406	0.625	4
1650504508	●	3/4 - 10 UNC	H3	Modified Bottom (2.5P)	4.921	1.000	2.433	0.590	0.442	0.688	4
1650504408	●	3/4 - 10 UNC	H5	Modified Bottom (2.5P)	4.921	1.000	2.433	0.590	0.442	0.688	4
1650504708	●	3/4 - 16 UNF	H3	Modified Bottom (2.5P)	4.331	1.000	2.433	0.590	0.442	0.688	4
1650504608	●	3/4 - 16 UNF	H5	Modified Bottom (2.5P)	4.331	1.000	2.433	0.590	0.442	0.688	4
1650506508	●	3/4 - 20 UNEF	H5	Modified Bottom (2.5P)	4.331	1.000	2.433	0.590	0.442	0.688	4
1650506608	●	13/16 - 20 UNEF	H5	Modified Bottom (2.5P)	4.921	1.000	2.433	0.652	0.489	0.688	4
1650504908	●	7/8 - 9 UNC	H4	Modified Bottom (2.5P)	5.512	1.110	2.653	0.697	0.523	0.750	4
1650504808	●	7/8 - 9 UNC	H6	Modified Bottom (2.5P)	5.512	1.110	2.653	0.697	0.523	0.750	4
1650505108	●	7/8 - 14 UNF	H4	Modified Bottom (2.5P)	4.921	1.110	2.653	0.697	0.523	0.750	4
1650505008	●	7/8 - 14 UNF	H6	Modified Bottom (2.5P)	4.921	1.110	2.653	0.697	0.523	0.750	4
1650506708	●	7/8 - 20 UNEF	H5	Modified Bottom (2.5P)	4.921	1.110	2.653	0.697	0.523	0.750	4
1650506808	●	15/16 - 20 UNEF	H5	Modified Bottom (2.5P)	5.512	1.110	2.692	0.760	0.570	0.750	4
1650505308	●	1 - 8 UNC	H4	Modified Bottom (2.5P)	6.299	1.251	3.011	0.800	0.600	0.813	4
1650505208	●	1 - 8 UNC	H6	Modified Bottom (2.5P)	6.299	1.251	3.011	0.800	0.600	0.813	4
1650507008	●	1 - 8 UNC	H8	Modified Bottom (2.5P)	6.299	1.251	3.011	0.800	0.600	0.813	4
1650505508	●	1 - 12 UNF	H4	Modified Bottom (2.5P)	6.299	1.251	3.011	0.800	0.600	0.813	4
1650505408	●	1 - 12 UNF	H6	Modified Bottom (2.5P)	5.512	1.251	3.011	0.800	0.600	0.813	4
1650513308	●	1 - 14 UNS	H6	Modified Bottom (2.5P)	5.512	1.251	3.011	0.800	0.600	0.813	4
1650506908	●	1 - 20 UNEF	H5	Modified Bottom (2.5P)	5.512	1.251	3.011	0.800	0.600	0.813	4
1650507108	●	1- 1/8 - 7 UNC	H9	Modified Bottom (2.5P)	7.087	0.944	3.819	0.896	0.672	0.875	4
1650507208	●	1- 1/8 - 8 UN	H9	Modified Bottom (2.5P)	7.087	0.826	3.819	0.896	0.672	0.875	4
1650507308	●	1- 1/8 - 12 UNF	H8	Modified Bottom (2.5P)	5.906	0.826	3.071	0.896	0.672	0.875	4
1650507408	●	1- 1/4 - 7 UNC	H10	Modified Bottom (2.5P)	7.087	0.944	3.937	1.021	0.766	1.000	4
1650507508	●	1- 1/4 - 8 UN	H9	Modified Bottom (2.5P)	7.087	0.826	3.937	1.021	0.766	1.000	4
1650507608	●	1- 1/4 - 12 UNF	H8	Modified Bottom (2.5P)	5.906	0.826	3.071	1.021	0.766	1.000	4
1650507708	●	1- 3/8 - 6 UNC	H10	Modified Bottom (2.5P)	7.874	1.102	4.528	1.108	0.831	1.063	4
1650507808	●	1- 3/8 - 8 UN	H9	Modified Bottom (2.5P)	7.874	0.826	4.528	1.108	0.831	1.063	4
1650507908	●	1- 3/8 - 12 UNF	H8	Modified Bottom (2.5P)	6.693	0.826	3.583	1.108	0.831	1.063	4
1650508008	●	1- 1/2 - 6 UNC	H10	Modified Bottom (2.5P)	7.874	1.102	4.528	1.233	0.925	1.125	4
1650508108	●	1- 1/2 - 8 UN	H9	Modified Bottom (2.5P)	7.874	0.826	4.528	1.233	0.925	1.125	4
1650508208	●	1- 1/2 - 12 UNF	H8	Modified Bottom (2.5P)	6.693	0.826	3.583	1.233	0.925	1.125	4
1650508308	●	1- 5/8 - 8 UN	H10	Modified Bottom (2.5P)	7.874	0.826	4.331	1.305	0.979	1.125	4
1650508408	●	1- 3/4 - 5 UNC	H11	Modified Bottom (2.5P)	8.661	1.299	4.724	1.430	1.072	1.250	4
1650508508	●	1- 3/4 - 8 UN	H10	Modified Bottom (2.5P)	7.874	0.826	3.976	1.430	1.072	1.250	4
1650508608	●	1- 7/8 - 8 UN	H10	Modified Bottom (2.5P)	8.858	2.008	4.921	1.519	1.139	1.250	4
1650508708	●	2 - 4.5 UNC	H12	Modified Bottom (2.5P)	9.843	2.677	5.512	1.644	1.233	1.375	4
1650508808	●	2 - 8 UN	H10	Modified Bottom (2.5P)	8.858	2.008	4.803	1.644	1.233	1.375	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

CONTINUED

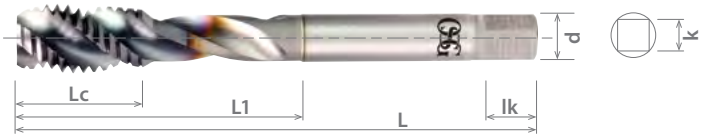
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	35-50 SFM	20-40 SFM	15-35 SFM	15-35 SFM	15-25 SFM	50-80 SFM	70-120 SFM	70-120 SFM			30-55 SFM			

○ Good ◎ Best

List 16500

A BRAND A-SFT, DIN Overall Length

SPIRAL FLUTE | VC10 | V | C/1.5P | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1650003008	●	M1.4 x 0.3	D2	Modified Bottom (2.5P)	40.00	6.00	11.50	3.58	2.79	4.76	2
1650003108	●	M1.6 x 0.35	D3	Modified Bottom (2.5P)	40.00	7.00	13.60	3.58	2.79	4.76	2
1650003208	●	M1.7 x 0.35	D3	Modified Bottom (2.5P)	40.00	8.00	13.40	3.58	2.79	4.76	2
1650003308	●	M2 x 0.25	D2	Modified Bottom (2.5P)	45.00	3.30	10.00	3.58	2.79	4.76	2
1650003408	●	M2 x 0.4	D3	Modified Bottom (2.5P)	45.00	3.30	10.00	3.58	2.79	4.76	2
1650003508	●	M2.2 x 0.25	D2	Modified Bottom (2.5P)	45.00	3.30	11.00	3.58	2.79	4.76	2
1650003608	●	M2.2 x 0.45	D3	Modified Bottom (2.5P)	45.00	3.30	11.00	3.58	2.79	4.76	2
1650003708	●	M2.3 x 0.4	D3	Modified Bottom (2.5P)	45.00	3.20	11.90	3.58	2.79	4.76	2
1650003808	●	M2.5 x 0.35	D3	Modified Bottom (2.5P)	50.00	3.70	13.00	3.58	2.79	4.76	2
1650003908	●	M2.5 x 0.45	D3	Modified Bottom (2.5P)	50.00	3.70	13.00	3.58	2.79	4.76	2
1650004008	●	M2.6 x 0.45	D3	Modified Bottom (2.5P)	50.00	3.70	13.00	3.58	2.79	4.76	2
1650009708	●	M3 x 0.35	D2	Bottom (1.5P)	56.00	4.00	18.00	3.58	2.79	4.76	3
1650004108	●	M3 x 0.35	D3	Modified Bottom (2.5P)	56.00	4.00	18.00	3.58	2.79	4.76	3
1650009808	●	M3 x 0.5	D3	Bottom (1.5P)	56.00	4.00	18.00	3.58	2.79	4.76	3
1650000108	●	M3 x 0.5	D3	Modified Bottom (2.5P)	56.00	4.00	18.00	3.58	2.79	4.76	3
1650009908	●	M3.5 x 0.35	D3	Bottom (1.5P)	56.00	4.80	20.00	3.58	2.79	4.76	3
1650004208	●	M3.5 x 0.35	D3	Modified Bottom (2.5P)	56.00	4.80	20.00	3.58	2.79	4.76	3
1650010008	●	M3.5 x 0.6	D3	Bottom (1.5P)	56.00	4.80	20.00	3.58	2.79	4.76	3
1650004308	●	M3.5 x 0.6	D3	Modified Bottom (2.5P)	56.00	4.80	20.00	3.58	2.79	4.76	3
1650010108	●	M4 x 0.5	D3	Bottom (1.5P)	63.00	5.60	20.90	4.27	3.33	6.35	3
1650000208	●	M4 x 0.5	D3	Modified Bottom (2.5P)	63.00	5.60	20.90	4.27	3.33	6.35	3
1650010208	●	M4 x 0.7	D4	Bottom (1.5P)	63.00	5.60	20.90	4.27	3.33	6.35	3
1650000308	●	M4 x 0.7	D4	Modified Bottom (2.5P)	63.00	5.60	20.90	4.27	3.33	6.35	3
1650010308	●	M4.5 x 0.5	D3	Bottom (1.5P)	70.00	6.10	24.90	4.93	3.86	6.35	3
1650004408	●	M4.5 x 0.5	D3	Modified Bottom (2.5P)	70.00	6.10	24.90	4.93	3.86	6.35	3
1650010408	●	M4.5 x 0.75	D4	Bottom (1.5P)	70.00	6.10	24.90	4.93	3.86	6.35	3
1650004508	●	M4.5 x 0.75	D4	Modified Bottom (2.5P)	70.00	6.10	24.90	4.93	3.86	6.35	3
1650010508	●	M5 x 0.5	D3	Bottom (1.5P)	70.00	6.40	25.10	4.93	3.86	6.35	3
1650000408	●	M5 x 0.5	D3	Modified Bottom (2.5P)	70.00	6.40	25.10	4.93	3.86	6.35	3
1650010608	●	M5 x 0.8	D4	Bottom (1.5P)	70.00	6.40	25.10	4.93	3.86	6.35	3
1650000508	●	M5 x 0.8	D4	Modified Bottom (2.5P)	70.00	6.40	25.10	4.93	3.86	6.35	3
1650010708	●	M5.5 x 0.5	D3	Bottom (1.5P)	80.00	7.30	30.10	5.59	4.19	7.14	3
1650004608	●	M5.5 x 0.5	D3	Modified Bottom (2.5P)	80.00	7.30	30.10	5.59	4.19	7.14	3
1650010808	●	M6 x 0.5	D3	Bottom (1.5P)	80.00	8.00	29.90	6.48	4.85	7.94	3
1650000608	●	M6 x 0.5	D3	Modified Bottom (2.5P)	80.00	8.00	29.90	6.48	4.85	7.94	3
1650010908	●	M6 x 0.75	D4	Bottom (1.5P)	80.00	8.00	29.90	6.48	4.85	7.94	3
1650000708	●	M6 x 0.75	D4	Modified Bottom (2.5P)	80.00	8.00	29.90	6.48	4.85	7.94	3
1650011008	●	M6 x 1	D5	Bottom (1.5P)	80.00	8.00	29.90	6.48	4.85	7.94	3
1650000808	●	M6 x 1	D5	Modified Bottom (2.5P)	80.00	8.00	29.90	6.48	4.85	7.94	3
1650011108	●	M7 x 0.75	D4	Bottom (1.5P)	80.00	8.00	30.00	8.08	6.05	9.53	3
1650004708	●	M7 x 0.75	D4	Modified Bottom (2.5P)	80.00	8.00	30.00	8.08	6.05	9.53	3
1650011208	●	M7 x 1	D5	Bottom (1.5P)	80.00	8.00	30.00	8.08	6.05	9.53	3
1650004808	●	M7 x 1	D5	Modified Bottom (2.5P)	80.00	8.00	30.00	8.08	6.05	9.53	3
1650011308	●	M8 x 0.75	D4	Bottom (1.5P)	80.00	8.00	33.00	8.08	6.05	9.53	3
1650004908	●	M8 x 0.75	D4	Modified Bottom (2.5P)	80.00	8.00	33.00	8.08	6.05	9.53	3
1650011408	●	M8 x 1	D5	Bottom (1.5P)	90.00	10.00	35.00	8.08	6.05	9.53	3
1650000908	●	M8 x 1	D5	Modified Bottom (2.5P)	90.00	10.00	35.00	8.08	6.05	9.53	3
1650011508	●	M8 x 1.25	D5	Bottom (1.5P)	90.00	10.00	35.00	8.08	6.05	9.53	3
1650001008	●	M8 x 1.25	D5	Modified Bottom (2.5P)	90.00	10.00	35.00	8.08	6.05	9.53	3
1650011608	●	M9 x 0.75	D4	Bottom (1.5P)	90.00	8.00	35.00	9.68	7.26	11.11	3
1650005008	●	M9 x 0.75	D4	Modified Bottom (2.5P)	90.00	8.00	35.00	9.68	7.26	11.11	3
1650011708	●	M9 x 1	D5	Bottom (1.5P)	90.00	10.00	35.00	9.68	7.26	11.11	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

List 16500 (Continued)

A BRAND A-SFT, DIN Overall Length

SPIRAL FLUTE | VC10 | V | C/1.5P | C/2.5P | 45° | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1650005108	●	M9 x 1	D5	Modified Bottom (2.5P)	90.00	10.00	35.00	9.68	7.26	11.11	3
1650011808	●	M9 x 1.25	D5	Bottom (1.5P)	90.00	10.00	35.00	9.68	7.26	11.11	3
1650005208	●	M9 x 1.25	D5	Modified Bottom (2.5P)	90.00	10.00	35.00	9.68	7.26	11.11	3
1650011908	●	M10 x 0.75	D4	Bottom (1.5P)	90.00	10.00	35.00	9.68	7.26	11.11	3
1650005308	●	M10 x 0.75	D4	Modified Bottom (2.5P)	90.00	10.00	35.00	9.68	7.26	11.11	3
1650012008	●	M10 x 1	D5	Bottom (1.5P)	90.00	10.00	35.00	9.68	7.26	11.11	3
1650001108	●	M10 x 1	D5	Modified Bottom (2.5P)	90.00	10.00	35.00	9.68	7.26	11.11	3
1650012108	●	M10 x 1.25	D5	Bottom (1.5P)	100.00	12.00	39.00	9.68	7.26	11.11	3
1650001208	●	M10 x 1.25	D5	Modified Bottom (2.5P)	100.00	12.00	39.00	9.68	7.26	11.11	3
1650012208	●	M10 x 1.5	D6	Bottom (1.5P)	100.00	12.00	39.00	9.68	7.26	11.11	3
1650001308	●	M10 x 1.5	D6	Modified Bottom (2.5P)	100.00	12.00	39.00	9.68	7.26	11.11	3
1650012308	●	M11 x 0.75	D4	Bottom (1.5P)	90.00	8.00	43.50	8.20	6.15	10.32	3
1650005408	●	M11 x 0.75	D4	Modified Bottom (2.5P)	90.00	8.00	43.50	8.20	6.15	10.32	3
1650012408	●	M11 x 1	D5	Bottom (1.5P)	90.00	12.00	43.50	8.20	6.15	10.32	3
1650005508	●	M11 x 1	D5	Modified Bottom (2.5P)	90.00	12.00	43.50	8.20	6.15	10.32	3
1650012508	●	M11 x 1.25	D5	Bottom (1.5P)	100.00	12.00	43.50	8.20	6.15	10.32	3
1650012608	●	M11 x 1.5	D6	Bottom (1.5P)	100.00	12.00	43.50	8.20	6.15	10.32	3
1650005608	●	M11 x 1.5	D6	Modified Bottom (2.5P)	100.00	12.00	43.50	8.20	6.15	10.32	3
1650012708	●	M12 x 1	D5	Bottom (1.5P)	100.00	12.00	49.10	9.32	6.99	11.11	3
1650001408	●	M12 x 1	D5	Modified Bottom (2.5P)	100.00	12.00	49.10	9.32	6.99	11.11	3
1650012808	●	M12 x 1.25	D6	Bottom (1.5P)	100.00	12.00	49.10	9.32	6.99	11.11	3
1650001508	●	M12 x 1.25	D6	Modified Bottom (2.5P)	100.00	12.00	49.10	9.32	6.99	11.11	3
1650012908	●	M12 x 1.5	D6	Bottom (1.5P)	100.00	14.00	49.10	9.32	6.99	11.11	3
1650001608	●	M12 x 1.5	D6	Modified Bottom (2.5P)	100.00	14.00	49.10	9.32	6.99	11.11	3
1650013008	●	M12 x 1.75	D6	Bottom (1.5P)	110.00	14.00	49.10	9.32	6.99	11.11	3
1650001708	●	M12 x 1.75	D6	Modified Bottom (2.5P)	110.00	14.00	49.10	9.32	6.99	11.11	3
1650005708	●	M14 x 1	D5	Modified Bottom (2.5P)	100.00	12.00	50.10	10.90	8.18	12.70	3
1650005808	●	M14 x 1.25	D6	Modified Bottom (2.5P)	100.00	12.00	50.10	10.90	8.18	12.70	3
1650001808	●	M14 x 1.5	D6	Modified Bottom (2.5P)	100.00	16.00	50.10	10.90	8.18	12.70	3
1650001908	●	M14 x 2	D7	Modified Bottom (2.5P)	110.00	16.00	50.10	10.90	8.18	12.70	3
1650005908	●	M15 x 1	D5	Modified Bottom (2.5P)	100.00	12.00	54.00	12.19	9.14	14.29	3
1650013208	●	M15 x 1.25	D6	Modified Bottom (2.5P)	100.00	12.00	54.00	12.19	9.14	14.29	3
1650006008	●	M15 x 1.5	D6	Modified Bottom (2.5P)	100.00	16.00	54.00	12.19	9.14	14.29	3
1650013108	●	M15 x 2	D7	Modified Bottom (2.5P)	110.00	16.00	54.00	12.19	9.14	14.29	3
1650006108	●	M16 x 1	D5	Modified Bottom (2.5P)	100.00	12.00	54.00	12.19	9.14	14.29	3
1650013308	●	M16 x 1.25	D6	Modified Bottom (2.5P)	100.00	12.00	54.00	12.19	9.14	14.29	3
1650002008	●	M16 x 1.5	D6	Modified Bottom (2.5P)	100.00	16.00	54.00	12.19	9.14	14.29	3
1650002108	●	M16 x 2	D7	Modified Bottom (2.5P)	110.00	16.00	54.00	12.19	9.14	14.29	3
1650006308	●	M17 x 1	D5	Modified Bottom (2.5P)	100.00	12.00	55.00	13.77	10.31	15.88	3
1650013408	●	M17 x 1.25	D6	Modified Bottom (2.5P)	100.00	12.00	55.00	13.77	10.31	15.88	3
1650006208	●	M17 x 1.5	D6	Modified Bottom (2.5P)	100.00	16.00	55.00	13.77	10.31	15.88	3
1650006408	●	M18 x 1	D5	Modified Bottom (2.5P)	100.00	16.00	55.00	13.77	10.31	15.88	4
1650013508	●	M18 x 1.25	D6	Modified Bottom (2.5P)	110.00	16.00	55.00	13.77	10.31	15.88	4
1650002208	●	M18 x 1.5	D6	Modified Bottom (2.5P)	110.00	16.00	55.00	13.77	10.31	15.88	4
1650006508	●	M18 x 2	D7	Modified Bottom (2.5P)	125.00	25.00	55.00	13.77	10.31	15.88	4
1650002308	●	M18 x 2.5	D7	Modified Bottom (2.5P)	125.00	25.00	55.00	13.77	10.31	15.88	4
1650006608	●	M20 x 1	D5	Modified Bottom (2.5P)	125.00	16.00	61.80	16.56	12.42	17.46	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

CONTINUED ›

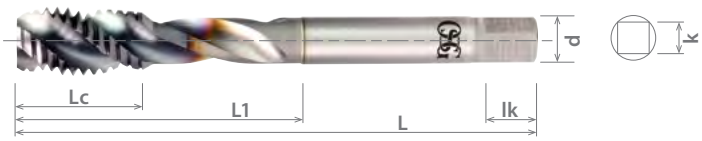
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	35-50 SFM	20-40 SFM	15-35 SFM	15-35 SFM	15-25 SFM	50-80 SFM	70-120 SFM	70-120 SFM			30-55 SFM			

○ Good ◎ Best

List 16500 (Continued)

A BRAND A-SFT, DIN Overall Length

SPIRAL FLUTE | VC10 | V | C/1.5P | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Dia. d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1650002408	●	M20 x 1.5	D6	Modified Bottom (2.5P)	125.00	16.00	61.80	16.56	12.42	17.46	4
1650006708	●	M20 x 2	D7	Modified Bottom (2.5P)	140.00	25.00	61.80	16.56	12.42	17.46	4
1650002508	●	M20 x 2.5	D7	Modified Bottom (2.5P)	140.00	25.00	61.80	16.56	12.42	17.46	4
1650006808	●	M22 x 1	D5	Modified Bottom (2.5P)	125.00	16.00	67.40	17.70	13.28	19.05	4
1650002608	●	M22 x 1.5	D6	Modified Bottom (2.5P)	125.00	16.00	67.40	17.70	13.28	19.05	4
1650006908	●	M22 x 2	D7	Modified Bottom (2.5P)	140.00	25.00	67.40	17.70	13.28	19.05	4
1650002708	●	M22 x 2.5	D7	Modified Bottom (2.5P)	140.00	25.00	67.40	17.70	13.28	19.05	4
1650007008	●	M24 x 1	D5	Modified Bottom (2.5P)	140.00	16.00	68.40	19.30	14.48	19.05	4
1650002808	●	M24 x 1.5	D6	Modified Bottom (2.5P)	140.00	16.00	68.40	19.30	14.48	19.05	4
1650007108	●	M24 x 2	D7	Modified Bottom (2.5P)	140.00	30.00	68.40	19.30	14.48	19.05	4
1650002908	●	M24 x 3	D8	Modified Bottom (2.5P)	160.00	30.00	68.40	19.30	14.48	19.05	4
1650007208	●	M27 x 1.5	D8	Modified Bottom (2.5P)	140.00	24.00	60.00	22.76	17.07	22.23	4
1650007308	●	M27 x 2	D8	Modified Bottom (2.5P)	140.00	24.00	60.00	22.76	17.07	22.23	4
1650007408	●	M27 x 3	D10	Modified Bottom (2.5P)	160.00	36.00	80.00	22.76	17.07	22.23	4
1650007508	●	M30 x 1.5	D8	Modified Bottom (2.5P)	150.00	36.00	70.00	25.93	19.46	25.40	4
1650007608	●	M30 x 2	D9	Modified Bottom (2.5P)	150.00	36.00	70.00	25.93	19.46	25.40	4
1650007708	●	M30 x 3.5	D11	Modified Bottom (2.5P)	180.00	42.00	100.00	25.93	19.46	25.40	4
1650007808	●	M33 x 1.5	D8	Modified Bottom (2.5P)	160.00	36.00	75.00	28.14	21.11	26.99	4
1650007908	●	M33 x 2	D9	Modified Bottom (2.5P)	160.00	36.00	75.00	28.14	21.11	26.99	4
1650008008	●	M33 x 3.5	D11	Modified Bottom (2.5P)	180.00	42.00	95.00	28.14	21.11	26.99	4
1650008108	●	M36 x 1.5	D8	Modified Bottom (2.5P)	170.00	36.00	85.00	31.32	23.50	28.58	4
1650008208	●	M36 x 2	D9	Modified Bottom (2.5P)	170.00	36.00	85.00	31.32	23.50	28.58	4
1650008308	●	M36 x 3	D10	Modified Bottom (2.5P)	200.00	36.00	115.00	31.32	23.50	28.58	4
1650008408	●	M36 x 4	D11	Modified Bottom (2.5P)	200.00	48.00	115.00	31.32	23.50	28.58	4
1650008508	●	M39 x 4	D11	Modified Bottom (2.5P)	200.00	48.00	110.00	33.15	24.87	28.58	4
1650008608	●	M42 x 1.5	D8	Modified Bottom (2.5P)	170.00	48.00	70.00	36.32	27.23	31.75	4
1650008708	●	M42 x 2	D9	Modified Bottom (2.5P)	170.00	48.00	70.00	36.32	27.23	31.75	4
1650008808	●	M42 x 3	D10	Modified Bottom (2.5P)	200.00	48.00	100.00	36.32	27.23	31.75	4
1650008908	●	M42 x 4.5	D12	Modified Bottom (2.5P)	200.00	54.00	100.00	36.32	27.23	31.75	4
1650009008	●	M45 x 3	D10	Modified Bottom (2.5P)	200.00	48.00	100.00	38.58	28.93	31.75	4
1650009108	●	M45 x 4.5	D12	Modified Bottom (2.5P)	220.00	54.00	120.00	38.58	28.93	31.75	4
1650009208	●	M48 x 1.5	D8	Modified Bottom (2.5P)	190.00	48.00	80.00	41.76	31.32	34.93	4
1650009308	●	M48 x 2	D9	Modified Bottom (2.5P)	190.00	48.00	80.00	41.76	31.32	34.93	4
1650009408	●	M48 x 3	D11	Modified Bottom (2.5P)	225.00	48.00	115.00	41.76	31.32	34.93	4
1650009508	●	M48 x 5	D13	Modified Bottom (2.5P)	250.00	60.00	140.00	41.76	31.32	34.93	4
1650009608	●	M56 x 5.5	D14	Modified Bottom (2.5P)	250.00	66.00	130.00	48.11	36.07	36.51	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

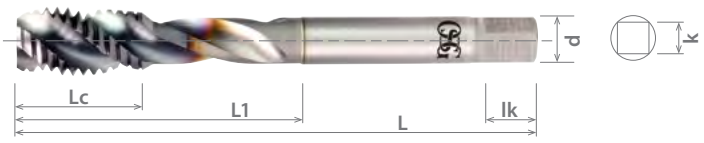
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	35-50 SFM	20-40 SFM	15-35 SFM	15-35 SFM	15-25 SFM	50-80 SFM	70-120 SFM	70-120 SFM			30-55 SFM			

○ Good ◎ Best

List 16545

A BRAND A-OIL-SFT, DIN Overall Length

SPIRAL FLUTE | VC10 | V | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1654500108	●	1/4 - 20 UNC	H5	3.150	0.402	1.181	0.255	0.191	0.313	3
1654500208	●	1/4 - 28 UNF	H4	3.150	0.402	1.181	0.255	0.191	0.313	3
1654500308	●	5/16 - 18 UNC	H5	3.543	0.445	1.378	0.318	0.238	0.375	3
1654500408	●	5/16 - 24 UNF	H4	3.543	0.445	1.378	0.318	0.238	0.375	3
1654500508	●	3/8 - 16 UNC	H5	3.937	0.500	1.535	0.381	0.286	0.438	3
1654500608	●	3/8 - 24 UNF	H4	3.543	0.500	1.378	0.381	0.286	0.438	3
1654500708	●	7/16 - 14 UNC	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
1654500808	●	7/16 - 20 UNF	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
1654500908	●	1/2 - 13 UNC	H5	4.331	0.614	1.933	0.367	0.275	0.438	3
1654501008	●	1/2 - 20 UNF	H5	3.937	0.614	1.933	0.367	0.275	0.438	3
1654501108	●	9/16 - 12 UNC	H5	4.331	0.665	1.972	0.429	0.322	0.500	3
1654501208	●	9/16 - 18 UNF	H5	3.937	0.665	1.972	0.429	0.322	0.500	3
1654501308	●	5/8 - 11 UNC	H5	4.331	0.728	2.126	0.480	0.360	0.563	3
1654501408	●	5/8 - 18 UNF	H5	3.937	0.728	2.126	0.480	0.360	0.563	3
1654501508	●	3/4 - 10 UNC	H5	4.921	1.000	2.433	0.590	0.442	0.688	4
1654501608	●	3/4 - 16 UNF	H5	4.331	1.000	2.433	0.590	0.442	0.688	4
1654501708	●	7/8 - 9 UNC	H6	5.512	1.110	2.654	0.697	0.523	0.750	4
1654501808	●	7/8 - 14 UNF	H6	4.921	1.110	2.654	0.697	0.523	0.750	4
1654501908	●	1 - 8 UNC	H6	6.299	1.252	3.012	0.800	0.600	0.813	4
1654502008	●	1 - 8 UNC	H8	6.299	1.252	3.012	0.800	0.600	0.813	4
1654502108	●	1 - 12 UNF	H6	5.512	1.252	3.012	0.800	0.600	0.813	4
1654502208	●	1- 1/8 - 7 UNC	H9	7.087	1.732	3.819	0.896	0.672	0.875	4
1654502308	●	1- 1/8 - 8 UN	H9	7.087	1.496	3.819	0.896	0.672	0.875	4
1654502408	●	1- 1/8 - 12 UNF	H8	5.906	1.496	3.071	0.896	0.672	0.875	4
1654502508	●	1- 1/4 - 7 UNC	H10	7.087	1.732	3.937	1.021	0.766	1.000	4
1654502608	●	1- 1/4 - 8 UN	H9	7.087	1.496	3.937	1.021	0.766	1.000	4
1654502708	●	1- 1/4 - 12 UNF	H8	5.906	1.496	3.071	1.021	0.766	1.000	4
1654502808	●	1- 3/8 - 6 UNC	H10	7.874	2.008	4.528	1.108	0.831	1.063	4
1654502908	●	1- 3/8 - 8 UN	H9	7.874	1.496	4.528	1.108	0.831	1.063	4
1654503008	●	1- 3/8 - 12 UNF	H8	6.693	1.496	3.583	1.108	0.831	1.063	4
1654503108	●	1- 1/2 - 6 UNC	H10	7.874	2.008	4.528	1.233	0.925	1.125	4
1654503208	●	1- 1/2 - 8 UN	H9	7.874	1.496	4.528	1.233	0.925	1.125	4
1654503308	●	1- 1/2 - 12 UNF	H8	6.693	1.496	3.583	1.233	0.925	1.125	4
1654503408	●	1- 5/8 - 8 UN	H10	7.874	1.496	4.331	1.305	0.979	1.125	4
1654503508	●	1- 3/4 - 5 UNC	H11	8.661	2.402	4.724	1.430	1.072	1.250	4
1654503608	●	1- 3/4 - 8 UN	H10	7.874	2.008	3.976	1.430	1.072	1.250	4
1654503708	●	1- 7/8 - 8 UN	H10	8.858	2.008	4.921	1.519	1.139	1.250	4
1654503808	●	2 - 4.5 UNC	H12	9.843	2.677	5.512	1.644	1.233	1.375	4
1654503908	●	2 - 8 UN	H10	8.858	2.008	4.803	1.644	1.233	1.375	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

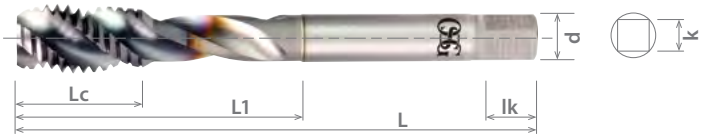
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
100-200 SFM	100-200 SFM	100-200 SFM	50-100 SFM	40-80 SFM	25-70 SFM	25-70 SFM	25-50 SFM	60-150 SFM	90-220 SFM	90-220 SFM			50-100 SFM			

○ Good ◎ Best

List 16540

A BRAND A-OIL-SFT, DIN Overall Length

A | SPIRAL FLUTE | VC10 | V | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1654000108	●	M6 x 0.75	D4	80.00	8.00	30.00	6.48	4.85	7.94	3
1654000208	●	M6 x 1	D5	80.00	8.00	30.00	6.48	4.85	7.94	3
1654000308	●	M7 x 1	D5	80.00	8.00	30.00	8.08	6.05	9.53	3
1654000408	●	M8 x 0.75	D4	80.00	8.00	33.00	8.08	6.05	9.53	3
1654000508	●	M8 x 1	D5	90.00	10.00	35.00	8.08	6.05	9.53	3
1654000608	●	M8 x 1.25	D5	90.00	10.00	35.00	8.08	6.05	9.53	3
1654000708	●	M9 x 1.25	D5	90.00	10.00	35.00	9.68	7.26	11.11	3
1654000808	●	M10 x 1	D5	90.00	10.00	35.00	9.68	7.26	11.11	3
1654000908	●	M10 x 1.25	D5	100.00	12.00	39.00	9.68	7.26	11.11	3
1654001008	●	M10 x 1.5	D6	100.00	12.00	39.00	9.68	7.26	11.11	3
1654001108	●	M11 x 1.5	D6	100.00	12.00	43.50	8.20	6.15	10.32	3
1654001208	●	M12 x 1	D5	100.00	12.00	49.10	9.32	6.99	11.11	3
1654001308	●	M12 x 1.25	D6	100.00	12.00	49.10	9.32	6.99	11.11	3
1654001408	●	M12 x 1.5	D6	100.00	14.00	49.10	9.32	6.99	11.11	3
1654001508	●	M12 x 1.75	D6	110.00	14.00	49.10	9.32	6.99	11.11	3
1654001608	●	M14 x 1.5	D6	100.00	16.00	50.10	10.90	8.18	12.70	3
1654001708	●	M14 x 2	D7	110.00	16.00	50.10	10.90	8.18	12.70	3
1654001808	●	M15 x 1.5	D6	100.00	16.00	54.00	12.19	9.14	14.29	3
1654001908	●	M16 x 1.5	D6	100.00	16.00	54.00	12.19	9.14	14.29	3
1654002008	●	M16 x 2	D7	110.00	16.00	54.00	12.19	9.14	14.29	3
1654002108	●	M17 x 1.5	D6	100.00	16.00	55.00	13.77	10.31	15.88	3
1654002208	●	M18 x 1.5	D6	110.00	16.00	55.00	13.77	10.31	15.88	4
1654002308	●	M18 x 2.5	D7	125.00	25.00	55.00	13.77	10.31	15.88	4
1654002408	●	M20 x 1.5	D6	125.00	16.00	61.80	16.56	12.42	17.46	4
1654002508	●	M20 x 2.5	D7	140.00	25.00	61.80	16.56	12.42	17.46	4
1654002608	●	M22 x 1.5	D6	125.00	16.00	67.40	17.70	13.28	19.05	4
1654002708	●	M22 x 2	D7	140.00	25.00	67.40	17.70	13.28	19.05	4
1654002808	●	M22 x 2.5	D7	140.00	25.00	67.40	17.70	13.28	19.05	4
1654002908	●	M24 x 1.5	D6	140.00	16.00	68.40	19.30	14.48	19.05	4
1654003008	●	M24 x 2	D7	140.00	30.00	68.40	19.30	14.48	19.05	4
1654003108	●	M24 x 3	D8	160.00	30.00	68.40	19.30	14.48	19.05	4
1654003208	●	M27 x 3	D10	160.00	36.00	80.00	22.76	17.07	22.23	4
1654003308	●	M30 x 3.5	D11	180.00	42.00	100.00	25.93	19.46	25.40	4
1654003408	●	M33 x 3.5	D11	180.00	42.00	95.00	28.14	21.11	26.99	4
1654003508	●	M36 x 4	D11	200.00	48.00	115.00	31.32	23.50	28.58	4
1654003608	●	M39 x 4	D11	200.00	48.00	110.00	33.15	24.87	28.58	4
1654003708	●	M42 x 4.5	D12	200.00	54.00	100.00	36.32	27.23	31.75	4
1654003808	●	M45 x 4.5	D12	220.00	54.00	120.00	38.58	28.93	31.75	4
1654003908	●	M48 x 5	D13	250.00	60.00	140.00	41.76	31.32	34.93	4
1654004008	●	M56 x 5.5	D14	250.00	66.00	130.00	48.11	36.07	36.51	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
100-200 SFM	100-200 SFM	100-200 SFM	50-100 SFM	40-80 SFM	25-70 SFM	25-70 SFM	25-50 SFM	60-150 SFM	90-220 SFM	90-220 SFM			50-100 SFM			

○ Good ◎ Best

List 16525

A BRAND A-LT-SFT, Long Shank

A | SPIRAL FLUTE | VC10 | V | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1652505608	●	No. 4 - 40 UNC	H2	3.150	0.197	0.750	0.141	0.110	0.188	2
1652505708	●	No. 4 - 48 UNF	H2	3.150	0.197	0.750	0.141	0.110	0.188	2
1652500308	●	No. 5 - 40 UNC	H2	3.937	0.201	0.760	0.141	0.110	0.188	2
1652505908	●	No. 5 - 44 UNF	H2	3.937	0.201	0.760	0.141	0.110	0.188	2
1652500608	●	No. 6 - 32 UNC	H3	4.724	0.248	0.783	0.141	0.110	0.188	2
1652500708	●	No. 6 - 40 UNF	H2	3.937	0.248	0.783	0.141	0.110	0.188	2
1652500908	●	No. 8 - 32 UNC	H3	4.724	0.252	0.827	0.168	0.131	0.250	2
1652501008	●	No. 8 - 36 UNF	H2	3.937	0.252	0.827	0.168	0.131	0.250	2
1652501108	●	No. 10 - 24 UNC	H3	4.921	0.327	0.976	0.194	0.152	0.250	2
1652501308	●	No. 10 - 32 UNF	H3	5.906	0.327	0.976	0.194	0.152	0.250	2
1652501408	●	No. 12 - 24 UNC	H3	4.921	0.331	1.177	0.220	0.165	0.281	2
1652501508	●	No. 12 - 28 UNF	H3	4.921	0.331	1.177	0.220	0.165	0.281	2
1652501708	●	1/4 - 20 UNC	H5	5.906	0.398	1.177	0.255	0.191	0.313	2
1652501908	●	1/4 - 28 UNF	H4	5.906	0.398	1.177	0.255	0.191	0.313	2
1652502108	●	5/16 - 18 UNC	H5	5.906	0.445	1.378	0.318	0.238	0.375	3
1652502308	●	5/16 - 24 UNF	H4	5.906	0.445	1.378	0.318	0.238	0.375	3
1652502508	●	3/8 - 16 UNC	H5	5.906	0.500	1.535	0.381	0.286	0.438	3
1652502708	●	3/8 - 24 UNF	H4	5.906	0.500	1.378	0.381	0.286	0.438	3
1652502908	●	7/16 - 14 UNC	H5	5.906	0.571	2.362	0.323	0.242	0.406	3
1652503108	●	7/16 - 20 UNF	H5	5.906	0.571	2.362	0.323	0.242	0.406	3
1652503308	●	1/2 - 13 UNC	H5	7.087	0.614	2.835	0.367	0.275	0.438	3
1652503508	●	1/2 - 20 UNF	H5	7.087	0.614	2.835	0.367	0.275	0.438	3
1652503708	●	9/16 - 12 UNC	H5	7.087	0.665	2.835	0.429	0.322	0.500	3
1652503908	●	9/16 - 18 UNF	H5	7.087	0.665	2.835	0.429	0.322	0.500	3
1652504108	●	5/8 - 11 UNC	H5	7.087	0.728	2.835	0.480	0.360	0.563	3
1652504308	●	5/8 - 18 UNF	H5	7.087	0.728	2.835	0.480	0.360	0.563	3
1652504508	●	3/4 - 10 UNC	H5	7.874	1.000	3.150	0.590	0.442	0.688	4
1652504708	●	3/4 - 16 UNF	H5	7.874	1.000	3.150	0.590	0.442	0.688	4
1652504908	●	7/8 - 9 UNC	H6	7.874	1.110	3.150	0.697	0.523	0.750	4
1652505108	●	7/8 - 14 UNF	H6	7.874	1.110	3.150	0.697	0.523	0.750	4
1652505308	●	1 - 8 UNC	H6	7.874	1.252	3.465	0.800	0.600	0.813	4
1652505508	●	1 - 12 UNF	H6	7.874	1.252	3.465	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	35-50 SFM	20-40 SFM	15-35 SFM	15-35 SFM	15-25 SFM	50-80 SFM	70-120 SFM	70-120 SFM			30-55 SFM			

○ Good ◎ Best

List 16520

A BRAND A-LT-SFT, Long Shank

A | SPIRAL FLUTE | VC10 | V | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1652001208	●	M3 x 0.35	D3	100.00	4.10	18.10	3.58	2.79	4.76	3
1652001308	●	M3 x 0.5	D3	100.00	4.10	18.10	3.58	2.79	4.76	3
1652001408	●	M3.5 x 0.35	D3	100.00	4.80	20.00	3.58	2.79	4.76	3
1652001508	●	M3.5 x 0.6	D3	100.00	4.80	20.00	3.58	2.79	4.76	3
1652001608	●	M4 x 0.5	D3	100.00	5.60	21.00	4.27	3.33	6.35	3
1652001708	●	M4 x 0.7	D4	100.00	5.60	21.00	4.27	3.33	6.35	3
1652001808	●	M4.5 x 0.5	D3	100.00	6.10	25.10	4.93	3.86	6.35	3
1652001908	●	M4.5 x 0.75	D4	100.00	6.10	25.10	4.93	3.86	6.35	3
1652002008	●	M5 x 0.5	D3	125.00	6.40	25.00	4.93	3.86	6.35	3
1652002108	●	M5 x 0.8	D4	125.00	6.40	25.00	4.93	3.86	6.35	3
1652002208	●	M5.5 x 0.5	D3	125.00	7.30	30.10	5.59	4.19	7.14	3
1652002308	●	M6 x 0.5	D3	125.00	8.00	30.00	6.48	4.85	7.94	3
1652002508	●	M6 x 0.75	D4	150.00	8.00	30.00	6.48	4.85	7.94	3
1652002708	●	M6 x 1	D5	150.00	8.00	30.00	6.48	4.85	7.94	3
1652003308	●	M8 x 0.75	D4	150.00	8.00	33.00	8.08	6.05	9.53	3
1652003508	●	M8 x 1	D5	150.00	10.00	35.00	8.08	6.05	9.53	3
1652003708	●	M8 x 1.25	D5	150.00	10.00	35.00	8.08	6.05	9.53	3
1652004508	●	M10 x 0.75	D4	150.00	10.00	35.00	9.68	7.26	11.11	3
1652004708	●	M10 x 1	D5	150.00	10.00	35.00	9.68	7.26	11.11	3
1652004908	●	M10 x 1.25	D5	150.00	12.00	39.00	9.68	7.26	11.11	3
1652005108	●	M10 x 1.5	D6	150.00	12.00	39.00	9.68	7.26	11.11	3
1652006108	●	M12 x 1	D5	180.00	12.00	72.00	9.32	6.99	11.11	3
1652006308	●	M12 x 1.25	D6	180.00	12.00	72.00	9.32	6.99	11.11	3
1652006508	●	M12 x 1.5	D6	180.00	14.00	72.00	9.32	6.99	11.11	3
1652006708	●	M12 x 1.75	D6	180.00	14.00	72.00	9.32	6.99	11.11	3
1652006808	●	M14 x 1	D5	150.00	12.00	60.00	10.90	8.18	12.70	3
1652006908	●	M14 x 1.25	D6	150.00	12.00	60.00	10.90	8.18	12.70	3
1652007008	●	M14 x 1.5	D6	150.00	16.00	60.00	10.90	8.18	12.70	3
1652007108	●	M14 x 2	D7	150.00	16.00	60.00	10.90	8.18	12.70	3
1652007208	●	M15 x 1	D5	160.00	12.00	64.00	12.19	9.14	14.29	3
1652007308	●	M15 x 1.5	D6	160.00	16.00	64.00	12.19	9.14	14.29	3
1652007408	●	M16 x 1	D5	160.00	12.00	64.00	12.19	9.14	14.29	3
1652007508	●	M16 x 1.5	D6	160.00	16.00	64.00	12.19	9.14	14.29	3
1652007708	●	M16 x 2	D7	180.00	16.00	72.00	12.19	9.14	14.29	3
1652008008	●	M18 x 1	D5	180.00	16.00	72.00	13.77	10.31	15.88	4
1652008108	●	M18 x 1.5	D6	180.00	16.00	72.00	13.77	10.31	15.88	4
1652008208	●	M18 x 2	D7	180.00	25.00	72.00	13.77	10.31	15.88	4
1652008308	●	M18 x 2.5	D7	180.00	25.00	72.00	13.77	10.31	15.88	4
1652008408	●	M20 x 1	D5	200.00	16.00	80.00	16.56	12.42	17.46	4
1652008508	●	M20 x 1.5	D6	200.00	16.00	80.00	16.56	12.42	17.46	4
1652008608	●	M20 x 2	D7	200.00	25.00	80.00	16.56	12.42	17.46	4
1652008708	●	M20 x 2.5	D7	200.00	25.00	80.00	16.56	12.42	17.46	4
1652008808	●	M22 x 1	D5	200.00	16.00	80.00	17.70	13.28	19.05	4
1652008908	●	M22 x 1.5	D6	200.00	16.00	80.00	17.70	13.28	19.05	4
1652009008	●	M22 x 2	D7	200.00	25.00	80.00	17.70	13.28	19.05	4
1652009108	●	M22 x 2.5	D7	200.00	25.00	80.00	17.70	13.28	19.05	4
1652009208	●	M24 x 1	D5	200.00	16.00	83.00	19.30	14.48	19.05	4
1652009308	●	M24 x 1.5	D6	200.00	16.00	83.00	19.30	14.48	19.05	4
1652009408	●	M24 x 2	D7	200.00	30.00	83.00	19.30	14.48	19.05	4
1652009508	●	M24 x 3	D8	200.00	30.00	83.00	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	35-50 SFM	20-40 SFM	15-35 SFM	15-35 SFM	15-25 SFM	50-80 SFM	70-120 SFM	70-120 SFM			30-55 SFM			

○ Good ◎ Best

List 16450

SPIRAL FLUTE | HSSE | TiN | C/2.5P | 45° | PACKED 1 PIECE

EXOPRO® CC-SUS-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1645002562	●	No. 2 - 56 UNC	H2	1.772	0.142	0.472	0.141	0.110	0.188	2
1645003482	●	No. 3 - 48 UNC	H2	1.969	0.161	0.531	0.141	0.110	0.188	2
1645004402	●	No. 4 - 40 UNC	H2	2.205	0.197	0.750	0.141	0.110	0.188	2
1645004482	●	No. 4 - 48 UNF	H2	2.205	0.197	0.750	0.141	0.110	0.188	2
1645005402	●	No. 5 - 40 UNC	H2	2.205	0.201	0.790	0.141	0.110	0.188	2
1645006322	●	No. 6 - 32 UNC	H2	2.205	0.248	0.783	0.141	0.110	0.188	2
1645006323	●	No. 6 - 32 UNC	H3	2.205	0.248	0.783	0.141	0.110	0.188	2
1645006402	●	No. 6 - 40 UNF	H2	2.205	0.248	0.783	0.141	0.110	0.188	2
1645008322	●	No. 8 - 32 UNC	H2	2.480	0.252	0.827	0.168	0.131	0.250	2
1645008323	●	No. 8 - 32 UNC	H3	2.480	0.252	0.827	0.168	0.131	0.250	2
1645008362	●	No. 8 - 36 UNF	H2	2.480	0.252	0.827	0.168	0.131	0.250	2
1645010242	●	No. 10 - 24 UNC	H2	2.756	0.327	0.976	0.194	0.152	0.250	2
1645010243	●	No. 10 - 24 UNC	H3	2.756	0.327	0.976	0.194	0.152	0.250	2
1645010322	●	No. 10 - 32 UNF	H2	2.756	0.327	0.976	0.194	0.152	0.250	2
1645010323	●	No. 10 - 32 UNF	H3	2.756	0.327	0.976	0.194	0.152	0.250	2
1645012243	●	No. 12 - 24 UNC	H3	3.150	0.331	1.177	0.220	0.165	0.281	2
1645012283	●	No. 12 - 28 UNF	H3	3.150	0.331	1.177	0.220	0.165	0.281	2
1645014203	●	1/4 - 20 UNC	H3	3.150	0.398	1.177	0.255	0.191	0.313	2
1645014205	●	1/4 - 20 UNC	H5	3.150	0.398	1.177	0.255	0.191	0.313	2
1645014283	●	1/4 - 28 UNF	H3	3.150	0.398	1.177	0.255	0.191	0.313	2
1645014284	●	1/4 - 28 UNF	H4	3.150	0.398	1.177	0.255	0.191	0.313	2
1645056183	●	5/16 - 18 UNC	H3	3.543	0.445	1.378	0.318	0.238	0.375	3
1645056185	●	5/16 - 18 UNC	H5	3.543	0.445	1.378	0.318	0.238	0.375	3
1645056243	●	5/16 - 24 UNF	H3	3.543	0.445	1.378	0.318	0.238	0.375	3
1645056244	●	5/16 - 24 UNF	H4	3.543	0.445	1.378	0.318	0.238	0.375	3
1645038163	●	3/8 - 16 UNC	H3	3.937	0.500	1.535	0.381	0.286	0.438	3
1645038165	●	3/8 - 16 UNC	H5	3.937	0.500	1.535	0.381	0.286	0.438	3
1645038243	●	3/8 - 24 UNF	H3	3.543	0.500	1.378	0.381	0.286	0.438	3
1645038244	●	3/8 - 24 UNF	H4	3.543	0.500	1.378	0.381	0.286	0.438	3
1645076143	●	7/16 - 14 UNC	H3	3.937	0.571	1.713	0.323	0.242	0.406	3
1645076145	●	7/16 - 14 UNC	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
1645076203	●	7/16 - 20 UNF	H3	3.937	0.571	1.713	0.323	0.242	0.406	3
1645076205	●	7/16 - 20 UNF	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
1645012133	●	1/2 - 13 UNC	H3	4.331	0.614	1.933	0.367	0.275	0.438	3
1645012135	●	1/2 - 13 UNC	H5	4.331	0.614	1.933	0.367	0.275	0.438	3
1645012203	●	1/2 - 20 UNF	H3	3.937	0.614	1.933	0.367	0.275	0.438	3
1645012205	●	1/2 - 20 UNF	H5	3.937	0.614	1.933	0.367	0.275	0.438	3
1645096123	●	9/16 - 12 UNC	H3	4.331	0.665	1.972	0.429	0.322	0.500	3
1645096125	●	9/16 - 12 UNC	H5	4.331	0.665	1.972	0.429	0.322	0.500	3
1645096183	●	9/16 - 18 UNF	H3	3.937	0.665	1.972	0.429	0.322	0.500	3
1645096185	●	9/16 - 18 UNF	H5	3.937	0.665	1.972	0.429	0.322	0.500	3
1645058113	●	5/8 - 11 UNC	H3	4.331	0.728	2.126	0.480	0.360	0.563	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Recommended drill is ADO-SUS drills for stainless steel.

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎		◎	◎	○									
50-80 SFM	50-80 SFM	30-80 SFM	50-100 SFM		20-35 SFM	20-35 SFM	15-25 SFM									

○ Good ◎ Best

List 16450 (Continued)

SPIRAL FLUTE | HSSE | TiN | C/2.5P | 45° | PACKED 1 PIECE

EXOPRO® CC-SUS-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1645058115	●	5/8 - 11 UNC	H5	4.331	0.728	2.126	0.480	0.360	0.563	3
1645058183	●	5/8 - 18 UNF	H3	3.937	0.728	2.126	0.480	0.360	0.563	3
1645058185	●	5/8 - 18 UNF	H5	3.937	0.728	2.126	0.480	0.360	0.563	3
1645034103	●	3/4 - 10 UNC	H3	4.921	1.000	2.433	0.590	0.442	0.688	4
1645034105	●	3/4 - 10 UNC	H5	4.921	1.000	2.433	0.590	0.442	0.688	4
1645034163	●	3/4 - 16 UNF	H3	4.331	1.000	2.433	0.590	0.442	0.688	4
1645034165	●	3/4 - 16 UNF	H5	4.331	1.000	2.433	0.590	0.442	0.688	4
1645078094	●	7/8 - 9 UNC	H4	5.512	1.110	2.654	0.697	0.523	0.750	4
1645078096	●	7/8 - 9 UNC	H6	5.512	1.110	2.654	0.697	0.523	0.750	4
1645078144	●	7/8 - 14 UNF	H4	4.921	1.110	2.654	0.697	0.523	0.750	4
1645078146	●	7/8 - 14 UNF	H6	4.921	1.110	2.654	0.697	0.523	0.750	4
1645010084	●	1 - 8 UNC	H4	6.299	1.252	3.012	0.800	0.600	0.813	4
1645010086	●	1 - 8 UNC	H6	6.299	1.252	3.012	0.800	0.600	0.813	4
1645010124	●	1 - 12 UNC	H4	5.512	1.252	3.012	0.800	0.600	0.813	4
1645010126	●	1 - 12 UNC	H6	5.512	1.252	3.012	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Recommended drill is ADO-SUS drills for stainless steel.

EP

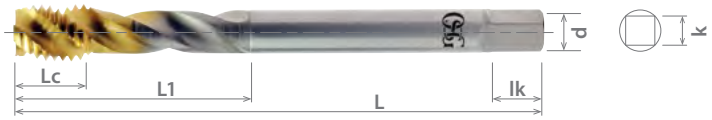
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎		◎	◎	○									
50-80 SFM	50-80 SFM	30-80 SFM	50-100 SFM		20-35 SFM	20-35 SFM	15-25 SFM									

○ Good ◎ Best

List 16455

EXOPRO® CC-SUS-SFT, DIN Overall Length

SPIRAL FLUTE | HSSE | TiN | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1645502043	●	M2 x 0.4	D3	45.00	3.20	12.00	3.58	2.79	4.76	2
1645525453	●	M2.5 x 0.45	D3	50.00	3.70	14.10	3.58	2.79	4.76	2
1645526453	●	M2.6 x 0.45	D3	50.00	3.60	16.00	3.58	2.79	4.76	2
1645503054	●	M3 x 0.5	D4	56.00	4.10	18.10	3.58	2.79	4.76	2
1645504074	●	M4 x 0.7	D4	63.00	5.60	21.00	4.27	3.33	6.35	2
1645505084	●	M5 x 0.8	D4	70.00	6.40	25.00	4.93	3.86	6.35	2
1645506103	●	M6 x 1	D3	80.00	8.00	30.00	6.48	4.85	7.94	2
1645506105	●	M6 x 1	D5	80.00	8.00	30.00	6.48	4.85	7.94	2
1645508124	●	M8 x 1.25	D4	90.00	10.00	35.00	8.08	6.05	9.53	3
1645508126	●	M8 x 1.25	D6	90.00	10.00	35.00	8.08	6.05	9.53	3
1645510154	●	M10 x 1.5	D4	100.00	12.00	39.00	9.68	7.26	11.11	3
1645510156	●	M10 x 1.5	D6	100.00	12.00	39.00	9.68	7.26	11.11	3
1645512174	●	M12 x 1.75	D4	110.00	14.00	49.10	9.32	6.99	11.11	3
1645512176	●	M12 x 1.75	D6	110.00	14.00	49.10	9.32	6.99	11.11	3
1645514205	●	M14 x 2	D5	110.00	16.00	50.10	10.90	8.18	12.70	3
1645514207	●	M14 x 2	D7	110.00	16.00	50.10	10.90	8.18	12.70	3
1645516205	●	M16 x 2	D5	110.00	16.00	54.00	12.19	9.14	14.29	3
1645516207	●	M16 x 2	D7	110.00	16.00	54.00	12.19	9.14	14.29	3
1645518257	●	M18 x 2.5	D7	125.00	25.00	55.00	13.77	10.31	15.88	4
1645520258	●	M20 x 2.5	D8	140.00	25.00	61.80	16.56	12.42	17.46	4
1645524309	●	M24 x 3	D9	160.00	30.00	68.40	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Recommended drill is ADO-SUS drills for stainless steel.

EP

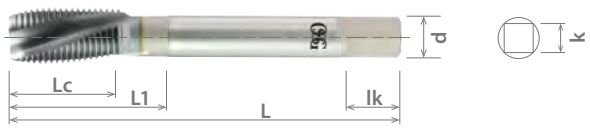
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎		◎	◎	○									
50-80 SFM	50-80 SFM	30-80 SFM	50-100 SFM		20-35 SFM	20-35 SFM	15-25 SFM									

○ Good ◎ Best

List 13063

EXOPRO® Ti V-CPM-RFT, RHC/LHS for Through Hole

SPIRAL FLUTE	VC10	V	C/4.5P	21°	LH	PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1306300108	●	No. 2 - 56 UNC	H2	1.752	0.437	0.476	0.141	0.110	0.188	2
1306300208	●	No. 4 - 40 UNC	H2	1.874	0.295	0.560	0.141	0.110	0.188	3
1306300308	●	No. 6 - 32 UNC	H3	2.000	0.370	0.685	0.141	0.110	0.188	3
1306300408	●	No. 8 - 32 UNC	H3	2.126	0.374	0.752	0.168	0.131	0.250	3
1306300508	●	No. 10 - 24 UNC	H3	2.374	0.492	0.866	0.194	0.152	0.250	3
1306300608	●	No. 10 - 32 UNF	H3	2.374	0.492	0.866	0.194	0.152	0.250	3
1306300708	●	1/4 - 20 UNC	H3	2.500	0.594	0.997	0.255	0.191	0.313	3
1306300808	●	1/4 - 20 UNC	H5	2.500	0.594	0.997	0.255	0.191	0.313	3
1306300908	●	1/4 - 28 UNF	H3	2.500	0.594	0.997	0.255	0.191	0.313	3
1306301008	●	5/16 - 18 UNC	H3	2.720	0.665	1.126	0.318	0.238	0.375	3
1306301108	●	5/16 - 18 UNC	H5	2.720	0.665	1.126	0.318	0.238	0.375	3
1306301208	●	5/16 - 24 UNF	H3	2.720	0.665	1.126	0.318	0.238	0.375	3
1306301308	●	3/8 - 16 UNC	H3	2.937	0.752	1.252	0.381	0.286	0.438	3
1306301408	●	3/8 - 16 UNC	H5	2.937	0.752	1.252	0.381	0.286	0.438	3
1306301508	●	3/8 - 24 UNF	H3	2.937	0.752	1.252	0.381	0.286	0.438	3
1306301608	●	7/16 - 14 UNC	H3	3.157	0.858	1.291	0.323	0.242	0.406	3
1306301708	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3
1306301808	●	1/2 - 13 UNC	H3	3.374	0.921	1.354	0.367	0.275	0.438	3
1306301908	●	1/2 - 13 UNC	H5	3.374	0.921	1.354	0.367	0.275	0.438	3
1306302008	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○					◎	○			
			15-50 SFM				8-20 SFM					8-20 SFM	15-35 SFM			

○ Good ◎ Best

List 13163

EXOPRO® Ti V-CPM-RFT, RHC/LHS for Through Hole

SPIRAL FLUTE | VC10 | V | 3 FLUTE | C/4.5P | 21° | LH | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1316300108	●	M2.5 x 0.45	D3	47.60	12.00	13.80	3.58	2.79	4.76
1316300208	●	M3 x 0.5	D3	50.80	6.00	16.00	3.58	2.79	4.76
1316300308	●	M4 x 0.7	D4	55.80	8.00	19.10	4.27	3.33	6.35
1316300408	●	M5 x 0.8	D4	62.40	9.00	22.20	4.93	3.86	6.35
1316300508	●	M6 x 1	D5	65.50	12.00	25.40	6.48	4.85	7.30
1316300808	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53
1316300908	●	M10 x 1.25	D5	74.60	18.00	31.80	9.68	7.26	11.11
1316301008	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11
1316301108	●	M12 x 1.25	D5	85.70	21.00	32.00	9.32	6.99	11.11
1316301308	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○					◎	○			
			15-50 SFM				8-20 SFM					8-20 SFM	15-35 SFM			

○ Good ◎ Best

List 335Ni

SPIRAL FLUTE | VC10 | HR | C/2.5P | 11° | PACKED 1 PIECE

EXOPRO® WHR-Ni-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
3350002562	●	No. 2 - 56 UNC	H2	1.772	0.437	-	0.141	0.110	0.188	2
3350004402	●	No. 4 - 40 UNC	H2	2.205	0.563	-	0.141	0.110	0.188	3
3350004403	●	No. 4 - 40 UNC	H3	2.205	0.563	-	0.141	0.110	0.188	3
3350006322	●	No. 6 - 32 UNC	H2	2.205	0.689	-	0.141	0.110	0.188	3
3350006323	●	No. 6 - 32 UNC	H3	2.205	0.689	-	0.141	0.110	0.188	3
3350008322	●	No. 8 - 32 UNC	H2	2.480	0.748	-	0.168	0.131	0.250	3
3350008323	●	No. 8 - 32 UNC	H3	2.480	0.748	-	0.168	0.131	0.250	3
3350010243	●	No. 10 - 24 UNC	H3	2.756	0.874	-	0.194	0.152	0.250	3
3350010245	●	No. 10 - 24 UNC	H5	2.756	0.874	-	0.194	0.152	0.250	3
3350010322	●	No. 10 - 32 UNF	H2	2.756	0.866	-	0.194	0.152	0.250	3
3350010323	●	No. 10 - 32 UNF	H3	2.756	0.866	-	0.194	0.152	0.250	3
3350014203	●	1/4 - 20 UNC	H3	3.150	1.000	-	0.255	0.191	0.313	3
3350014205	●	1/4 - 20 UNC	H5	3.150	1.000	-	0.255	0.191	0.313	3
3350014283	●	1/4 - 28 UNF	H3	3.150	0.992	-	0.255	0.191	0.313	3
3350014284	●	1/4 - 28 UNF	H4	3.150	0.992	-	0.255	0.191	0.313	3
3350516183	●	5/16 - 18 UNC	H3	3.543	0.665	1.378	0.318	0.238	0.375	3
3350516185	●	5/16 - 18 UNC	H5	3.543	0.665	1.378	0.318	0.238	0.375	3
3350516243	●	5/16 - 24 UNF	H3	3.543	0.665	1.378	0.318	0.238	0.375	3
3350516245	●	5/16 - 24 UNF	H5	3.543	0.665	1.378	0.318	0.238	0.375	3
3350038163	●	3/8 - 16 UNC	H3	3.937	0.752	1.535	0.381	0.286	0.438	3
3350038165	●	3/8 - 16 UNC	H5	3.937	0.752	1.535	0.381	0.286	0.438	3
3350038243	●	3/8 - 24 UNF	H3	3.543	0.752	1.378	0.381	0.286	0.438	3
3350038244	●	3/8 - 24 UNF	H4	3.543	0.752	1.378	0.381	0.286	0.438	3
3350716143	●	7/16 - 14 UNC	H3	3.937	0.858	1.713	0.323	0.242	0.406	3
3350716145	●	7/16 - 14 UNC	H5	3.937	0.858	1.713	0.323	0.242	0.406	3
3350716203	●	7/16 - 20 UNF	H3	3.937	0.858	1.713	0.323	0.242	0.406	3
3350716205	●	7/16 - 20 UNF	H5	3.937	0.858	1.713	0.323	0.242	0.406	3
3350012133	●	1/2 - 13 UNC	H3	4.331	0.921	1.933	0.367	0.275	0.438	3
3350012135	●	1/2 - 13 UNC	H5	4.331	0.921	1.933	0.367	0.275	0.438	3
3350012203	●	1/2 - 20 UNF	H3	3.937	0.921	1.933	0.367	0.275	0.438	3
3350012205	●	1/2 - 20 UNF	H5	3.937	0.921	1.933	0.367	0.275	0.438	3
3350096183	●	9/16 - 18 UNF	H3	3.937	1.000	1.972	0.429	0.322	0.500	4
3350096185	●	9/16 - 18 UNF	H5	3.937	1.000	1.972	0.429	0.322	0.500	4
3350058113	●	5/8 - 11 UNC	H3	4.331	1.091	2.126	0.480	0.360	0.563	4
3350058115	●	5/8 - 11 UNC	H5	4.331	1.091	2.126	0.480	0.360	0.563	4
3350058183	●	5/8 - 18 UNF	H3	3.937	1.091	2.126	0.480	0.360	0.563	4
3350058185	●	5/8 - 18 UNF	H5	3.937	1.091	2.126	0.480	0.360	0.563	4
3350034103	●	3/4 - 10 UNC	H3	4.921	1.201	2.433	0.590	0.442	0.688	4
3350034105	●	3/4 - 10 UNC	H5	4.921	1.201	2.433	0.590	0.442	0.688	4
3350034163	●	3/4 - 16 UNF	H3	4.331	1.201	2.433	0.590	0.442	0.688	4
3350034165	●	3/4 - 16 UNF	H5	4.331	1.201	2.433	0.590	0.442	0.688	4
3350078093	●	7/8 - 9 UNC	H3	5.512	1.335	2.654	0.697	0.523	0.750	4
3350078095	●	7/8 - 9 UNC	H5	5.512	1.335	2.654	0.697	0.523	0.750	4
3350078143	●	7/8 - 14 UNF	H3	4.921	1.335	2.654	0.697	0.523	0.750	4
3350078145	●	7/8 - 14 UNF	H5	4.921	1.335	2.654	0.697	0.523	0.750	4
3350001083	●	1 - 8 UNC	H3	6.299	1.500	3.012	0.800	0.600	0.813	4
3350001085	●	1 - 8 UNC	H5	6.299	1.500	3.012	0.800	0.600	0.813	4
3350001123	●	1 - 12 UNF	H3	5.512	1.500	3.012	0.800	0.600	0.813	4
3350001125	●	1 - 12 UNF	H5	5.512	1.500	3.012	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎				○	
							8-20 SFM				8-15 SFM				8-12 SFM	

○ Good ◎ Best

List 336Ni

EXOPRO® WHR-Ni-SFT, DIN Overall Length

SPIRAL FLUTE	VC10	HR	C/2.5P	11°	PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
3360250453	●	M2.5 x 0.45	D3	50.00	12.70	-	3.58	2.79	4.76	3
3360003053	●	M3 x 0.5	D3	56.00	15.90	-	3.58	2.79	4.76	3
3360004074	●	M4 x 0.7	D4	63.00	19.00	-	4.27	3.33	6.35	3
3360005084	●	M5 x 0.8	D4	70.00	22.20	-	4.93	3.86	6.35	3
3360006755	●	M6 x 0.75	D5	80.00	25.30	-	6.48	4.85	7.94	3
3360006105	●	M6 x 1	D5	80.00	25.40	-	6.48	4.85	7.94	3
3360008105	●	M8 x 1	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
3360008255	●	M8 x 1.25	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
3360010255	●	M10 x 1.25	D5	100.00	18.00	39.00	9.68	7.26	11.11	3
3360010156	●	M10 x 1.5	D6	100.00	18.00	39.00	9.68	7.26	11.11	3
3360012156	●	M12 x 1.5	D6	100.00	21.00	49.10	9.32	6.99	11.11	3
3360012756	●	M12 x 1.75	D6	110.00	21.00	49.10	9.32	6.99	11.11	3
3360014156	●	M14 x 1.5	D6	100.00	24.00	50.10	10.90	8.18	12.70	3
3360014207	●	M14 x 2	D7	110.00	24.00	50.10	10.90	8.18	12.70	3
3360016156	●	M16 x 1.5	D6	100.00	24.00	50.10	12.19	9.14	14.29	3
3360016207	●	M16 x 2	D7	110.00	24.00	50.10	12.19	9.14	14.29	3
3360018156	●	M18 x 1.5	D6	110.00	24.00	54.00	13.77	10.31	15.88	3
3360018257	●	M18 x 2.5	D7	125.00	24.00	54.00	13.77	10.31	15.88	3
3360020156	●	M20 x 1.5	D6	125.00	30.00	61.80	16.56	12.42	17.46	3
3360020258	●	M20 x 2.5	D8	140.00	30.00	61.80	16.56	12.42	17.46	3
3360022156	●	M22 x 1.5	D6	125.00	30.00	67.40	17.70	13.28	19.05	3
3360022258	●	M22 x 2.5	D8	140.00	30.00	67.40	17.70	13.28	19.05	3
3360024156	●	M24 x 1.5	D6	140.00	36.00	68.40	19.30	14.48	19.05	4
3360024308	●	M24 x 3	D8	160.00	36.00	68.40	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
							○				◎				○	
							8-20 SFM				8-15 SFM				8-12 SFM	

○ Good ◎ Best

List 389

EXOCARB® OT-SFT, JIS

SPIRAL FLUTE | CARBIDE | BR | 3 FLUTE | C/1.5P | C/2.5P | 15° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
8315255	●	M3 x 0.5	OH3	Bottom (1.5P)	46.00	11.00	19.00	4.00	3.20	6.00
8315254	●	M3 x 0.5	OH3	Modified Bottom (2.5P)	46.00	11.00	19.00	4.00	3.20	6.00
8315261	●	M4 x 0.7	OH3	Bottom (1.5P)	52.00	13.00	21.00	5.00	4.00	7.00
8315260	●	M4 x 0.7	OH3	Modified Bottom (2.5P)	52.00	13.00	21.00	5.00	4.00	7.00
8315267	●	M5 x 0.8	OH3	Bottom (1.5P)	60.00	15.90	23.90	5.50	4.50	7.00
8315266	●	M5 x 0.8	OH3	Modified Bottom (2.5P)	60.00	15.90	23.90	5.50	4.50	7.00
8315273	●	M6 x 1	OH3	Bottom (1.5P)	62.00	19.00	29.00	6.00	4.50	7.00
8315272	●	M6 x 1	OH3	Modified Bottom (2.5P)	62.00	19.00	29.00	6.00	4.50	7.00
8315285	●	M8 x 1.25	OH4	Bottom (1.5P)	70.00	22.00	-	6.20	5.00	8.00
8315284	●	M8 x 1.25	OH4	Modified Bottom (2.5P)	70.00	22.00	-	6.20	5.00	8.00
8315303	●	M10 x 1.25	OH4	Bottom (1.5P)	75.00	24.00	-	7.00	5.50	8.00
8315302	●	M10 x 1.25	OH4	Modified Bottom (2.5P)	75.00	24.00	-	7.00	5.50	8.00
8315297	●	M10 x 1.5	OH4	Bottom (1.5P)	75.00	24.00	-	7.00	5.50	8.00
8315296	●	M10 x 1.5	OH4	Modified Bottom (2.5P)	75.00	24.00	-	7.00	5.50	8.00
8315315	●	M12 x 1.75	OH4	Bottom (1.5P)	82.00	29.00	-	8.50	6.50	9.00
8315314	●	M12 x 1.75	OH4	Modified Bottom (2.5P)	82.00	29.00	-	8.50	6.50	9.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎	◎	◎						
								40-90 SFM	50-100 SFM	50-80 SFM						

○ Good ◎ Best

List 313Ti

EXOTAP® VC-10 V-Ti-SFT

SPIRAL FLUTE	VC10	V	C/2.5P	10°	PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1305710108	●	No. 2 - 56 UNC	H2	1.750	0.437	-	0.141	0.110	0.188	3
1305710208	●	No. 4 - 40 UNC	H2	1.875	0.559	-	0.141	0.110	0.188	3
1305710408	●	No. 6 - 32 UNC	H2	2.000	0.685	-	0.141	0.110	0.188	3
1305710508	●	No. 6 - 32 UNC	H3	2.000	0.685	-	0.141	0.110	0.188	3
1305710608	●	No. 6 - 40 UNF	H2	2.000	0.685	-	0.141	0.110	0.188	3
1305710708	●	No. 8 - 32 UNC	H2	2.125	0.752	-	0.168	0.131	0.250	3
1305710808	●	No. 8 - 32 UNC	H3	2.125	0.752	-	0.168	0.131	0.250	3
1305710908	●	No. 8 - 36 UNF	H2	2.125	0.752	-	0.168	0.131	0.250	3
1305711008	●	No. 10 - 24 UNC	H3	2.375	0.866	-	0.194	0.152	0.250	3
1305711108	●	No. 10 - 32 UNF	H2	2.375	0.866	-	0.194	0.152	0.250	3
1305711208	●	No. 10 - 32 UNF	H3	2.375	0.866	-	0.194	0.152	0.250	3
1305711308	●	1/4 - 20 UNC	H3	2.500	0.996	-	0.255	0.191	0.313	3
1305711408	●	1/4 - 20 UNC	H5	2.500	0.996	-	0.255	0.191	0.313	3
1305711508	●	1/4 - 28 UNF	H3	2.500	0.996	-	0.255	0.191	0.313	3
1305711608	●	1/4 - 28 UNF	H4	2.500	0.996	-	0.255	0.191	0.313	3
1305714608	●	1/4 - 28 UNF	H5	2.500	0.996	-	0.255	0.191	0.313	3
1305711708	●	5/16 - 18 UNC	H3	2.719	0.445	1.126	0.318	0.238	0.375	3
1305711808	●	5/16 - 18 UNC	H5	2.719	0.445	1.126	0.318	0.238	0.375	3
1305711908	●	5/16 - 24 UNF	H3	2.719	0.445	1.126	0.318	0.238	0.375	3
1305712008	●	5/16 - 24 UNF	H4	2.719	0.445	1.126	0.318	0.238	0.375	3
1305712108	●	3/8 - 16 UNC	H3	2.938	0.500	1.252	0.381	0.286	0.438	3
1305712208	●	3/8 - 16 UNC	H5	2.938	0.500	1.252	0.381	0.286	0.438	3
1305712308	●	3/8 - 24 UNF	H3	2.938	0.500	1.252	0.381	0.286	0.438	3
1305712408	●	3/8 - 24 UNF	H4	2.938	0.500	1.252	0.381	0.286	0.438	3
1305712508	●	7/16 - 14 UNC	H3	3.156	0.571	1.713	0.323	0.242	0.406	3
1305712608	●	7/16 - 14 UNC	H5	3.156	0.571	1.713	0.323	0.242	0.406	3
1305712708	●	7/16 - 20 UNF	H3	3.156	0.571	1.713	0.323	0.242	0.406	3
1305712808	●	7/16 - 20 UNF	H5	3.156	0.571	1.713	0.323	0.242	0.406	3
1305712908	●	1/2 - 13 UNC	H3	3.375	0.614	1.933	0.367	0.275	0.438	3
1305713008	●	1/2 - 13 UNC	H5	3.375	0.614	1.933	0.367	0.275	0.438	3
1305713108	●	1/2 - 20 UNF	H3	3.375	0.614	1.933	0.367	0.275	0.438	3
1305713208	●	1/2 - 20 UNF	H5	3.375	0.614	1.933	0.367	0.275	0.438	3
1305713308	●	9/16 - 18 UNF	H3	3.594	0.665	1.972	0.429	0.322	0.500	4
1305713408	●	9/16 - 18 UNF	H5	3.594	0.665	1.972	0.429	0.322	0.500	4
1305713508	●	5/8 - 11 UNC	H3	3.813	0.728	2.126	0.480	0.360	0.563	4
1305713608	●	5/8 - 18 UNF	H3	3.813	0.728	2.126	0.480	0.360	0.563	4
1305713708	●	5/8 - 18 UNF	H5	3.813	0.728	2.126	0.480	0.360	0.563	4
1305713808	●	3/4 - 10 UNC	H5	4.250	0.799	2.433	0.590	0.442	0.688	4
1305713908	●	3/4 - 16 UNF	H3	4.250	0.799	2.433	0.590	0.442	0.688	4
1305714008	●	3/4 - 16 UNF	H5	4.250	0.799	2.433	0.590	0.442	0.688	4
1305714208	●	7/8 - 9 UNC	H3	4.688	0.890	2.654	0.697	0.523	0.750	4
1305714308	●	7/8 - 9 UNC	H5	4.688	0.890	2.654	0.697	0.523	0.750	4
1305714408	●	7/8 - 14 UNF	H3	4.688	0.890	2.654	0.697	0.523	0.750	4
1305714508	●	7/8 - 14 UNF	H5	4.688	0.890	2.654	0.697	0.523	0.750	4
1305714108	●	1 - 8 UNC	H5	5.125	1.000	3.012	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

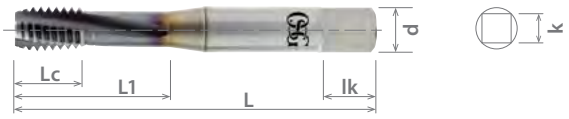
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○				◎	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 345Ti

EXOTAP® VC-10 V-Ti-SFT

SPIRAL FLUTE | VC10 | V | 3 FLUTE | C/2.5P | 10° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1316210008	●	M2.5 x 0.45	D3	46.00	12.70	-	3.58	2.79	4.76
1316210108	●	M3 x 0.5	D3	49.20	16.00	-	3.58	2.79	4.76
1316210208	●	M4 x 0.7	D4	54.00	19.10	-	4.27	3.33	6.35
1316210308	●	M5 x 0.8	D4	60.30	22.20	-	4.93	3.86	6.35
1316210408	●	M6 x 1	D5	63.50	25.40	-	6.48	4.85	7.94
1316210508	●	M8 x 1.25	D5	69.10	10.00	28.60	8.08	6.05	9.53
1316210608	●	M10 x 1.25	D5	74.60	12.00	31.80	9.68	7.26	11.11
1316210708	●	M10 x 1.5	D6	74.60	12.00	31.80	9.68	7.26	11.11
1316210908	●	M12 x 1.25	D5	85.70	14.00	49.10	9.32	6.99	11.11
1316210808	●	M12 x 1.75	D6	85.70	14.00	49.10	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○				○				◎	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 317Ti

SPIRAL FLUTE | VC10 | V | C/2.5P | 10° | PACKED 1 PIECE

EXOTAP® VC-10 VPO-Ti-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
31721408	●	1/4 - 28 UNF	H3	3.150	1.000	-	0.255	0.191	0.313	3
31721508	●	1/4 - 28 UNF	H4	3.150	1.000	-	0.255	0.191	0.313	3
31721808	●	5/16 - 24 UNF	H3	3.543	0.445	1.378	0.318	0.238	0.375	3
31721908	●	5/16 - 24 UNF	H4	3.543	0.445	1.378	0.318	0.238	0.375	3
31722208	●	3/8 - 24 UNF	H3	3.543	0.500	1.378	0.381	0.286	0.438	3
31722308	●	3/8 - 24 UNF	H4	3.543	0.500	1.378	0.381	0.286	0.438	3
31722608	●	7/16 - 20 UNF	H3	3.937	0.571	1.713	0.323	0.242	0.406	3
31722708	●	7/16 - 20 UNF	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
31723008	●	1/2 - 20 UNF	H3	3.937	0.614	1.933	0.367	0.275	0.438	3
31723108	●	1/2 - 20 UNF	H5	3.937	0.614	1.933	0.367	0.275	0.438	3
31723408	●	9/16 - 18 UNF	H3	3.937	0.665	1.972	0.429	0.322	0.500	4
31723508	●	9/16 - 18 UNF	H5	3.937	0.665	1.972	0.429	0.322	0.500	4
31723808	●	5/8 - 18 UNF	H3	3.937	0.728	2.126	0.480	0.360	0.563	4
31723908	●	5/8 - 18 UNF	H5	3.937	0.728	2.126	0.480	0.360	0.563	4
31724208	●	3/4 - 16 UNF	H3	4.331	0.799	2.433	0.590	0.442	0.688	4
31724308	●	3/4 - 16 UNF	H5	4.331	0.799	2.433	0.590	0.442	0.688	4
31724608	●	7/8 - 14 UNF	H4	4.921	0.890	2.654	0.697	0.523	0.750	4
31724708	●	7/8 - 14 UNF	H6	4.921	0.890	2.654	0.697	0.523	0.750	4
31725008	●	1 - 12 UNF	H4	5.512	1.000	3.012	0.800	0.600	0.813	4
31725108	●	1 - 12 UNF	H6	5.512	1.000	3.012	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○				◎	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 348Ti

SPIRAL FLUTE | VC10 | V | C/2.5P | 10° | PACKED 1 PIECE

EXOTAP® VC-10 VPO-Ti-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
34820608	●	M8 x 1	D5	90.00	10.00	35.00	8.08	6.05	9.53	3
34820808	●	M10 x 1.25	D5	100.00	12.00	39.00	9.68	7.26	11.11	3
34821008	●	M12 x 1.25	D5	100.00	14.00	49.10	9.32	6.99	11.11	3
34821108	●	M12 x 1.5	D6	100.00	14.00	49.10	9.32	6.99	11.11	3
34821308	●	M14 x 1.5	D6	100.00	16.00	50.10	10.90	8.18	12.70	3
34821508	●	M16 x 1.5	D6	100.00	16.00	54.00	12.19	9.14	14.29	4
34821708	●	M18 x 1.5	D6	110.00	20.00	55.00	13.77	10.31	15.88	4
34821908	●	M20 x 1.5	D6	125.00	20.00	61.80	16.56	12.42	17.46	4
34822108	●	M22 x 1.5	D6	125.00	20.00	67.40	17.70	13.28	19.05	4
34822308	●	M24 x 1.5	D6	140.00	24.00	68.40	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

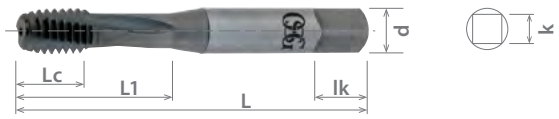
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○				◎	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 313Ni

EXOTAP® VC-10 Ni-SFT

SPIRAL FLUTE | VC10 | S/O | V | C/1.5P | C/2.5P | 10° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1770701	●	No. 2 - 56 UNC	H2	Modified Bottom (2.5P)	1.750	0.437	-	0.141	0.110	0.188	2	Steam Oxide
1770501	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.559	-	0.141	0.110	0.188	3	Steam Oxide
1719001	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.559	-	0.141	0.110	0.188	3	Steam Oxide
1719008	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.559	-	0.141	0.110	0.188	3	V
1770601	●	No. 4 - 40 UNC	H3	Bottom (1.5P)	1.875	0.559	-	0.141	0.110	0.188	3	Steam Oxide
1719101	●	No. 4 - 40 UNC	H3	Modified Bottom (2.5P)	1.875	0.559	-	0.141	0.110	0.188	3	Steam Oxide
0140101	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.685	-	0.141	0.110	0.188	3	Steam Oxide
1720701	●	No. 6 - 32 UNC	H2	Modified Bottom (2.5P)	2.000	0.685	-	0.141	0.110	0.188	3	Steam Oxide
1770001	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.685	-	0.141	0.110	0.188	3	Steam Oxide
1709101	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.000	0.685	-	0.141	0.110	0.188	3	Steam Oxide
1709108	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.000	0.685	-	0.141	0.110	0.188	3	V
1709201	●	No. 6 - 32 UNC	H5	Modified Bottom (2.5P)	2.000	0.685	-	0.141	0.110	0.188	3	Steam Oxide
1770101	●	No. 6 - 32 UNC	H7	Modified Bottom (2.5P)	2.000	0.685	-	0.141	0.110	0.188	3	Steam Oxide
0140201	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.125	0.752	-	0.168	0.131	0.250	3	Steam Oxide
1709301	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.125	0.752	-	0.168	0.131	0.250	3	Steam Oxide
1709308	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.125	0.752	-	0.168	0.131	0.250	3	V
1709401	●	No. 8 - 32 UNC	H5	Modified Bottom (2.5P)	2.125	0.752	-	0.168	0.131	0.250	3	Steam Oxide
1719501	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.866	-	0.194	0.152	0.250	3	Steam Oxide
1719508	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.866	-	0.194	0.152	0.250	3	V
1719601	●	No. 10 - 24 UNC	H5	Modified Bottom (2.5P)	2.375	0.866	-	0.194	0.152	0.250	3	Steam Oxide
0140301	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.375	0.866	-	0.194	0.152	0.250	3	Steam Oxide
1770201	●	No. 10 - 32 UNF	H2	Modified Bottom (2.5P)	2.375	0.866	-	0.194	0.152	0.250	3	Steam Oxide
1770301	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.866	-	0.194	0.152	0.250	3	Steam Oxide
1709501	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.375	0.866	-	0.194	0.152	0.250	3	Steam Oxide
1709508	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.375	0.866	-	0.194	0.152	0.250	3	V
1770401	●	No. 10 - 32 UNF	H4	Modified Bottom (2.5P)	2.375	0.866	-	0.194	0.152	0.250	3	Steam Oxide
1709601	●	No. 10 - 32 UNF	H5	Modified Bottom (2.5P)	2.375	0.866	-	0.194	0.152	0.250	3	Steam Oxide
0140401	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.996	-	0.255	0.191	0.313	3	Steam Oxide
1719701	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	2.500	0.996	-	0.255	0.191	0.313	3	Steam Oxide
1719708	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	2.500	0.996	-	0.255	0.191	0.313	3	V
1719801	●	1/4 - 20 UNC	H5	Modified Bottom (2.5P)	2.500	0.996	-	0.255	0.191	0.313	3	Steam Oxide
1771401	●	1/4 - 20 UNC	H7	Modified Bottom (2.5P)	2.500	0.996	-	0.255	0.191	0.313	3	Steam Oxide
0140501	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.996	-	0.255	0.191	0.313	3	Steam Oxide
1709701	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	2.500	0.996	-	0.255	0.191	0.313	3	Steam Oxide
1709708	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	2.500	0.996	-	0.255	0.191	0.313	3	V
0140601	●	1/4 - 28 UNF	H4	Bottom (1.5P)	2.500	0.996	-	0.255	0.191	0.313	3	Steam Oxide
1709801	●	1/4 - 28 UNF	H5	Modified Bottom (2.5P)	2.500	0.996	-	0.255	0.191	0.313	3	Steam Oxide
1719901	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1719908	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1720001	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1771201	●	5/16 - 18 UNC	H7	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0140701	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1709901	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1709908	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
0140801	●	5/16 - 24 UNF	H4	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

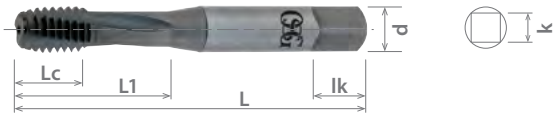
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎	○	○	○		
							8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 313Ni (Continued)

EXOTAP® VC-10 Ni-SFT

SPIRAL FLUTE | VC10 | S/0 | V | C/1.5P | C/2.5P | 10° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1710001	●	5/16 - 24 UNF	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1771001	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1720101	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1720108	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1720201	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1771101	●	3/8 - 16 UNC	H7	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0140901	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1710101	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1710108	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
0141001	●	3/8 - 24 UNF	H4	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1710201	●	3/8 - 24 UNF	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1720301	●	7/16 - 14 UNC	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1720401	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0141101	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1710301	●	7/16 - 20 UNF	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0141201	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1710401	●	7/16 - 20 UNF	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1770901	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1720501	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1720508	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1720601	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0141301	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1710501	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1710508	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
0141401	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1710601	●	1/2 - 20 UNF	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1771301	●	1/2 - 20 UNF	H7	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0141501	●	9/16 - 18 UNF	H3	Bottom (1.5P)	3.594	0.665	1.972	0.429	0.322	0.500	3	Steam Oxide
0141601	●	9/16 - 18 UNF	H5	Bottom (1.5P)	3.594	0.665	1.972	0.429	0.322	0.500	3	Steam Oxide
1710701	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
1710801	●	5/8 - 18 UNF	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
1710901	●	5/8 - 18 UNF	H5	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
1770801	●	3/4 - 10 UNC	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
1711001	●	3/4 - 10 UNC	H5	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
1711101	●	3/4 - 16 UNF	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
1711201	●	3/4 - 16 UNF	H5	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
1711401	●	7/8 - 9 UNC	H3	Modified Bottom (2.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	Steam Oxide
1711501	●	7/8 - 9 UNC	H5	Modified Bottom (2.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	Steam Oxide
1711601	●	7/8 - 14 UNF	H3	Modified Bottom (2.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	Steam Oxide
1711701	●	7/8 - 14 UNF	H5	Modified Bottom (2.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	Steam Oxide
1711301	●	1 - 8 UNC	H5	Modified Bottom (2.5P)	5.125	1.000	3.012	0.800	0.600	0.813	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

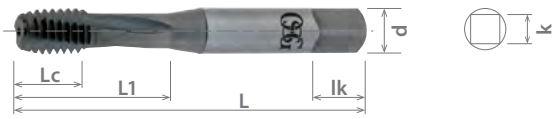
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
							○				◎	○	○	○		
							8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 345Ni

EXOTAP® VC-10 Ni-SFT

SPIRAL FLUTE | VC10 | S/O | 3 FLUTE | C/2.5P | 10° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1316110001	●	M2.5 x 0.45	D3	46.00	12.70	-	3.58	2.79	4.76
1316110101	●	M3 x 0.5	D3	49.20	16.00	-	3.58	2.79	4.76
1316110201	●	M4 x 0.7	D4	54.00	19.10	-	4.27	3.33	6.35
1316110301	●	M5 x 0.8	D4	60.30	22.20	-	4.93	3.86	6.35
1316110401	●	M6 x 1	D5	63.50	25.40	-	6.48	4.85	7.94
1316110501	●	M8 x 1.25	D5	69.10	10.00	28.60	8.08	6.05	9.53
1316110601	●	M10 x 1.25	D5	74.60	12.00	31.80	9.68	7.26	11.11
1316110701	●	M10 x 1.5	D6	74.60	12.00	31.80	9.68	7.26	11.11
1316110801	●	M12 x 1.75	D6	85.70	14.00	49.10	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

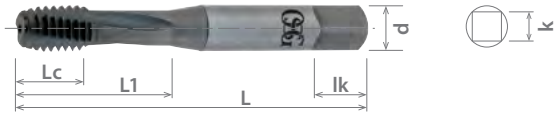
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
							○				◎	○	○	○		
							8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 313

EXOTAP VC-10 SFT

SPIRAL FLUTE | VC10 | S/O | V | C/1.5P | C/2.5P | 15° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
0141701	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.750	0.437	-	0.141	0.110	0.188	2	Steam Oxide
0141708	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.750	0.437	-	0.141	0.110	0.188	2	V
1754001	●	No. 2 - 56 UNC	H2	Modified Bottom (2.5P)	1.750	0.437	-	0.141	0.110	0.188	2	Steam Oxide
1754008	●	No. 2 - 56 UNC	H2	Modified Bottom (2.5P)	1.750	0.437	-	0.141	0.110	0.188	2	V
0141801	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.157	0.559	0.141	0.110	0.188	2	Steam Oxide
0141808	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.157	0.559	0.141	0.110	0.188	2	V
1752001	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.157	0.559	0.141	0.110	0.188	2	Steam Oxide
1752008	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.157	0.559	0.141	0.110	0.188	2	V
1754101	●	No. 4 - 40 UNC	H3	Modified Bottom (2.5P)	1.875	0.157	0.559	0.141	0.110	0.188	2	Steam Oxide
1754108	●	No. 4 - 40 UNC	H3	Modified Bottom (2.5P)	1.875	0.157	0.559	0.141	0.110	0.188	2	V
1754201	●	No. 4 - 40 UNC	H4	Modified Bottom (2.5P)	1.875	0.157	0.559	0.141	0.110	0.188	2	Steam Oxide
1754208	●	No. 4 - 40 UNC	H4	Modified Bottom (2.5P)	1.875	0.157	0.559	0.141	0.110	0.188	2	V
1752101	●	No. 5 - 40 UNC	H2	Modified Bottom (2.5P)	1.938	0.201	0.634	0.141	0.110	0.188	2	Steam Oxide
1752108	●	No. 5 - 40 UNC	H2	Modified Bottom (2.5P)	1.938	0.201	0.634	0.141	0.110	0.188	2	V
1754301	●	No. 6 - 32 UNC	H2	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	Steam Oxide
1754308	●	No. 6 - 32 UNC	H2	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	V
0141901	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	Steam Oxide
0141908	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	V
1752201	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	Steam Oxide
1752208	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	V
0142001	●	No. 6 - 32 UNC	H4	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	Steam Oxide
0142008	●	No. 6 - 32 UNC	H4	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	V
1754401	●	No. 6 - 32 UNC	H4	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	Steam Oxide
1754408	●	No. 6 - 32 UNC	H4	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	V
1754501	●	No. 6 - 32 UNC	H5	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	Steam Oxide
1754508	●	No. 6 - 32 UNC	H5	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	V
0142101	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	Steam Oxide
0142108	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	V
1754601	●	No. 8 - 32 UNC	H2	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	Steam Oxide
1754608	●	No. 8 - 32 UNC	H2	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	V
0142201	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	Steam Oxide
0142208	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	V
1752301	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	Steam Oxide
1752308	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	V
0142301	●	No. 8 - 32 UNC	H4	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	Steam Oxide
0142308	●	No. 8 - 32 UNC	H4	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	V
1754701	●	No. 8 - 32 UNC	H4	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	Steam Oxide
1754708	●	No. 8 - 32 UNC	H4	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	V
1754801	●	No. 8 - 32 UNC	H5	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	Steam Oxide
1754808	●	No. 8 - 32 UNC	H5	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	V
1754901	●	No. 8 - 32 UNC	H6	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	Steam Oxide
1754908	●	No. 8 - 32 UNC	H6	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	2	V
1752401	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1752408	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1703001	●	No. 10 - 24 UNC	H5	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1703008	●	No. 10 - 24 UNC	H5	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
0142401	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0142408	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1703101	●	No. 10 - 32 UNF	H2	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1703108	●	No. 10 - 32 UNF	H2	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
0142501	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0142508	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1752501	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1752508	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
0142601	●	No. 10 - 32 UNF	H4	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0142608	●	No. 10 - 32 UNF	H4	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1703201	●	No. 10 - 32 UNF	H4	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 313 (Continued)

EXOTAP VC-10 SFT

SPIRAL FLUTE	VC10	S/0	V	C/1.5P	C/2.5P	15°	PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1703208	●	No. 10 - 32 UNF	H4	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1703301	●	No. 10 - 32 UNF	H5	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1703308	●	No. 10 - 32 UNF	H5	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1703401	●	No. 10 - 32 UNF	H6	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1703408	●	No. 10 - 32 UNF	H6	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1752601	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1752608	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1703501	●	1/4 - 20 UNC	H5	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1703508	●	1/4 - 20 UNC	H5	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
0142701	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0142708	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1752701	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1752708	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
0142801	●	1/4 - 28 UNF	H4	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0142808	●	1/4 - 28 UNF	H4	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1703601	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1703608	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1703701	●	1/4 - 28 UNF	H5	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1703708	●	1/4 - 28 UNF	H5	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1703801	●	1/4 - 28 UNF	H6	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1703808	●	1/4 - 28 UNF	H6	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1752801	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1752808	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1703901	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1703908	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
0142901	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0142908	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1752901	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1752908	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
0143001	●	5/16 - 24 UNF	H4	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0143008	●	5/16 - 24 UNF	H4	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1704001	●	5/16 - 24 UNF	H4	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1704008	●	5/16 - 24 UNF	H4	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1704101	●	5/16 - 24 UNF	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1704108	●	5/16 - 24 UNF	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1704201	●	5/16 - 24 UNF	H6	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1704208	●	5/16 - 24 UNF	H6	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1753001	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1753008	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1704301	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1704308	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
0143101	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0143108	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1753101	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1753108	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
0143201	●	3/8 - 24 UNF	H4	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0143208	●	3/8 - 24 UNF	H4	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1704401	●	3/8 - 24 UNF	H4	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1704408	●	3/8 - 24 UNF	H4	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1704501	●	3/8 - 24 UNF	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1704508	●	3/8 - 24 UNF	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1704601	●	3/8 - 24 UNF	H6	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

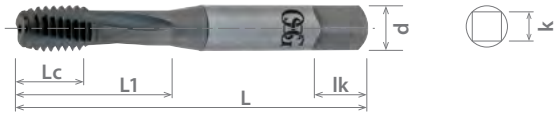
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 313 (Continued)

EXOTAP VC-10 SFT

SPIRAL FLUTE | VC10 | S/0 | V | C/1.5P | C/2.5P | 15° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1704608	●	3/8 - 24 UNF	H6	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1753201	●	7/16 - 14 UNC	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1753208	●	7/16 - 14 UNC	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1704701	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1704708	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
0143301	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0143308	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1753301	●	7/16 - 20 UNF	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1753308	●	7/16 - 20 UNF	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
0143401	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0143408	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1704801	●	7/16 - 20 UNF	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1704808	●	7/16 - 20 UNF	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1753401	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1753408	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1704901	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1704908	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
0143501	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0143508	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1753501	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1753508	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
0143601	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0143608	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1705001	●	1/2 - 20 UNF	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1705008	●	1/2 - 20 UNF	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1753601	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
1753608	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V
1753701	●	5/8 - 18 UNF	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
1753708	●	5/8 - 18 UNF	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V
1705101	●	5/8 - 18 UNF	H5	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
1705108	●	5/8 - 18 UNF	H5	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V
1753801	●	3/4 - 10 UNC	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
1753808	●	3/4 - 10 UNC	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	V
1753901	●	3/4 - 16 UNF	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
1753908	●	3/4 - 16 UNF	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 345

EXOTAP® VC-10 SFT

SPIRAL FLUTE | VC10 | S/0 | V | 3 FLUTE | C/2.5P | 15° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1705501	●	M3 x 0.5	D3	49.20	4.10	16.00	3.58	2.79	4.76	3	Steam Oxide
1705508	●	M3 x 0.5	D3	49.20	4.10	16.00	3.58	2.79	4.76	3	V
1705601	●	M4 x 0.7	D4	54.00	5.60	19.10	4.27	3.33	6.35	3	Steam Oxide
1705608	●	M4 x 0.7	D4	54.00	5.60	19.10	4.27	3.33	6.35	3	V
1705701	●	M5 x 0.8	D4	60.30	6.40	22.20	4.93	3.86	6.35	3	Steam Oxide
1705708	●	M5 x 0.8	D4	60.30	6.40	22.20	4.93	3.86	6.35	3	V
1705801	●	M6 x 1	D5	63.50	8.00	25.40	6.48	4.85	7.94	3	Steam Oxide
1705808	●	M6 x 1	D5	63.50	8.00	25.40	6.48	4.85	7.94	3	V
1705901	●	M8 x 1.25	D5	69.10	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
1705908	●	M8 x 1.25	D5	69.10	10.00	28.60	8.08	6.05	9.53	3	V
1706001	●	M10 x 1.25	D5	74.60	12.00	31.80	9.68	7.26	11.11	3	Steam Oxide
1706008	●	M10 x 1.25	D5	74.60	12.00	31.80	9.68	7.26	11.11	3	V
1706101	●	M10 x 1.5	D6	74.60	12.00	31.80	9.68	7.26	11.11	3	Steam Oxide
1706108	●	M10 x 1.5	D6	74.60	12.00	31.80	9.68	7.26	11.11	3	V
1706201	●	M12 x 1.75	D6	85.70	14.00	49.10	9.32	6.99	11.11	3	Steam Oxide
1706208	●	M12 x 1.75	D6	85.70	14.00	49.10	9.32	6.99	11.11	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 317

SPIRAL FLUTE | VC10 | V | C/2.5 | 15° | PACKED 1 PIECE

EXOTAP® VC-10 VPO-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
31701508	●	5/16 - 18 UNC	H3	3.543	0.445	1.378	0.318	0.238	0.375	3
31701608	●	5/16 - 18 UNC	H5	3.543	0.445	1.378	0.318	0.238	0.375	3
31701708	●	5/16 - 24 UNF	H3	3.543	0.445	1.378	0.318	0.238	0.375	3
31701808	●	5/16 - 24 UNF	H4	3.543	0.445	1.378	0.318	0.238	0.375	3
31701908	●	3/8 - 16 UNC	H3	3.937	0.500	1.535	0.381	0.286	0.438	3
31702008	●	3/8 - 16 UNC	H5	3.937	0.500	1.535	0.381	0.286	0.438	3
31702108	●	3/8 - 24 UNF	H3	3.543	0.500	1.378	0.381	0.286	0.438	3
31702208	●	3/8 - 24 UNF	H4	3.543	0.500	1.378	0.381	0.286	0.438	3
31702308	●	7/16 - 14 UNC	H3	3.937	0.571	1.713	0.323	0.242	0.406	3
31702408	●	7/16 - 14 UNC	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
31702508	●	7/16 - 20 UNF	H3	3.937	0.571	1.713	0.323	0.242	0.406	3
31702608	●	7/16 - 20 UNF	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
31702708	●	1/2 - 13 UNC	H3	4.331	0.614	1.933	0.367	0.275	0.438	3
31702808	●	1/2 - 13 UNC	H5	4.331	0.614	1.933	0.367	0.275	0.438	3
31702908	●	1/2 - 20 UNF	H3	3.937	0.614	1.933	0.367	0.275	0.438	3
31703008	●	1/2 - 20 UNF	H5	3.937	0.614	1.933	0.367	0.275	0.438	3
31704908	●	9/16 - 12 UNC	H3	4.331	0.665	1.972	0.429	0.322	0.500	3
31705008	●	9/16 - 12 UNC	H5	4.331	0.665	1.972	0.429	0.322	0.500	3
31703108	●	9/16 - 18 UNF	H3	3.937	0.665	1.972	0.429	0.322	0.500	3
31703208	●	9/16 - 18 UNF	H5	3.937	0.665	1.972	0.429	0.322	0.500	3
31703308	●	5/8 - 11 UNC	H3	4.331	0.728	2.126	0.480	0.360	0.563	4
31703408	●	5/8 - 11 UNC	H5	4.331	0.728	2.126	0.480	0.360	0.563	4
31703508	●	5/8 - 18 UNF	H3	3.937	0.728	2.126	0.480	0.360	0.563	4
31703608	●	5/8 - 18 UNF	H5	3.937	0.728	2.126	0.480	0.360	0.563	4
31703708	●	3/4 - 10 UNC	H3	4.921	0.799	2.433	0.590	0.442	0.688	4
31703808	●	3/4 - 10 UNC	H5	4.921	0.799	2.433	0.590	0.442	0.688	4
31703908	●	3/4 - 16 UNF	H3	4.331	0.799	2.433	0.590	0.442	0.688	4
31704008	●	3/4 - 16 UNF	H5	4.331	0.799	2.433	0.590	0.442	0.688	4
31704108	●	7/8 - 9 UNC	H4	5.512	0.890	2.654	0.697	0.523	0.750	4
31704208	●	7/8 - 9 UNC	H6	5.512	0.890	2.654	0.697	0.523	0.750	4
31704308	●	7/8 - 14 UNF	H4	4.921	0.890	2.654	0.697	0.523	0.750	4
31704408	●	7/8 - 14 UNF	H6	4.921	0.890	2.654	0.697	0.523	0.750	4
31704508	●	1 - 8 UNC	H4	6.299	1.000	3.012	0.800	0.600	0.813	4
31704608	●	1 - 8 UNC	H6	6.299	1.000	3.012	0.800	0.600	0.813	4
31704708	●	1 - 12 UNF	H4	5.512	1.000	3.012	0.800	0.600	0.813	4
31704808	●	1 - 12 UNF	H6	5.512	1.000	3.012	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 351

SPIRAL FLUTE | VC10 | V | C/2.5 | 15° | PACKED 1 PIECE

EXOTAP® VC-10 VPO-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
35100608	●	M8 x 1	D5	90.00	10.00	35.00	8.08	6.05	9.53	3
35100708	●	M8 x 1.25	D5	90.00	10.00	35.00	8.08	6.05	9.53	3
35100808	●	M10 x 1.25	D5	100.00	12.00	39.00	9.68	7.26	11.11	3
35100908	●	M10 x 1.5	D6	100.00	12.00	39.00	9.68	7.26	11.11	3
35101008	●	M12 x 1.25	D5	100.00	14.00	49.10	9.32	6.99	11.11	3
35101108	●	M12 x 1.5	D6	100.00	14.00	49.10	9.32	6.99	11.11	3
35101208	●	M12 x 1.75	D6	110.00	14.00	49.10	9.32	6.99	11.11	3
35101308	●	M14 x 1.5	D6	100.00	16.00	5.10	10.90	8.18	12.70	3
35101408	●	M14 x 2	D7	110.00	16.00	5.10	10.90	8.18	12.70	3
35101508	●	M16 x 1.5	D6	100.00	16.00	54.00	12.19	9.14	14.29	3
35101608	●	M16 x 2	D7	110.00	16.00	54.00	12.19	9.14	14.29	3
35101708	●	M18 x 1.5	D6	110.00	20.00	55.00	13.77	10.31	15.88	4
35101808	●	M18 x 2.5	D7	125.00	20.00	55.00	13.77	10.31	15.88	4
35101908	●	M20 x 1.5	D6	125.00	20.00	61.80	16.56	12.42	17.46	4
35102008	●	M20 x 2.5	D7	140.00	20.00	61.80	16.56	12.42	17.46	4
35102108	●	M22 x 1.5	D6	125.00	20.00	67.40	17.70	13.28	19.05	4
35102208	●	M22 x 2.5	D7	140.00	20.00	67.40	17.70	13.28	19.05	4
35102308	●	M24 x 1.5	D6	140.00	24.00	68.40	19.30	14.48	19.05	4
35102408	●	M24 x 3	D8	160.00	24.00	68.40	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

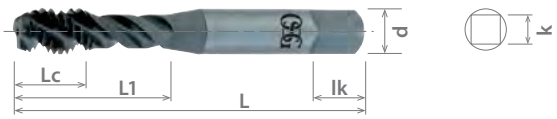
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 303

EXOTAP VA-3® SFT

SPIRAL FLUTE | HSSE | S/O | TiN | V | C/1.5 | C/2.5 | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
0135401	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.750	0.437	0.476	0.141	0.110	0.188	2	Steam Oxide
0135408	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.750	0.437	0.476	0.141	0.110	0.188	2	V
1748901	●	No. 2 - 56 UNC	H2	Modified Bottom (2.5P)	1.750	0.437	0.476	0.141	0.110	0.188	2	Steam Oxide
0135501	●	No. 3 - 48 UNC	H2	Bottom (1.5P)	1.813	0.496	0.535	0.141	0.110	0.188	2	Steam Oxide
0135508	●	No. 3 - 48 UNC	H2	Bottom (1.5P)	1.813	0.496	0.535	0.141	0.110	0.188	2	V
1748701	●	No. 3 - 48 UNC	H2	Modified Bottom (2.5P)	1.813	0.496	0.535	0.141	0.110	0.188	2	Steam Oxide
0135601	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	Steam Oxide
0135608	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	V
1763901	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	Steam Oxide
1763905	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	TiN
1763908	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	V
1732001	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	Steam Oxide
1732008	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	V
0135701	●	No. 4 - 40 UNC	H3	Bottom (1.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	Steam Oxide
0135708	●	No. 4 - 40 UNC	H3	Bottom (1.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	V
1748001	●	No. 4 - 40 UNC	H3	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	Steam Oxide
1722001	●	No. 4 - 40 UNC	H3	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	Steam Oxide
1722008	●	No. 4 - 40 UNC	H3	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	V
1748101	●	No. 4 - 40 UNC	H4	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	Steam Oxide
1748301	●	No. 4 - 40 UNC	H5	Bottom (1.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	Steam Oxide
1748201	●	No. 4 - 40 UNC	H5	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	Steam Oxide
1748401	●	No. 4 - 40 UNC	H6	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	Steam Oxide
0135801	●	No. 4 - 48 UNF	H2	Bottom (1.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	Steam Oxide
0135808	●	No. 4 - 48 UNF	H2	Bottom (1.5P)	1.875	0.197	0.559	0.141	0.110	0.188	3	V
1748801	●	No. 4 - 48 UNF	H2	Modified Bottom (2.5P)	1.875	0.197	0.559	0.141	0.110	0.188	2	Steam Oxide
0135901	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.938	0.201	0.626	0.141	0.110	0.188	3	Steam Oxide
0135908	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.938	0.201	0.626	0.141	0.110	0.188	3	V
1732101	●	No. 5 - 40 UNC	H2	Modified Bottom (2.5P)	1.938	0.201	0.626	0.141	0.110	0.188	3	Steam Oxide
1732108	●	No. 5 - 40 UNC	H2	Modified Bottom (2.5P)	1.938	0.201	0.626	0.141	0.110	0.188	3	V
0136001	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
0136008	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	V
1724201	●	No. 6 - 32 UNC	H2	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
1724208	●	No. 6 - 32 UNC	H2	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	V
0136101	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
0136108	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	V
1732205	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	2	TiN
1732201	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
1732208	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	V
1746701	●	No. 6 - 32 UNC	H4	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
1746801	●	No. 6 - 32 UNC	H5	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
1722201	●	No. 6 - 32 UNC	H5	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
1722208	●	No. 6 - 32 UNC	H5	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	V
1746901	●	No. 6 - 32 UNC	H7	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
0136201	●	No. 6 - 40 UNF	H2	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
0136208	●	No. 6 - 40 UNF	H2	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	V
1748501	●	No. 6 - 40 UNF	H2	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
1748601	●	No. 6 - 40 UNF	H3	Modified Bottom (2.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
0136301	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
0136308	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	V
1724301	●	No. 8 - 32 UNC	H2	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
1724308	●	No. 8 - 32 UNC	H2	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	V
0136401	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
0136408	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	V
1732301	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
1732305	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	TiN
1732308	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	V
1747001	●	No. 8 - 32 UNC	H4	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 303 (Continued)

EXOTAP VA-3® SFT

SPIRAL FLUTE | HSSE | S/O | TiN | V | C/1.5 | C/2.5 | 45° | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1747101	●	No. 8 - 32 UNC	H5	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
1722301	●	No. 8 - 32 UNC	H5	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
1722308	●	No. 8 - 32 UNC	H5	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	V
1747201	●	No. 8 - 32 UNC	H6	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
1747301	●	No. 8 - 32 UNC	H7	Modified Bottom (2.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
0136501	●	No. 8 - 36 UNF	H3	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	Steam Oxide
0136508	●	No. 8 - 36 UNF	H3	Bottom (1.5P)	2.125	0.252	0.752	0.168	0.131	0.250	3	V
0136601	●	No. 10 - 24 UNC	H2	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0136608	●	No. 10 - 24 UNC	H2	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1724501	●	No. 10 - 24 UNC	H2	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1724508	●	No. 10 - 24 UNC	H2	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
0136701	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0136708	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1732401	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1732405	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	TiN
1732408	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1749501	●	No. 10 - 24 UNC	H5	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1749401	●	No. 10 - 24 UNC	H5	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1749601	●	No. 10 - 24 UNC	H7	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0136801	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0136808	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1724601	●	No. 10 - 32 UNF	H2	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1724608	●	No. 10 - 32 UNF	H2	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
0136901	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0136908	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1732501	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1732505	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	TiN
1732508	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1747401	●	No. 10 - 32 UNF	H4	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1747501	●	No. 10 - 32 UNF	H5	Bottom (1.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1722501	●	No. 10 - 32 UNF	H5	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1722508	●	No. 10 - 32 UNF	H5	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	V
1747601	●	No. 10 - 32 UNF	H6	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
1747701	●	No. 10 - 32 UNF	H7	Modified Bottom (2.5P)	2.375	0.327	0.866	0.194	0.152	0.250	3	Steam Oxide
0137001	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	2.375	0.331	0.933	0.220	0.165	0.281	3	Steam Oxide
0137008	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	2.375	0.331	0.933	0.220	0.165	0.281	3	V
1749701	●	No. 12 - 24 UNC	H3	Modified Bottom (2.5P)	2.375	0.331	0.933	0.220	0.165	0.281	3	Steam Oxide
1749801	●	No. 12 - 28 UNF	H3	Modified Bottom (2.5P)	2.375	0.331	0.933	0.220	0.165	0.281	3	Steam Oxide
1762601	●	1/4 - 20 UNC	H2	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0137101	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0137108	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1732601	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1732605	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	TiN
1732608	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
0137201	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0137208	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1722601	●	1/4 - 20 UNC	H5	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1722608	●	1/4 - 20 UNC	H5	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1762701	●	1/4 - 20 UNC	H7	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1763401	●	1/4 - 28 UNF	H2	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0137301	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0137308	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 303 (Continued)

EXOTAP VA-3® SFT

SPIRAL FLUTE | HSSE | S/O | TiN | V | C/1.5 | C/2.5 | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1732701	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1732705	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	TiN
1732708	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
0137401	●	1/4 - 28 UNF	H4	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0137408	●	1/4 - 28 UNF	H4	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1722701	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1722708	●	1/4 - 28 UNF	H4	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	V
1763601	●	1/4 - 28 UNF	H5	Bottom (1.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1763501	●	1/4 - 28 UNF	H5	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1763701	●	1/4 - 28 UNF	H6	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
1763801	●	1/4 - 28 UNF	H7	Modified Bottom (2.5P)	2.500	0.398	0.996	0.255	0.191	0.313	3	Steam Oxide
0137501	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0137508	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1732801	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1732805	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	TiN
1732808	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
0137601	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0137608	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1722801	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1722808	●	5/16 - 18 UNC	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1762201	●	5/16 - 18 UNC	H7	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0137701	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0137708	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1732901	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1732905	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	TiN
1732908	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
0137801	●	5/16 - 24 UNF	H4	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0137808	●	5/16 - 24 UNF	H4	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1722901	●	5/16 - 24 UNF	H4	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1722908	●	5/16 - 24 UNF	H4	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	V
1763201	●	5/16 - 24 UNF	H5	Bottom (1.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1763101	●	5/16 - 24 UNF	H5	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
1763301	●	5/16 - 24 UNF	H7	Modified Bottom (2.5P)	2.719	0.445	1.126	0.318	0.238	0.375	3	Steam Oxide
0137901	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0137908	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1733001	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1733005	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	TiN
1733008	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
0138001	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0138008	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1723001	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1723008	●	3/8 - 16 UNC	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1761801	●	3/8 - 16 UNC	H7	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0138101	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0138108	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1733101	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1733105	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	TiN
1733108	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
0138201	●	3/8 - 24 UNF	H4	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0138208	●	3/8 - 24 UNF	H4	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1723101	●	3/8 - 24 UNF	H4	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1723108	●	3/8 - 24 UNF	H4	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	V
1763001	●	3/8 - 24 UNF	H5	Bottom (1.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
1762901	●	3/8 - 24 UNF	H5	Modified Bottom (2.5P)	2.938	0.500	1.252	0.381	0.286	0.438	3	Steam Oxide
0138301	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0138308	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1733201	●	7/16 - 14 UNC	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 303 (Continued)

EXOTAP VA-3® SFT

SPIRAL FLUTE | HSSE | S/O | TiN | V | C/1.5 | C/2.5 | 45° | PACKED 1 PIECE

EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1733205	●	7/16 - 14 UNC	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	TiN
1733208	●	7/16 - 14 UNC	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1723201	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1723208	●	7/16 - 14 UNC	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1761701	●	7/16 - 14 UNC	H7	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0138401	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0138408	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1733301	●	7/16 - 20 UNF	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1733305	●	7/16 - 20 UNF	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	TiN
1733308	●	7/16 - 20 UNF	H3	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
0138501	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0138508	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1723301	●	7/16 - 20 UNF	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
1723308	●	7/16 - 20 UNF	H5	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	V
1762801	●	7/16 - 20 UNF	H7	Modified Bottom (2.5P)	3.156	0.571	1.713	0.323	0.242	0.406	3	Steam Oxide
0138601	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0138608	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1733401	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1733405	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	TiN
1733408	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
0138701	●	1/2 - 13 UNC	H5	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0138708	●	1/2 - 13 UNC	H5	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1723401	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1723408	●	1/2 - 13 UNC	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1750001	●	1/2 - 13 UNC	H7	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0138801	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0138808	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1733501	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1733505	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	TiN
1733508	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
0138901	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0138908	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1723501	●	1/2 - 20 UNF	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1723508	●	1/2 - 20 UNF	H5	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	V
1762401	●	1/2 - 20 UNF	H6	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
1762501	●	1/2 - 20 UNF	H7	Modified Bottom (2.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
0139001	●	9/16 - 12 UNC	H3	Bottom (1.5P)	3.594	0.665	1.972	0.429	0.322	0.500	4	Steam Oxide
0139008	●	9/16 - 12 UNC	H3	Bottom (1.5P)	3.594	0.665	1.972	0.429	0.322	0.500	4	V
1749901	●	9/16 - 12 UNC	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	3	Steam Oxide
1749905	●	9/16 - 12 UNC	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	3	TiN
1749908	●	9/16 - 12 UNC	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	3	V
1726001	●	9/16 - 12 UNC	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	4	Steam Oxide
1726008	●	9/16 - 12 UNC	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	4	V
0139101	●	9/16 - 18 UNF	H3	Bottom (1.5P)	3.594	0.665	1.972	0.429	0.322	0.500	4	Steam Oxide
0139108	●	9/16 - 18 UNF	H3	Bottom (1.5P)	3.594	0.665	1.972	0.429	0.322	0.500	4	V
1762301	●	9/16 - 18 UNF	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	3	Steam Oxide
1762305	●	9/16 - 18 UNF	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	3	TiN
1762308	●	9/16 - 18 UNF	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	3	V
1726101	●	9/16 - 18 UNF	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	4	Steam Oxide
1726108	●	9/16 - 18 UNF	H3	Modified Bottom (2.5P)	3.594	0.665	1.972	0.429	0.322	0.500	4	V
0139201	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
0139208	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

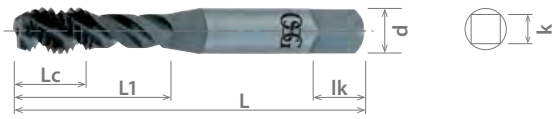
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 303 (Continued)

EXOTAP VA-3® SFT

SPIRAL FLUTE | HSSE | S/O | TiN | V | C/1.5 | C/2.5 | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1749101	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	Steam Oxide
1749105	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	TiN
1749108	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	V
1733601	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
1733608	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V
0139301	●	5/8 - 11 UNC	H5	Bottom (1.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
0139308	●	5/8 - 11 UNC	H5	Bottom (1.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V
1749201	●	5/8 - 11 UNC	H5	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	Steam Oxide
1749301	●	5/8 - 11 UNC	H7	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	Steam Oxide
0139401	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
0139408	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V
1761905	●	5/8 - 18 UNF	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	TiN
1761908	●	5/8 - 18 UNF	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	V
1733701	●	5/8 - 18 UNF	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
1733708	●	5/8 - 18 UNF	H3	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V
0139501	●	5/8 - 18 UNF	H5	Bottom (1.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	Steam Oxide
0139508	●	5/8 - 18 UNF	H5	Bottom (1.5P)	3.813	0.728	2.126	0.480	0.360	0.563	4	V
1762001	●	5/8 - 18 UNF	H5	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	Steam Oxide
1762101	●	5/8 - 18 UNF	H7	Modified Bottom (2.5P)	3.813	0.728	2.126	0.480	0.360	0.563	3	Steam Oxide
0139601	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
0139608	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	V
1733801	●	3/4 - 10 UNC	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
1733805	●	3/4 - 10 UNC	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	TiN
1733808	●	3/4 - 10 UNC	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	V
0139701	●	3/4 - 10 UNC	H6	Bottom (1.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
0139708	●	3/4 - 10 UNC	H6	Bottom (1.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	V
0139801	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
0139808	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	V
1733901	●	3/4 - 16 UNF	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
1733905	●	3/4 - 16 UNF	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	TiN
1733908	●	3/4 - 16 UNF	H3	Modified Bottom (2.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	V
0139901	●	3/4 - 16 UNF	H5	Bottom (1.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
0139908	●	3/4 - 16 UNF	H5	Bottom (1.5P)	4.250	0.799	2.433	0.590	0.442	0.688	4	V
1726201	●	7/8 - 9 UNC	H4	Modified Bottom (2.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	Steam Oxide
1726208	●	7/8 - 9 UNC	H4	Modified Bottom (2.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	V
0140001	●	7/8 - 14 UNF	H4	Bottom (1.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	Steam Oxide
0140008	●	7/8 - 14 UNF	H4	Bottom (1.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	V
1726301	●	7/8 - 14 UNF	H4	Modified Bottom (2.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	Steam Oxide
1726308	●	7/8 - 14 UNF	H4	Modified Bottom (2.5P)	4.688	0.890	2.654	0.697	0.523	0.750	4	V
1726401	●	1 - 8 UNC	H4	Modified Bottom (2.5P)	5.125	1.000	3.012	0.800	0.600	0.813	4	Steam Oxide
1726408	●	1 - 8 UNC	H4	Modified Bottom (2.5P)	5.125	1.000	3.012	0.800	0.600	0.813	4	V
1749001	●	1 - 12 UNF	H4	Modified Bottom (2.5P)	5.125	1.000	3.012	0.800	0.600	0.813	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

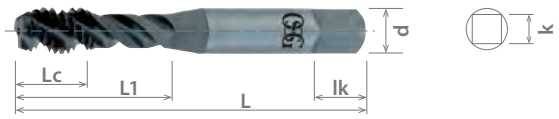
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 343

EXOTAP VA-3® SFT

SPIRAL FLUTE | HSSE | S/O | TiN | V | C/1.5 | C/2.5 | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1755001	●	M3 x 0.5	D3	Bottom (1.5P)	49.21	4.10	16.00	3.58	2.79	4.76	3	Steam Oxide
1755101	●	M3 x 0.5	D3	Modified Bottom (2.5P)	49.21	4.10	16.00	3.58	2.79	4.76	3	Steam Oxide
1746401	●	M3.5 x 0.6	D4	Modified Bottom (2.5P)	49.21	4.10	16.00	3.58	2.79	4.76	3	Steam Oxide
1755301	●	M4 x 0.7	D4	Bottom (1.5P)	53.98	5.60	19.10	4.27	3.33	6.35	3	Steam Oxide
1755401	●	M4 x 0.7	D4	Modified Bottom (2.5P)	53.98	5.60	19.10	4.27	3.33	6.35	3	Steam Oxide
1755405	●	M4 x 0.7	D4	Modified Bottom (2.5P)	53.98	5.60	19.10	4.27	3.33	6.35	3	TiN
1755408	●	M4 x 0.7	D4	Modified Bottom (2.5P)	53.98	5.60	19.10	4.27	3.33	6.35	3	V
1755601	●	M5 x 0.8	D4	Bottom (1.5P)	60.33	6.40	22.20	4.93	3.86	6.35	3	Steam Oxide
1755701	●	M5 x 0.8	D4	Modified Bottom (2.5P)	60.33	6.40	22.20	4.93	3.86	6.35	3	Steam Oxide
1755705	●	M5 x 0.8	D4	Modified Bottom (2.5P)	60.33	6.40	22.20	4.93	3.86	6.35	3	TiN
1755708	●	M5 x 0.8	D4	Modified Bottom (2.5P)	60.33	6.40	22.20	4.93	3.86	6.35	3	V
1755901	●	M6 x 1	D5	Bottom (1.5P)	63.50	8.00	25.40	6.48	4.85	7.94	3	Steam Oxide
1756001	●	M6 x 1	D5	Modified Bottom (2.5P)	63.50	8.00	25.40	6.48	4.85	7.94	3	Steam Oxide
1756005	●	M6 x 1	D5	Modified Bottom (2.5P)	63.50	8.00	25.40	6.48	4.85	7.94	3	TiN
1756008	●	M6 x 1	D5	Modified Bottom (2.5P)	63.50	8.00	25.40	6.48	4.85	7.94	3	V
1746501	●	M8 x 1	D5	Bottom (1.5P)	69.06	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
1746601	●	M8 x 1	D5	Modified Bottom (2.5P)	69.06	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
1756201	●	M8 x 1.25	D5	Bottom (1.5P)	69.06	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
1756301	●	M8 x 1.25	D5	Modified Bottom (2.5P)	69.06	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
1756305	●	M8 x 1.25	D5	Modified Bottom (2.5P)	69.06	10.00	28.60	8.08	6.05	9.53	3	TiN
1756308	●	M8 x 1.25	D5	Modified Bottom (2.5P)	69.06	10.00	28.60	8.08	6.05	9.53	3	V
1745701	●	M10 x 1.25	D5	Modified Bottom (2.5P)	74.61	12.00	31.80	9.68	7.26	11.11	3	Steam Oxide
1756501	●	M10 x 1.5	D6	Bottom (1.5P)	74.61	12.00	31.80	9.68	7.26	11.11	3	Steam Oxide
1756601	●	M10 x 1.5	D6	Modified Bottom (2.5P)	74.61	12.00	31.80	9.68	7.26	11.11	3	Steam Oxide
1756605	●	M10 x 1.5	D6	Modified Bottom (2.5P)	74.61	12.00	31.80	9.68	7.26	11.11	3	TiN
1756608	●	M10 x 1.5	D6	Modified Bottom (2.5P)	74.61	12.00	31.80	9.68	7.26	11.11	3	V
1745801	●	M12 x 1.25	D5	Modified Bottom (2.5P)	85.73	14.00	49.10	9.32	6.99	11.11	3	Steam Oxide
1756801	●	M12 x 1.75	D6	Bottom (1.5P)	85.73	14.00	49.10	9.32	6.99	11.11	3	Steam Oxide
1756901	●	M12 x 1.75	D6	Modified Bottom (2.5P)	85.73	14.00	49.10	9.32	6.99	11.11	3	Steam Oxide
1756905	●	M12 x 1.75	D6	Modified Bottom (2.5P)	85.73	14.00	49.10	9.32	6.99	11.11	3	TiN
1756908	●	M12 x 1.75	D6	Modified Bottom (2.5P)	85.73	14.00	49.10	9.32	6.99	11.11	3	V
1756101	●	M14 x 1.5	D6	Bottom (1.5P)	91.28	16.00	5.10	10.90	8.18	12.70	3	Steam Oxide
1745901	●	M14 x 1.5	D6	Modified Bottom (2.5P)	91.28	16.00	5.10	10.90	8.18	12.70	3	Steam Oxide
1755801	●	M14 x 2	D7	Bottom (1.5P)	91.28	16.00	5.10	10.90	8.18	12.70	3	Steam Oxide
1746001	●	M14 x 2	D7	Modified Bottom (2.5P)	91.28	16.00	5.10	10.90	8.18	12.70	3	Steam Oxide
1755201	●	M16 x 1.5	D6	Bottom (1.5P)	96.84	16.00	54.00	12.19	9.14	14.29	3	Steam Oxide
1746101	●	M16 x 1.5	D6	Modified Bottom (2.5P)	96.84	16.00	54.00	12.19	9.14	14.29	3	Steam Oxide
1755501	●	M16 x 2	D7	Bottom (1.5P)	96.84	16.00	54.00	12.19	9.14	14.29	3	Steam Oxide
1746201	●	M16 x 2	D7	Modified Bottom (2.5P)	96.84	16.00	54.00	12.19	9.14	14.29	3	Steam Oxide
1746301	●	M18 x 1.5	D6	Modified Bottom (2.5P)	102.39	20.00	55.00	13.77	10.31	15.88	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 307

SPIRAL FLUTE | HSSE | V | C/2.5 | 45° | PACKED 1 PIECE

EXOTAP VA-3® OIL-V-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
30701708	●	1/4 - 20 UNC	H3	3.150	0.402	1.181	0.255	0.191	0.313	3
30701808	●	1/4 - 20 UNC	H5	3.150	0.402	1.181	0.255	0.191	0.313	3
30701908	●	1/4 - 28 UNF	H3	3.150	0.402	1.181	0.255	0.191	0.313	3
30702008	●	1/4 - 28 UNF	H4	3.150	0.402	1.181	0.255	0.191	0.313	3
30702108	●	5/16 - 18 UNC	H3	3.543	0.445	1.378	0.318	0.238	0.375	3
30702208	●	5/16 - 18 UNC	H5	3.543	0.445	1.378	0.318	0.238	0.375	3
30702308	●	5/16 - 24 UNF	H4	3.543	0.445	1.378	0.318	0.238	0.375	3
30702408	●	5/16 - 24 UNF	H5	3.543	0.445	1.378	0.318	0.238	0.375	3
30702508	●	3/8 - 16 UNC	H3	3.937	0.500	1.535	0.381	0.286	0.438	3
30702608	●	3/8 - 16 UNC	H5	3.937	0.500	1.535	0.381	0.286	0.438	3
30702708	●	3/8 - 24 UNF	H3	3.543	0.500	1.378	0.381	0.286	0.438	3
30702808	●	3/8 - 24 UNF	H4	3.543	0.500	1.378	0.381	0.286	0.438	3
30702908	●	7/16 - 14 UNC	H3	3.937	0.571	1.713	0.323	0.242	0.406	3
30703008	●	7/16 - 14 UNC	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
30703108	●	7/16 - 20 UNF	H3	3.937	0.571	1.713	0.323	0.242	0.406	3
30703208	●	7/16 - 20 UNF	H5	3.937	0.571	1.713	0.323	0.242	0.406	3
30703308	●	1/2 - 13 UNC	H3	4.331	0.614	1.933	0.367	0.275	0.438	3
30703408	●	1/2 - 13 UNC	H5	4.331	0.614	1.933	0.367	0.275	0.438	3
30703508	●	1/2 - 20 UNF	H3	3.397	0.614	1.933	0.367	0.275	0.438	3
30703608	●	1/2 - 20 UNF	H5	3.397	0.614	1.933	0.367	0.275	0.438	3
30703708	●	9/16 - 12 UNC	H3	4.331	0.665	1.972	0.429	0.322	0.500	4
30703808	●	9/16 - 12 UNC	H5	4.331	0.665	1.972	0.429	0.322	0.500	4
30703908	●	9/16 - 18 UNF	H3	3.937	0.665	1.972	0.429	0.322	0.500	4
30704008	●	9/16 - 18 UNF	H5	3.937	0.665	1.972	0.429	0.322	0.500	4
30704108	●	5/8 - 11 UNC	H3	4.331	0.728	2.433	0.480	0.360	0.563	4
30704208	●	5/8 - 11 UNC	H5	4.331	0.728	2.433	0.480	0.360	0.563	4
30704308	●	5/8 - 18 UNF	H3	3.937	0.728	2.433	0.480	0.360	0.563	4
30704408	●	5/8 - 18 UNF	H5	3.937	0.728	2.433	0.480	0.360	0.563	4
30704508	●	3/4 - 10 UNC	H3	4.921	0.799	2.433	0.590	0.442	0.688	4
30704608	●	3/4 - 10 UNC	H5	4.921	0.799	2.433	0.590	0.442	0.688	4
30704708	●	3/4 - 16 UNF	H3	4.331	0.799	2.433	0.590	0.442	0.688	4
30704808	●	3/4 - 16 UNF	H5	4.331	0.799	2.433	0.590	0.442	0.688	4
30704908	●	7/8 - 9 UNC	H4	5.512	0.890	2.654	0.697	0.523	0.750	4
30705008	●	7/8 - 9 UNC	H6	5.512	0.890	2.654	0.697	0.523	0.750	4
30705108	●	7/8 - 14 UNF	H4	4.921	0.890	2.654	0.697	0.523	0.750	4
30705208	●	7/8 - 14 UNF	H6	4.921	0.890	2.654	0.697	0.523	0.750	4
30705308	●	1 - 8 UNC	H4	6.299	1.000	3.012	0.800	0.600	0.813	4
30705408	●	1 - 8 UNC	H6	6.299	1.000	3.012	0.800	0.600	0.813	4
30705508	●	1 - 12 UNF	H4	5.512	1.000	3.012	0.800	0.600	0.813	4
30705608	●	1 - 12 UNF	H6	5.512	1.000	3.012	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 347

SPIRAL FLUTE | HSSE | V | C/2.5 | 45° | PACKED 1 PIECE

EXOTAP VA-3® OIL-V-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
34700508	●	M6 x 1	D5	80.00	8.00	30.00	6.48	4.85	7.94	3
34700608	●	M8 x 1	D5	90.00	10.00	35.00	8.08	6.05	9.53	3
34700708	●	M8 x 1.25	D5	90.00	10.00	35.00	8.08	6.05	9.53	3
34700808	●	M10 x 1.25	D5	100.00	12.00	39.00	9.68	7.26	11.11	3
34700908	●	M10 x 1.5	D6	100.00	12.00	39.00	9.68	7.26	11.11	3
34701008	●	M12 x 1.25	D5	100.00	14.00	49.10	9.32	6.99	11.11	3
34701108	●	M12 x 1.5	D6	100.00	14.00	49.10	9.32	6.99	11.11	3
34701208	●	M12 x 1.75	D6	110.00	14.00	49.10	9.32	6.99	11.11	3
34701308	●	M14 x 1.5	D6	100.00	16.00	50.10	10.90	8.18	12.70	3
34701408	●	M14 x 2	D7	110.00	16.00	50.10	10.90	8.18	12.70	3
34701508	●	M16 x 1.5	D6	100.00	16.00	54.00	12.19	9.14	14.29	3
34701608	●	M16 x 2	D7	110.00	16.00	54.00	12.19	9.14	14.29	3
34701708	●	M18 x 1.5	D6	110.00	20.00	55.00	13.77	10.31	15.88	4
34701808	●	M18 x 2.5	D7	125.00	20.00	55.00	13.77	10.31	15.88	4
34701908	●	M20 x 1.5	D6	125.00	20.00	61.80	16.56	12.42	17.46	4
34702008	●	M20 x 2.5	D7	140.00	20.00	61.80	16.56	12.42	17.46	4
34702108	●	M22 x 1.5	D6	125.00	20.00	67.40	17.70	13.28	19.05	4
34702208	●	M22 x 2.5	D7	140.00	20.00	67.40	17.70	13.28	19.05	4
34702308	●	M24 x 1.5	D6	140.00	24.00	68.40	19.30	14.48	19.05	4
34702408	●	M24 x 3	D8	160.00	24.00	68.40	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

EXOTAP VA-3®

Ideal for Stainless Steel

List 398

EXOTAP VA-3® LS-SFT, Long Shank

SPIRAL FLUTE | HSSE | S/O | C/1.5P | C/2.5P | 30° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
0143701	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	6.000	0.197	0.839	0.141	0.110	0.188	3
1766101	●	No. 4 - 40 UNC	H2	Modified Bottom (2.5P)	4.000	0.197	0.839	0.141	0.110	0.188	3
0143801	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	6.000	0.248	1.339	0.141	0.110	0.188	3
1766301	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	4.000	0.248	1.339	0.141	0.110	0.188	3
1766501	●	No. 6 - 32 UNC	H3	Modified Bottom (2.5P)	6.000	0.248	1.339	0.141	0.110	0.188	3
0143901	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	6.000	0.252	1.126	0.168	0.131	0.250	3
1766701	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	4.000	0.252	1.126	0.168	0.131	0.250	3
1766901	●	No. 8 - 32 UNC	H3	Modified Bottom (2.5P)	6.000	0.252	1.126	0.168	0.131	0.250	3
1767101	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	4.000	0.327	1.303	0.194	0.152	0.250	3
1767301	●	No. 10 - 24 UNC	H3	Modified Bottom (2.5P)	6.000	0.327	1.303	0.194	0.152	0.250	3
0144001	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	6.000	0.327	1.303	0.194	0.152	0.250	3
1767501	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	4.000	0.327	1.303	0.194	0.152	0.250	3
1767701	●	No. 10 - 32 UNF	H3	Modified Bottom (2.5P)	6.000	0.327	1.303	0.194	0.152	0.250	3
0144101	●	1/4 - 20 UNC	H3	Bottom (1.5P)	6.000	0.398	1.497	0.255	0.191	0.313	3
1767901	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	4.000	0.398	1.497	0.255	0.191	0.313	3
1768101	●	1/4 - 20 UNC	H3	Modified Bottom (2.5P)	6.000	0.398	1.497	0.255	0.191	0.313	3
0144201	●	1/4 - 28 UNF	H3	Bottom (1.5P)	6.000	0.398	1.497	0.255	0.191	0.313	3
1768301	●	1/4 - 28 UNF	H3	Modified Bottom (2.5P)	6.000	0.398	1.497	0.255	0.191	0.313	3
0144301	●	5/16 - 18 UNC	H3	Bottom (1.5P)	6.000	0.445	1.689	0.318	0.238	0.375	3
1768501	●	5/16 - 18 UNC	H3	Modified Bottom (2.5P)	6.000	0.445	1.689	0.318	0.238	0.375	3
1768601	●	5/16 - 24 UNF	H3	Modified Bottom (2.5P)	6.000	0.445	1.677	0.318	0.238	0.375	3
0144401	●	3/8 - 16 UNC	H3	Bottom (1.5P)	6.000	0.500	1.874	0.381	0.286	0.438	3
1768701	●	3/8 - 16 UNC	H3	Modified Bottom (2.5P)	6.000	0.500	1.874	0.381	0.286	0.438	3
0144501	●	3/8 - 24 UNF	H3	Bottom (1.5P)	6.000	0.500	1.874	0.381	0.286	0.438	3
1768801	●	3/8 - 24 UNF	H3	Modified Bottom (2.5P)	6.000	0.500	1.874	0.381	0.286	0.438	3
0144601	●	7/16 - 14 UNC	H3	Bottom (1.5P)	6.000	0.571	1.713	0.323	0.242	0.406	3
1768901	●	7/16 - 14 UNC	H3	Modified Bottom (2.5P)	6.000	0.571	1.713	0.323	0.242	0.406	3
1769001	●	7/16 - 20 UNF	H3	Modified Bottom (2.5P)	6.000	0.571	1.713	0.323	0.242	0.406	3
1769101	●	1/2 - 13 UNC	H3	Modified Bottom (2.5P)	6.000	0.614	1.934	0.367	0.275	0.438	3
1769201	●	1/2 - 20 UNF	H3	Modified Bottom (2.5P)	6.000	0.614	1.934	0.367	0.275	0.438	3
1769301	●	5/8 - 11 UNC	H3	Modified Bottom (2.5P)	6.000	0.728	2.126	0.480	0.360	0.563	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Neck length is designed for reaching 50% deeper holes than ANSI standard taps.

EXT

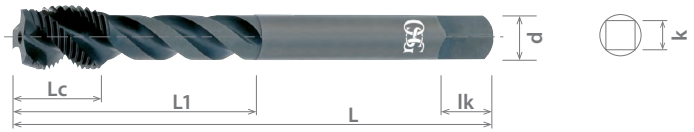
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 220

SPIRAL FLUTE | HSSE | S/0 | C/2.5P | 45° | PACKED 1 PIECE

HY-PRO® DIN-SFT, DIN Overall Length



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
2211401	●	No. 4 - 40 UNC	2B	2.205	0.196	0.704	0.141	0.110	0.188	3
2212401	●	No. 6 - 32 UNC	2B	2.205	0.248	0.783	0.141	0.110	0.188	3
2217801	●	No. 8 - 32 UNC	2B	2.480	0.251	0.826	0.168	0.131	0.250	3
2213401	●	No. 10 - 24 UNC	2B	2.756	0.326	0.976	0.194	0.152	0.250	3
2218801	●	No. 10 - 32 UNF	2B	2.756	0.326	0.976	0.194	0.152	0.250	3
2230001	●	1/4 - 20 UNC	2B	3.150	0.397	1.177	0.255	0.191	0.313	3
2230401	●	1/4 - 28 UNF	2B	3.150	0.397	1.177	0.255	0.191	0.313	3
2230801	●	5/16 - 18 UNC	2B	3.543	0.444	1.377	0.318	0.238	0.375	3
2231201	●	5/16 - 24 UNF	2B	3.543	0.444	1.377	0.318	0.238	0.375	3
2231601	●	3/8 - 16 UNC	2B	3.937	0.500	1.377	0.381	0.286	0.438	3
2231801	●	3/8 - 24 UNF	2B	3.937	0.500	1.377	0.381	0.286	0.438	3
2232001	●	7/16 - 14 UNC	2B	3.937	0.570	1.712	0.323	0.242	0.406	3
2232201	●	7/16 - 20 UNF	2B	3.937	0.570	1.712	0.323	0.242	0.406	3
2232401	●	1/2 - 13 UNC	2B	4.331	0.614	1.933	0.367	0.275	0.438	3
2232601	●	1/2 - 20 UNF	2B	3.937	0.614	1.933	0.367	0.275	0.438	3
2233201	●	5/8 - 11 UNC	2B	4.331	0.728	2.125	0.480	0.360	0.563	4
2233401	●	5/8 - 18 UNF	2B	3.937	0.728	2.125	0.480	0.360	0.563	4
2233601	●	3/4 - 10 UNC	2B	4.921	0.799	2.433	0.590	0.442	0.688	4
2233801	●	3/4 - 16 UNF	2B	4.331	0.799	2.433	0.590	0.442	0.688	4
2244001	●	7/8 - 9 UNC	2B	5.512	0.889	2.952	0.697	0.523	0.750	4
2239201	●	7/8 - 14 UNF	2B	4.921	0.889	2.653	0.697	0.523	0.750	4
2244401	●	1 - 8 UNC	2B	6.299	1.000	3.543	0.800	0.600	0.813	4
2239601	●	1 - 12 UNF	2B	5.512	1.000	3.011	0.800	0.600	0.813	4
2247201	●	1- 1/8 - 7 UNC	2B	7.087	1.141	3.937	0.896	0.672	0.875	4
2247601	●	1- 1/8 - 8 UN	2B	7.087	1.141	3.937	0.896	0.672	0.875	4
2245001	●	1- 1/8 - 12 UNF	2B	5.906	1.141	3.074	0.896	0.672	0.875	4
2247701	●	1- 1/4 - 7 UNC	2B	7.087	1.141	3.937	1.021	0.766	1.000	4
2247901	●	1- 1/4 - 8 UN	2B	7.087	1.141	3.937	1.021	0.766	1.000	4
2245601	●	1- 1/4 - 12 UNF	2B	5.906	1.141	3.074	1.021	0.766	1.000	4
2248001	●	1- 3/8 - 6 UNC	2B	7.874	1.334	4.528	1.108	0.831	1.063	4
2248201	●	1- 3/8 - 8 UN	2B	7.874	1.334	4.528	1.108	0.831	1.063	4
2246201	●	1- 3/8 - 12 UNF	2B	6.693	1.334	3.591	1.108	0.831	1.063	4
2248301	●	1- 1/2 - 6 UNC	2B	7.874	1.334	4.528	1.233	0.925	1.125	4
2248501	●	1- 1/2 - 8 UN	2B	7.874	1.334	4.528	1.233	0.925	1.125	4
2246801	●	1- 1/2 - 12 UNF	2B	6.693	1.334	3.591	1.233	0.925	1.125	4
2248601	●	1- 5/8 - 8 UN	2B	7.874	1.334	4.331	1.305	0.979	1.125	4
2248701	●	1- 3/4 - 5 UNC	2B	8.661	1.598	4.724	1.430	1.072	1.250	4
2248801	●	1- 3/4 - 8 UN	2B	7.874	1.598	3.976	1.430	1.072	1.250	4
2248901	●	1- 7/8 - 8 UN	2B	8.858	1.598	4.921	1.519	1.139	1.250	4
2249001	●	2 - 4.5 UNC	2B	9.843	1.780	5.512	1.644	1.233	1.375	5
2249101	●	2 - 8 UN	2B	8.858	1.780	4.921	1.644	1.233	1.375	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

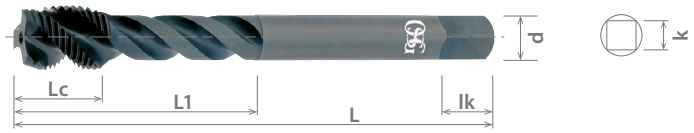
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	○	○	○	○	○					○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-40 SFM	15-20 SFM	25-75 SFM					15-35 SFM			

○ Good ◎ Best

List 229

SPIRAL FLUTE | HSSE | S/0 | C/2.5P | 45° | PACKED 1 PIECE

DIN Overall Length, Modified Bottom (2.5P-3P)



EDP Number		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
2290401	●	M3 x 0.5	6H	56.00	4.10	18.10	3.58	2.79	4.76	3
2290601	●	M4 x 0.7	6H	63.00	5.60	21.00	4.27	3.33	6.35	3
2290801	●	M5 x 0.8	6H	70.00	6.40	25.00	4.93	3.86	6.35	3
2291001	●	M6 x 1	6H	80.00	8.00	30.00	6.48	4.85	7.94	3
2291401	●	M8 x 1.25	6H	90.00	10.00	35.00	8.08	6.05	9.53	3
2291701	●	M10 x 1.25	6H	100.00	12.00	39.00	9.68	7.26	11.11	3
2291801	●	M10 x 1.5	6H	100.00	12.00	39.00	9.68	7.26	11.11	3
2292101	●	M12 x 1.25	6H	100.00	14.00	49.10	9.32	6.99	11.11	3
2292201	●	M12 x 1.5	6H	100.00	14.00	49.10	9.32	6.99	11.11	3
2292301	●	M12 x 1.75	6H	110.00	14.00	49.10	9.32	6.99	11.11	3
2292501	●	M14 x 1.5	6H	100.00	16.00	50.10	10.90	8.18	12.70	3
2292601	●	M14 x 2	6H	110.00	16.00	50.10	10.90	8.18	12.70	3
2292801	●	M16 x 1.5	6H	100.00	16.00	54.00	12.19	9.14	14.29	3
2292901	●	M16 x 2	6H	110.00	16.00	54.00	12.19	9.14	14.29	3
2293001	●	M18 x 1.5	6H	110.00	20.00	55.00	13.77	10.31	15.88	4
2293201	●	M18 x 2.5	6H	125.00	20.00	55.00	13.77	10.31	15.88	4
2293401	●	M20 x 1.5	6H	125.00	20.00	61.80	16.56	12.42	17.46	4
2293601	●	M20 x 2.5	6H	140.00	20.00	61.80	16.56	12.42	17.46	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

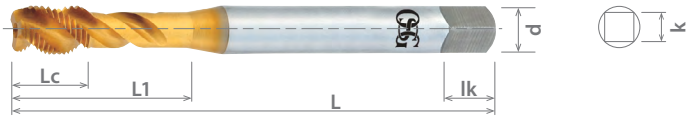
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	○	○	○	○	○					○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-40 SFM	15-20 SFM	25-75 SFM					15-35 SFM			

○ Good ◎ Best

List 230

SPIRAL FLUTE | HSSE | TiN | C/2.5P | 45° | PACKED 1 PIECE

HY-PRO® DIN OIL-TIN-SFT, DIN Overall Length



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
2330005	●	1/4 - 20 UNC	2B	3.150	0.402	1.181	0.255	0.191	0.313	3
2330405	●	1/4 - 28 UNF	2B	3.150	0.402	1.181	0.255	0.191	0.313	3
2330805	●	5/16 - 18 UNC	2B	3.543	0.445	1.378	0.318	0.238	0.375	3
2331205	●	5/16 - 24 UNF	2B	3.543	0.445	1.378	0.318	0.238	0.375	3
2331605	●	3/8 - 16 UNC	2B	3.937	0.500	1.378	0.381	0.286	0.438	3
2331805	●	3/8 - 24 UNF	2B	3.937	0.500	1.378	0.381	0.286	0.438	3
2332005	●	7/16 - 14 UNC	2B	3.937	0.571	1.713	0.323	0.242	0.406	3
2332205	●	7/16 - 20 UNF	2B	3.937	0.571	1.713	0.323	0.242	0.406	3
2332405	●	1/2 - 13 UNC	2B	4.331	0.614	1.934	0.367	0.275	0.438	3
2332605	●	1/2 - 20 UNF	2B	3.937	0.614	1.934	0.367	0.275	0.438	3
2333005	●	9/16 - 18 UNF	2B	3.937	0.665	1.972	0.429	0.322	0.500	4
2333205	●	5/8 - 11 UNC	2B	4.331	0.728	2.126	0.480	0.360	0.563	4
2333405	●	5/8 - 18 UNF	2B	3.937	0.728	2.126	0.480	0.360	0.563	4
2333605	●	3/4 - 10 UNC	2B	4.921	0.799	2.434	0.590	0.442	0.688	4
2333805	●	3/4 - 16 UNF	2B	4.331	0.799	2.434	0.590	0.442	0.688	4
2334005	●	7/8 - 9 UNC	2B	5.512	0.890	2.654	0.697	0.523	0.750	4
2334205	●	7/8 - 14 UNF	2B	4.921	0.890	2.654	0.697	0.523	0.750	4
2334405	●	1 - 8 UNC	2B	6.299	1.000	3.118	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

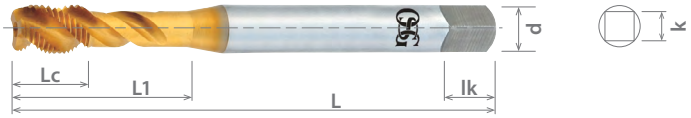
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	◎	○	○	○	○	○	○			○			
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	20-70 SFM	30-50 SFM	20-50 SFM	40-100 SFM	50-125 SFM	50-110 SFM			20-60 SFM			

○ Good ◎ Best

List 239

HY-PRO® DIN OIL-TIN-SFT, DIN Overall Length

SPIRAL FLUTE | HSSE | TiN | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
2391005	●	M6 x 1	6H	80.00	8.00	30.00	6.48	4.85	7.94	3
2391405	●	M8 x 1.25	6H	90.00	10.00	35.00	8.08	6.05	9.53	3
2391705	●	M10 x 1.25	6H	100.00	12.00	39.00	9.68	7.26	11.11	3
2391805	●	M10 x 1.5	6H	100.00	12.00	39.00	9.68	7.26	11.11	3
2392105	●	M12 x 1.25	6H	100.00	14.00	49.10	9.32	6.99	11.11	3
2392205	●	M12 x 1.5	6H	100.00	14.00	49.10	9.32	6.99	11.11	3
2392305	●	M12 x 1.75	6H	110.00	14.00	49.10	9.32	6.99	11.11	3
2392505	●	M14 x 1.5	6H	100.00	16.00	51.00	10.90	8.18	12.70	3
2392605	●	M14 x 2	6H	110.00	16.00	51.00	10.90	8.18	12.70	3
2392805	●	M16 x 1.5	6H	100.00	16.00	54.00	12.19	9.14	14.29	3
2392905	●	M16 x 2	6H	110.00	16.00	54.00	12.19	9.14	14.29	3
2393005	●	M18 x 1.5	6H	110.00	20.00	55.00	13.77	10.31	15.88	4
2393205	●	M18 x 2.5	6H	125.00	20.00	55.00	13.77	10.31	15.88	4
2393405	●	M20 x 1.5	6H	125.00	20.00	61.80	16.56	12.42	17.46	4
2393605	●	M20 x 2.5	6H	140.00	20.00	61.80	16.56	12.42	17.46	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	◎	○	○	○	○	○	○			○			
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	20-70 SFM	30-50 SFM	20-50 SFM	40-100 SFM	50-125 SFM	50-110 SFM			20-60 SFM			

○ Good ◎ Best

List 13013

HY-PRO® ALLOY OIL-V-SFT, DIN Overall Length

SPIRAL FLUTE | HSSE | V | C/1.5P | 15° | PACKED 1 PIECE



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1301300508	●	1/4 - 20 UNC	2B	3.150	0.402	1.181	0.255	0.191	0.313	3
1301300608	●	1/4 - 28 UNF	2B	3.150	0.402	1.181	0.255	0.191	0.313	3
1301300708	●	5/16 - 18 UNC	2B	3.543	0.445	1.378	0.318	0.238	0.375	3
1301300808	●	5/16 - 24 UNF	2B	3.543	0.445	1.378	0.318	0.238	0.375	3
1301300908	●	3/8 - 16 UNC	2B	3.937	0.500	1.378	0.381	0.286	0.438	3
1301301008	●	3/8 - 24 UNF	2B	3.937	0.500	1.378	0.381	0.286	0.438	3
1301301108	●	7/16 - 14 UNC	2B	3.937	0.571	1.713	0.323	0.242	0.406	3
1301301208	●	7/16 - 20 UNF	2B	3.937	0.571	1.713	0.323	0.242	0.406	3
1301301308	●	1/2 - 13 UNC	2B	4.331	0.614	1.933	0.367	0.275	0.438	3
1301301408	●	1/2 - 20 UNF	2B	3.937	0.614	1.933	0.367	0.275	0.438	3
1301301508	●	5/8 - 11 UNC	2B	4.331	0.728	2.126	0.480	0.360	0.563	4
1301301608	●	5/8 - 18 UNF	2B	3.937	0.728	2.126	0.480	0.360	0.563	4
1301301708	●	3/4 - 10 UNC	2B	4.921	0.799	2.433	0.590	0.442	0.688	4
1301301808	●	3/4 - 16 UNF	2B	4.331	0.799	2.433	0.590	0.442	0.688	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
		○	◎	○				○		○			○	○		
		40-100 SFM	45-110 SFM	20-60 SFM				40-100 SFM		50-110 SFM			20-60 SFM	15-50 SFM		

○ Good ◎ Best

List 13113

SPIRAL FLUTE | HSSE | V | C/1.5P | 15° | PACKED 1 PIECE

HY-PRO® ALLOY OIL-V-SFT, DIN Overall Length



EDP Number		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1311300508	●	M6 x 1	2B	80.00	8.00	30.00	6.48	4.85	7.94	3
1311300608	●	M8 x 1.25	2B	90.00	10.00	35.00	8.08	6.05	9.53	3
1311300708	●	M10 x 1.25	2B	100.00	12.00	38.90	9.68	7.26	11.11	3
1311300808	●	M10 x 1.5	2B	100.00	12.00	38.90	9.68	7.26	11.11	3
1311300908	●	M12 x 1.25	2B	100.00	14.00	49.00	9.32	6.99	11.11	3
1311301008	●	M12 x 1.5	2B	100.00	14.00	49.00	9.32	6.99	11.11	3
1311301108	●	M12 x 1.75	2B	110.00	14.00	49.00	9.32	6.99	11.11	3
1311301208	●	M14 x 1.5	2B	100.00	16.00	50.00	10.90	8.18	12.70	3
1311301308	●	M14 x 2	2B	110.00	16.00	50.00	10.90	8.18	12.70	3
1311301408	●	M16 x 1.5	2B	100.00	16.00	54.00	12.19	9.14	14.29	3
1311301508	●	M16 x 2	2B	110.00	16.00	54.00	12.19	9.14	14.29	3
1311301608	●	M18 x 1.5	2B	110.00	20.00	54.90	13.77	10.31	15.88	4
1311301708	●	M18 x 2.5	2B	125.00	20.00	54.90	13.77	10.31	15.88	4
1311301808	●	M20 x 1.5	2B	125.00	20.00	61.80	16.56	12.42	17.46	4
1311301908	●	M20 x 2.5	2B	140.00	20.00	61.80	16.56	12.42	17.46	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

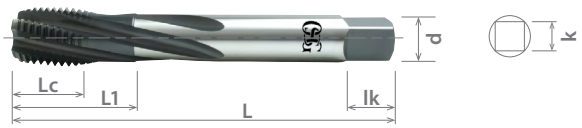
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
		○	◎	○				○		○			○	○		
		40-100 SFM	45-110 SFM	20-60 SFM				40-100 SFM		50-110 SFM			20-60 SFM	15-50 SFM		

○ Good ◎ Best

List 13014

SPIRAL FLUTE | HSSE | S/0 | C/2.5P | 15° | PACKED 1 PIECE

HY-PRO® HXL-SFT, Horizontal Applications, DIN Overall Length



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1301402601	●	1/2 - 13 UNC	2B	4.331	0.614	-	0.367	0.275	0.438	4
1301402701	●	1/2 - 20 UNF	2B	3.937	0.614	1.000	0.367	0.275	0.438	4
1301400101	●	9/16 - 12 UNC	2B	4.331	0.665	-	0.429	0.322	0.500	4
1301400201	●	9/16 - 18 UNF	2B	3.937	0.665	1.126	0.429	0.322	0.500	4
1301400301	●	5/8 - 11 UNC	2B	4.331	0.728	-	0.480	0.360	0.563	4
1301400401	●	5/8 - 18 UNF	2B	3.937	0.728	1.252	0.480	0.360	0.563	4
1301400501	●	3/4 - 10 UNC	2B	4.921	0.799	-	0.590	0.442	0.688	4
1301402801	●	3/4 - 16 UNF	2B	4.331	0.799	1.500	0.590	0.442	0.688	4
1301400601	●	7/8 - 9 UNC	2B	5.512	0.890	-	0.697	0.523	0.750	4
1301402901	●	7/8 - 14 UNF	2B	4.921	0.890	1.752	0.697	0.523	0.750	4
1301400701	●	1 - 8 UNC	2B	6.299	1.000	-	0.800	0.600	0.813	5
1301403001	●	1 - 12 UNF	2B	5.512	0.665	2.000	0.800	0.600	0.813	5
1301400901	●	1- 1/8 - 7 UNC	2B	7.087	1.142	-	0.896	0.672	0.875	5
1301401101	●	1- 1/8 - 8 UN	2B	7.087	1.000	2.252	0.896	0.672	0.875	5
1301403101	●	1- 1/8 - 12 UNF	2B	5.906	0.665	2.252	0.896	0.672	0.875	5
1301401201	●	1- 1/4 - 7 UNC	2B	7.087	1.142	2.500	1.021	0.766	1.000	5
1301401401	●	1- 1/4 - 8 UN	2B	7.087	1.000	2.500	1.021	0.766	1.000	5
1301403201	●	1- 1/4 - 12 UNF	2B	5.906	0.665	2.500	1.021	0.766	1.000	5
1301401501	●	1- 3/8 - 6 UNC	2B	7.874	1.335	-	1.108	0.831	1.063	5
1301401701	●	1- 3/8 - 8 UN	2B	7.874	1.000	2.752	1.108	0.831	1.063	5
1301403901	●	1- 3/8 - 12 UNF	2B	6.693	1.000	2.752	1.108	0.831	1.063	5
1301401801	●	1- 1/2 - 6 UNC	2B	7.874	1.335	-	1.233	0.925	1.125	5
1301402001	●	1- 1/2 - 8 UN	2B	7.874	1.000	3.000	1.233	0.925	1.125	5
1301403301	●	1- 1/2 - 12 UNF	2B	6.693	0.665	3.000	1.233	0.925	1.125	5
1301402101	●	1- 5/8 - 8 UN	2B	7.874	1.000	3.252	1.305	0.979	1.125	6
1301403501	●	1- 3/4 - 5 UNC	2B	8.661	1.598	-	1.430	1.072	1.250	6
1301402201	●	1- 3/4 - 8 UN	2B	7.874	1.000	3.500	1.430	1.072	1.250	6
1301402301	●	1- 7/8 - 8 UN	2B	8.858	1.000	3.752	1.519	1.139	1.250	6
1301403601	●	2 - 4.5 UNC	2B	9.843	1.780	-	1.644	1.233	1.375	6
1301402401	●	2 - 8 UN	2B	8.858	1.000	4.000	1.644	1.233	1.375	6
1301403701	●	2- 1/4 - 4.5 UNC	2B	11.024	1.780	-	1.894	1.420	1.438	6
1301404001	●	2- 1/4 - 8 UN	2B	9.843	1.000	4.500	1.894	1.420	1.438	6
1301403801	●	2- 1/2 - 4 UNC	2B	12.402	2.000	-	2.100	1.575	1.500	6
1301402501	●	2- 1/2 - 8 UN	2B	10.827	1.000	5.000	2.100	1.575	1.500	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

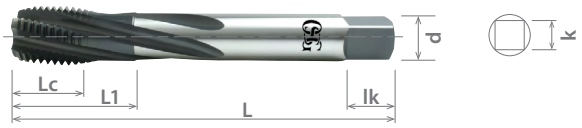
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○	○	◎					◎	○		
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-20 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM					15-35 SFM	8-15 SFM		

○ Good ◎ Best

List 13024

SPIRAL FLUTE | HSSE | S/O | C/2.5P | 15° | PACKED 1 PIECE

HY-PRO® HXL-OIL-SFT, Horizontal Applications, DIN Overall Length



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1302402601	●	1/2 - 13 UNC	2B	4.331	0.614	-	0.367	0.275	0.438	4
1302402701	●	1/2 - 20 UNF	2B	3.937	0.614	1.000	0.367	0.275	0.438	4
1302400101	●	9/16 - 12 UNC	2B	4.331	0.665	-	0.429	0.322	0.500	4
1302400201	●	9/16 - 18 UNF	2B	3.937	0.665	1.125	0.429	0.322	0.500	4
1302400301	●	5/8 - 11 UNC	2B	4.331	0.728	-	0.480	0.360	0.563	4
1302400401	●	5/8 - 18 UNF	2B	3.937	0.728	1.251	0.480	0.360	0.563	4
1302400501	●	3/4 - 10 UNC	2B	4.921	0.799	-	0.590	0.442	0.688	4
1302402801	●	3/4 - 16 UNF	2B	4.331	0.799	1.500	0.590	0.442	0.688	4
1302400601	●	7/8 - 9 UNC	2B	5.512	0.889	-	0.697	0.523	0.750	4
1302402901	●	7/8 - 14 UNF	2B	4.921	0.889	1.751	0.697	0.523	0.750	4
1302400701	●	1 - 8 UNC	2B	6.299	1.000	-	0.800	0.600	0.813	5
1302403001	●	1 - 12 UNF	2B	5.512	0.665	2.000	0.800	0.600	0.813	5
1302400901	●	1- 1/8 - 7 UNC	2B	7.087	1.141	-	0.896	0.672	0.875	5
1302401101	●	1- 1/8 - 8 UN	2B	7.087	1.000	2.251	0.896	0.672	0.875	5
1302403101	●	1- 1/8 - 12 UNF	2B	5.906	0.665	2.251	0.896	0.672	0.875	5
1302401201	●	1- 1/4 - 7 UNC	2B	7.087	1.141	2.500	1.021	0.766	1.000	5
1302401401	●	1- 1/4 - 8 UN	2B	7.087	1.000	2.500	1.021	0.766	1.000	5
1302403201	●	1- 1/4 - 12 UNF	2B	5.906	0.665	2.500	1.021	0.766	1.000	5
1302401501	●	1- 3/8 - 6 UNC	2B	7.874	1.334	-	1.108	0.831	1.063	5
1302401701	●	1- 3/8 - 8 UN	2B	7.874	1.000	2.751	1.108	0.831	1.063	5
1302403901	●	1- 3/8 - 12 UNF	2B	6.693	1.000	2.751	1.108	0.831	1.063	5
1302401801	●	1- 1/2 - 6 UNC	2B	7.874	1.334	-	1.233	0.925	1.125	5
1302402001	●	1- 1/2 - 8 UN	2B	7.874	1.000	3.000	1.233	0.925	1.125	5
1302403301	●	1- 1/2 - 12 UNF	2B	6.693	0.665	3.000	1.233	0.925	1.125	5
1302402101	●	1- 5/8 - 8 UN	2B	7.874	1.000	3.252	1.305	0.979	1.125	6
1302403501	●	1- 3/4 - 5 UNC	2B	8.661	1.598	-	1.430	1.072	1.250	6
1302402201	●	1- 3/4 - 8 UN	2B	7.874	1.000	3.500	1.430	1.072	1.250	6
1302402301	●	1- 7/8 - 8 UN	2B	8.858	1.000	3.752	1.519	1.139	1.250	6
1302403601	●	2 - 4.5 UNC	2B	9.843	1.779	-	1.644	1.233	1.375	6
1302402401	●	2 - 8 UN	2B	8.858	1.000	4.000	1.644	1.233	1.375	6
1302403701	●	2- 1/4 - 4.5 UNC	2B	11.024	1.779	-	1.894	1.420	1.438	6
1302404001	●	2- 1/4 - 8 UN	2B	9.843	1.000	4.500	1.894	1.420	1.438	6
1302403801	●	2- 1/2 - 4 UNC	2B	12.402	2.000	-	2.100	1.575	1.500	6
1302402501	●	2- 1/2 - 8 UN	2B	10.827	1.000	5.000	2.100	1.575	1.500	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

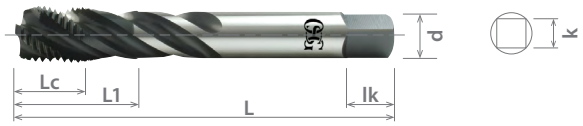
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○	○	◎					◎	○		
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	30-70 SFM	30-70 SFM	20-50 SFM	40-100 SFM					20-60 SFM	15-50 SFM		

○ Good ◎ Best

List 13015

HY-PRO® VXL-SFT, Vertical Applications, DIN Overall Length

SPIRAL FLUTE | HSSE | S/0 | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1301502601	●	1/2 - 13 UNC	2B	4.331	0.614	-	0.367	0.275	0.438	3
1301502701	●	1/2 - 20 UNF	2B	3.937	0.614	1.000	0.367	0.275	0.438	4
1301500101	●	9/16 - 12 UNC	2B	4.331	0.665	-	0.429	0.322	0.500	4
1301500201	●	9/16 - 18 UNF	2B	3.937	0.665	1.125	0.429	0.322	0.500	4
1301500301	●	5/8 - 11 UNC	2B	4.331	0.728	-	0.480	0.360	0.563	4
1301500401	●	5/8 - 18 UNF	2B	3.937	0.728	1.251	0.480	0.360	0.563	4
1301500501	●	3/4 - 10 UNC	2B	4.921	0.799	-	0.590	0.442	0.688	4
1301502801	●	3/4 - 16 UNF	2B	4.331	0.799	1.500	0.590	0.442	0.688	4
1301500601	●	7/8 - 9 UNC	2B	5.512	0.889	-	0.697	0.523	0.750	4
1301502901	●	7/8 - 14 UNF	2B	4.921	0.889	1.751	0.697	0.523	0.750	4
1301500701	●	1 - 8 UNC	2B	6.299	1.000	-	0.800	0.600	0.813	4
1301503001	●	1 - 12 UNF	2B	5.512	0.665	2.000	0.800	0.600	0.813	4
1301500901	●	1- 1/8 - 7 UNC	2B	7.087	1.141	-	0.896	0.672	0.875	4
1301501101	●	1- 1/8 - 8 UN	2B	7.087	1.000	2.252	0.896	0.672	0.875	4
1301503101	●	1- 1/8 - 12 UNF	2B	5.906	0.665	2.251	0.896	0.672	0.875	5
1301501201	●	1- 1/4 - 7 UNC	2B	7.087	1.141	2.500	1.021	0.766	1.000	5
1301501401	●	1- 1/4 - 8 UN	2B	7.087	1.000	2.512	1.021	0.766	1.000	5
1301503201	●	1- 1/4 - 12 UNF	2B	5.906	0.665	2.500	1.021	0.766	1.000	5
1301501501	●	1- 3/8 - 6 UNC	2B	7.874	1.334	-	1.108	0.831	1.063	5
1301501701	●	1- 3/8 - 8 UN	2B	7.874	1.000	2.752	1.108	0.831	1.063	5
1301503401	●	1- 3/8 - 12 UNF	2B	6.693	1.000	2.751	1.108	0.831	1.063	5
1301501801	●	1- 1/2 - 6 UNC	2B	7.874	1.334	-	1.233	0.925	1.125	5
1301502001	●	1- 1/2 - 8 UN	2B	7.874	1.000	3.000	1.233	0.925	1.125	5
1301503301	●	1- 1/2 - 12 UNF	2B	6.693	0.665	3.000	1.233	0.925	1.125	5
1301502101	●	1- 5/8 - 8 UN	2B	7.874	1.000	3.252	1.305	0.979	1.125	6
1301503501	●	1- 3/4 - 5 UNC	2B	8.661	1.598	-	1.430	1.072	1.250	6
1301502201	●	1- 3/4 - 8 UN	2B	7.874	1.000	3.500	1.430	1.072	1.250	6
1301502301	●	1- 7/8 - 8 UN	2B	8.858	1.000	3.752	1.519	1.139	1.250	6
1301503601	●	2 - 4.5 UNC	2B	9.843	1.779	-	1.644	1.233	1.375	6
1301502401	●	2 - 8 UN	2B	8.858	1.000	4.000	1.644	1.233	1.375	6
1301503701	●	2- 1/4 - 4.5 UNC	2B	11.024	1.779	-	1.894	1.420	1.438	6
1301504001	●	2- 1/4 - 8 UN	2B	9.843	1.000	4.500	1.894	1.420	1.438	6
1301503801	●	2- 1/2 - 4 UNC	2B	12.402	2.000	-	2.100	1.575	1.500	6
1301502501	●	2- 1/2 - 8 UN	2B	10.827	1.000	5.000	2.100	1.575	1.500	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○	○	◎					◎	○		
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-20 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM					15-35 SFM	8-15 SFM		

○ Good ◎ Best

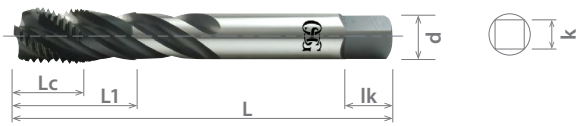
HY-PRO® VXL-OIL

Ideal for Oil Field Applications

List 13025

SPIRAL FLUTE | HSSE | S/O | C/2.5P | 45° | PACKED 1 PIECE

HY-PRO® VXL-OIL-SFT, Vertical Applications, DIN Overall Length



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1302502601	●	1/2 - 13 UNC	2B	4.331	0.614	-	0.367	0.275	0.438	3
1302502701	●	1/2 - 20 UNF	2B	3.937	0.614	1.000	0.367	0.275	0.438	4
1302500101	●	9/16 - 12 UNC	2B	4.331	0.665	-	0.429	0.322	0.500	4
1302500201	●	9/16 - 18 UNF	2B	3.937	0.665	1.125	0.429	0.322	0.500	4
1302500301	●	5/8 - 11 UNC	2B	4.331	0.728	-	0.480	0.360	0.563	4
1302500401	●	5/8 - 18 UNF	2B	3.937	0.728	1.251	0.480	0.360	0.563	4
1302500501	●	3/4 - 10 UNC	2B	4.921	0.799	-	0.590	0.442	0.688	4
1302502801	●	3/4 - 16 UNF	2B	4.331	0.799	1.500	0.590	0.442	0.688	4
1302500601	●	7/8 - 9 UNC	2B	5.512	0.889	-	0.697	0.523	0.750	4
1302502901	●	7/8 - 14 UNF	2B	4.921	0.889	1.751	0.697	0.523	0.750	4
1302500701	●	1 - 8 UNC	2B	6.299	1.000	-	0.800	0.600	0.813	4
1302503001	●	1 - 12 UNF	2B	5.512	0.665	2.000	0.800	0.600	0.813	4
1302500901	●	1- 1/8 - 7 UNC	2B	7.087	1.141	-	0.896	0.672	0.875	4
1302501101	●	1- 1/8 - 8 UN	2B	7.087	1.000	2.251	0.896	0.672	0.875	4
1302503101	●	1- 1/8 - 12 UNF	2B	5.906	0.665	2.251	0.896	0.672	0.875	5
1302501201	●	1- 1/4 - 7 UNC	2B	7.087	1.141	2.500	1.021	0.766	1.000	5
1302501401	●	1- 1/4 - 8 UN	2B	7.087	1.000	2.500	1.021	0.766	1.000	5
1302503201	●	1- 1/4 - 12 UNF	2B	5.906	0.665	2.500	1.021	0.766	1.000	5
1302501501	●	1- 3/8 - 6 UNC	2B	7.874	1.334	-	1.108	0.831	1.063	5
1302501701	●	1- 3/8 - 8 UN	2B	7.874	1.000	2.751	1.108	0.831	1.063	5
1302503901	●	1- 3/8 - 12 UNF	2B	6.693	1.000	2.751	1.108	0.831	1.063	5
1302501801	●	1- 1/2 - 6 UNC	2B	7.874	1.334	-	1.233	0.925	1.125	5
1302502001	●	1- 1/2 - 8 UN	2B	7.874	1.000	3.000	1.233	0.925	1.125	5
1302503301	●	1- 1/2 - 12 UNF	2B	6.693	0.665	3.000	1.233	0.925	1.125	5
1302502101	●	1- 5/8 - 8 UN	2B	7.874	1.000	3.252	1.305	0.979	1.125	6
1302503501	●	1- 3/4 - 5 UNC	2B	8.661	1.598	-	1.430	1.072	1.250	6
1302502201	●	1- 3/4 - 8 UN	2B	7.874	1.000	3.500	1.430	1.072	1.250	6
1302502301	●	1- 7/8 - 8 UN	2B	8.858	1.000	3.752	1.519	1.139	1.250	6
1302503601	●	2 - 4.5 UNC	2B	9.843	1.779	-	1.644	1.233	1.375	6
1302502401	●	2 - 8 UN	2B	8.858	1.000	4.000	1.644	1.233	1.375	6
1302503701	●	2- 1/4 - 4.5 UNC	2B	11.024	1.779	-	1.894	1.420	1.438	6
1302504001	●	2- 1/4 - 8 UN	2B	9.843	1.000	4.500	1.894	1.420	1.438	6
1302503801	●	2- 1/2 - 4 UNC	2B	12.402	2.000	-	2.100	1.575	1.500	6
1302502501	●	2- 1/2 - 8 UN	2B	10.827	1.000	5.000	2.100	1.575	1.500	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○	○	◎					◎	○		
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	30-70 SFM	30-70 SFM	20-50 SFM	40-100 SFM					20-60 SFM	15-50 SFM		

○ Good ◎ Best

List 13116

SPIRAL FLUTE | HSSE | S/0 | C/2.5P | 15° | PACKED 1 PIECE

HY-PRO® HXL-W-SFT, Horizontal Applications, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1311602401	●	M16 x 2	D7	110.00	16.00	58.00	12.19	9.14	14.29	4
1311602501	●	M16 x 2	D7	180.00	16.00	93.00	12.19	9.14	14.29	4
1311602301	●	M16 x 2	D17 (6H +0.005")	110.00	16.00	58.00	12.19	9.14	14.29	4
1311600201	●	M20 x 2.5	D8	200.00	20.00	103.00	16.56	12.42	17.46	4
1311600101	●	M20 x 2.5	D8	140.00	20.00	73.00	16.56	12.42	17.46	4
1311601601	●	M20 x 2.5	D18 (6H +0.005")	140.00	20.00	73.00	16.56	12.42	17.46	4
1311600501	●	M24 x 3	D9	200.00	24.00	108.00	19.30	14.48	19.05	5
1311600401	●	M24 x 3	D9	160.00	24.00	88.00	19.30	14.48	19.05	5
1311601701	●	M24 x 3	D19 (6H +0.005")	160.00	24.00	88.00	19.30	14.48	19.05	5
1311600701	●	M27 x 3	D9	200.00	24.00	108.00	22.76	17.07	22.23	5
1311600601	●	M27 x 3	D9	160.00	24.00	88.00	22.76	17.07	22.23	5
1311601801	●	M27 x 3	D19 (6H +0.005")	160.00	24.00	88.00	22.76	17.07	22.23	5
1311600801	●	M30 x 3.5	D10	180.00	28.00	103.00	25.93	19.46	25.40	5
1311600901	●	M30 x 3.5	D10	250.00	28.00	138.00	25.93	19.46	25.40	5
1311601901	●	M30 x 3.5	D20 (6H +0.005")	180.00	28.00	103.00	25.93	19.46	25.40	5
1311601001	●	M33 x 3.5	D10	180.00	28.00	93.00	28.14	21.11	26.99	5
1311601101	●	M33 x 3.5	D10	250.00	28.00	128.00	28.14	21.11	26.99	5
1311602001	●	M33 x 3.5	D20 (6H +0.005")	180.00	28.00	93.00	28.14	21.11	26.99	5
1311601201	●	M36 x 4	D11	200.00	32.00	118.00	31.32	23.50	28.58	5
1311601301	●	M36 x 4	D11	250.00	32.00	143.00	31.32	23.50	28.58	5
1311602101	●	M36 x 4	D21 (6H +0.005")	200.00	32.00	118.00	31.32	23.50	28.58	5
1311601401	●	M42 x 4.5	D11	200.00	36.00	98.00	36.32	27.23	31.75	6
1311601501	●	M42 x 4.5	D11	300.00	36.00	148.00	36.32	27.23	31.75	6
1311602201	●	M42 x 4.5	D21 (6H +0.005")	200.00	36.00	98.00	36.32	27.23	31.75	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○	○	◎					◎	○		
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-20 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM					15-35 SFM	8-15 SFM		

○ Good ◎ Best

List 13126

SPIRAL FLUTE | HSSE | S/O | C/2.5P | 15° | PACKED 1 PIECE

HY-PRO® HXL-W-OIL-SFT, Horizontal Applications, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1312602401	●	M16 x 2	D7	110.00	16.00	58.00	12.19	9.14	14.29	4
1312602501	●	M16 x 2	D7	180.00	16.00	96.00	12.19	9.14	14.29	4
1312602301	●	M16 x 2	D17 (6H +0.005")	110.00	16.00	58.00	12.19	9.14	14.29	4
1312600201	●	M20 x 2.5	D8	200.00	20.00	103.00	16.56	12.42	17.46	4
1312600101	●	M20 x 2.5	D8	140.00	20.00	73.00	16.56	12.42	17.46	4
1312601601	●	M20 x 2.5	D18 (6H +0.005")	140.00	20.00	73.00	16.56	12.42	17.46	4
1312600501	●	M24 x 3	D9	200.00	24.00	108.00	19.30	14.48	19.05	5
1312600401	●	M24 x 3	D9	160.00	24.00	88.00	19.30	14.48	19.05	5
1312601701	●	M24 x 3	D19 (6H +0.005")	160.00	24.00	88.00	19.30	14.48	19.05	5
1312600701	●	M27 x 3	D9	200.00	24.00	108.00	22.76	17.07	22.23	5
1312600601	●	M27 x 3	D9	160.00	24.00	88.00	22.76	17.07	22.23	5
1312601801	●	M27 x 3	D19 (6H +0.005")	160.00	24.00	88.00	22.76	17.07	22.23	5
1312600801	●	M30 x 3.5	D10	180.00	28.00	103.00	25.93	19.46	25.40	5
1312600901	●	M30 x 3.5	D10	250.00	28.00	138.00	25.93	19.46	25.40	5
1312601901	●	M30 x 3.5	D20 (6H +0.005")	180.00	28.00	103.00	25.93	19.46	25.40	5
1312601001	●	M33 x 3.5	D10	180.00	28.00	93.00	28.14	21.11	26.99	5
1312601101	●	M33 x 3.5	D10	250.00	28.00	128.00	28.14	21.11	26.99	5
1312602001	●	M33 x 3.5	D20 (6H +0.005")	180.00	28.00	93.00	28.14	21.11	26.99	5
1312601201	●	M36 x 4	D11	200.00	32.00	118.00	31.32	23.50	28.58	5
1312601301	●	M36 x 4	D11	250.00	32.00	143.00	31.32	23.50	28.58	5
1312602101	●	M36 x 4	D21 (6H +0.005")	200.00	32.00	118.00	31.32	23.50	28.58	5
1312601401	●	M42 x 4.5	D11	200.00	36.00	98.00	36.32	27.23	31.75	6
1312601501	●	M42 x 4.5	D11	300.00	36.00	148.00	36.32	27.23	31.75	6
1312602201	●	M42 x 4.5	D21 (6H +0.005")	200.00	36.00	98.00	36.32	27.23	31.75	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○	○	◎					◎	○		
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	30-70 SFM	30-70 SFM	20-50 SFM	40-100 SFM					20-60 SFM	15-50 SFM		

○ Good ◎ Best

List 13117

SPIRAL FLUTE | HSSE | S/O | C/2.5P | 45° | PACKED 1 PIECE

HY-PRO® VXL-W-SFT, Vertical Applications, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1311702401	●	M16 x 2	D7	110.00	16.00	12.19	9.14	14.29	4
1311702501	●	M16 x 2	D7	180.00	16.00	12.19	9.14	14.29	4
1311702301	●	M16 x 2	D17 (6H +0.005")	110.00	16.00	12.19	9.14	14.29	4
1311700101	●	M20 x 2.5	D8	140.00	20.00	16.56	12.42	17.46	4
1311700201	●	M20 x 2.5	D8	200.00	20.00	16.56	12.42	17.46	4
1311701601	●	M20 x 2.5	D18 (6H +0.005")	140.00	20.00	16.56	12.42	17.46	4
1311700401	●	M24 x 3	D9	160.00	24.00	19.30	14.48	19.05	5
1311700501	●	M24 x 3	D9	200.00	24.00	19.30	14.48	19.05	5
1311701701	●	M24 x 3	D19 (6H +0.005")	160.00	24.00	19.30	14.48	19.05	5
1311700701	●	M27 x 3	D9	200.00	24.00	22.76	17.07	22.23	5
1311700601	●	M27 x 3	D9	160.00	24.00	22.76	17.07	22.23	5
1311701801	●	M27 x 3	D19 (6H +0.005")	160.00	24.00	22.76	17.07	22.23	5
1311700801	●	M30 x 3.5	D10	180.00	28.00	25.93	19.46	25.40	5
1311700901	●	M30 x 3.5	D10	250.00	28.00	25.93	19.46	25.40	5
1311701901	●	M30 x 3.5	D20 (6H +0.005")	180.00	28.00	25.93	19.46	25.40	5
1311701101	●	M33 x 3.5	D10	250.00	28.00	28.14	21.11	26.99	5
1311701001	●	M33 x 3.5	D10	180.00	28.00	28.14	21.11	26.99	5
1311702001	●	M33 x 3.5	D20 (6H +0.005")	180.00	28.00	28.14	21.11	26.99	5
1311701201	●	M36 x 4	D11	200.00	32.00	31.32	23.50	28.58	5
1311701301	●	M36 x 4	D11	250.00	32.00	31.32	23.50	28.58	5
1311702101	●	M36 x 4	D21 (6H +0.005")	200.00	32.00	31.32	23.50	28.58	5
1311701401	●	M42 x 4.5	D11	200.00	36.00	36.32	27.23	31.75	6
1311701501	●	M42 x 4.5	D11	300.00	36.00	36.32	27.23	31.75	6
1311702201	●	M42 x 4.5	D21 (6H +0.005")	200.00	36.00	36.32	27.23	31.75	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○	○	◎					◎	○		
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-20 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM					15-35 SFM	8-15 SFM		

○ Good ◎ Best

List 13127

SPIRAL FLUTE | HSSE | S/O | C/2.5P | 45° | PACKED 1 PIECE

HY-PRO® VXL-W-OIL-SFT, Vertical Applications, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1312702401	●	M16 x 2	D7	110.00	16.00	12.19	9.14	14.29	4
1312702501	●	M16 x 2	D7	180.00	16.00	12.19	9.14	14.29	4
1312702301	●	M16 x 2	D17 (6H +0.005")	110.00	16.00	12.19	9.14	14.29	4
1312700201	●	M20 x 2.5	D8	200.00	19.00	16.56	12.42	17.46	4
1312700101	●	M20 x 2.5	D8	140.00	19.00	16.56	12.42	17.46	4
1312701601	●	M20 x 2.5	D18 (6H +0.005")	140.00	19.00	16.56	12.42	17.46	4
1312700401	●	M24 x 3	D9	160.00	24.00	19.30	14.48	19.05	5
1312700501	●	M24 x 3	D9	200.00	24.00	19.30	14.48	19.05	5
1312701701	●	M24 x 3	D19 (6H +0.005")	160.00	24.00	19.30	14.48	19.05	5
1312700701	●	M27 x 3	D9	200.00	24.00	22.76	17.07	22.23	5
1312700601	●	M27 x 3	D9	160.00	24.00	22.76	17.07	22.23	5
1312701801	●	M27 x 3	D19 (6H +0.005")	160.00	24.00	22.76	17.07	22.23	5
1312700801	●	M30 x 3.5	D10	180.00	27.00	25.93	19.46	25.40	5
1312700901	●	M30 x 3.5	D10	250.00	27.00	25.93	19.46	25.40	5
1312701901	●	M30 x 3.5	D20 (6H +0.005")	180.00	27.00	25.93	19.46	25.40	5
1312701001	●	M33 x 3.5	D10	180.00	27.00	28.14	21.11	26.99	5
1312701101	●	M33 x 3.5	D10	250.00	27.00	28.14	21.11	26.99	5
1312702001	●	M33 x 3.5	D20 (6H +0.005")	180.00	27.00	28.14	21.11	26.99	5
1312701201	●	M36 x 4	D11	199.00	32.00	31.32	23.50	28.58	5
1312701301	●	M36 x 4	D11	250.00	32.00	31.32	23.50	28.58	5
1312702101	●	M36 x 4	D21 (6H +0.005")	200.00	32.00	31.32	23.50	28.58	5
1312701401	●	M42 x 4.5	D11	200.00	36.00	36.32	27.23	31.75	6
1312701501	●	M42 x 4.5	D11	300.00	36.00	36.32	27.23	31.75	6
1312702201	●	M42 x 4.5	D21 (6H +0.005")	200.00	36.00	36.32	27.23	31.75	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○	○	◎					◎	○		
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	30-70 SFM	30-70 SFM	20-50 SFM	40-100 SFM					20-60 SFM	15-50 SFM		

○ Good ◎ Best

List 13118

SPIRAL FLUTE | HSSE | V | C/5P | 15° | LH | PACKED 1 PIECE

HY-PRO® RXL-W-RFT, DIN Overall Length & Extended Length, RHC/LHS for Through Holes



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1311802408	●	M16 x 2	D7	110.00	24.00	12.19	9.14	14.29	4
1311802508	●	M16 x 2	D7	180.00	24.00	12.19	9.14	14.29	4
1311802308	●	M16 x 2	D17 (6H +0.005")	110.00	24.00	12.19	9.14	14.29	4
1311800108	●	M20 x 2.5	D8	140.00	30.00	16.56	12.42	17.46	5
1311800208	●	M20 x 2.5	D8	200.00	30.00	16.56	12.42	17.46	5
1311801608	●	M20 x 2.5	D18 (6H +0.005")	140.00	30.00	16.56	12.42	17.46	5
1311800408	●	M24 x 3	D9	160.00	36.00	19.30	14.48	19.05	5
1311800508	●	M24 x 3	D9	200.00	36.00	19.30	14.48	19.05	5
1311801708	●	M24 x 3	D19 (6H +0.005")	160.00	36.00	19.30	14.48	19.05	5
1311800608	●	M27 x 3	D9	160.00	36.00	22.76	17.07	22.23	5
1311800708	●	M27 x 3	D9	200.00	36.00	22.76	17.07	22.23	5
1311801808	●	M27 x 3	D19 (6H +0.005")	160.00	36.00	22.76	17.07	22.23	5
1311800808	●	M30 x 3.5	D10	180.00	42.00	25.93	19.46	25.40	5
1311800908	●	M30 x 3.5	D10	250.00	42.00	25.93	19.46	25.40	5
1311801908	●	M30 x 3.5	D20 (6H +0.005")	180.00	42.00	25.93	19.46	25.40	5
1311801008	●	M33 x 3.5	D10	180.00	42.00	28.14	21.11	26.99	5
1311801108	●	M33 x 3.5	D10	250.00	42.00	28.14	21.11	26.99	5
1311802008	●	M33 x 3.5	D20 (6H +0.005")	180.00	42.00	28.14	21.11	26.99	5
1311801208	●	M36 x 4	D11	200.00	48.00	31.32	23.50	28.58	6
1311801308	●	M36 x 4	D11	250.00	48.00	31.32	23.50	28.58	6
1311802108	●	M36 x 4	D21 (6H +0.005")	200.00	48.00	31.32	23.50	28.58	6
1311801408	●	M42 x 4.5	D11	200.00	54.00	36.32	27.23	31.75	6
1311801508	●	M42 x 4.5	D11	300.00	54.00	36.32	27.23	31.75	6
1311802208	●	M42 x 4.5	D21 (6H +0.005")	200.00	54.00	36.32	27.23	31.75	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: +0.005" available for threads that will be heat treated after tapping.

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎	○	○			◎	○		
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	30-70 SFM	30-70 SFM	20-50 SFM	40-100 SFM	30-80 SFM	30-80 SFM			20-60 SFM	15-50 SFM		

○ Good ◎ Best

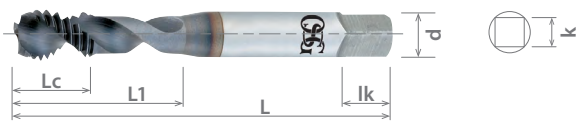
HY-PRO® SYNCHRO AL

High Speed Tapping of Aluminum and Aluminum Alloy

List 13058

HY-PRO® SYNCHRO AL US-AL-SFT

SPIRAL FLUTE | HSSE | V | 2 FLUTE | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1305800108	●	No. 6 - 32 UNC	2B	2.000	0.248	0.685	0.141	0.110	0.188
1305800208	●	No. 8 - 32 UNC	2B	2.125	0.252	0.752	0.168	0.131	0.250
1305800308	●	No. 10 - 24 UNC	2B	2.375	0.327	0.866	0.194	0.152	0.250
1305800408	●	No. 10 - 32 UNF	2B	2.375	0.327	0.866	0.194	0.152	0.250
1305800508	●	1/4 - 20 UNC	2B	2.500	0.398	0.997	0.255	0.191	0.313
1305800608	●	1/4 - 28 UNF	2B	2.500	0.398	0.997	0.255	0.191	0.313
1305800708	●	5/16 - 18 UNC	2B	2.719	0.445	1.126	0.318	0.238	0.375
1305800808	●	5/16 - 24 UNF	2B	2.719	0.445	1.126	0.318	0.238	0.375
1305800908	●	3/8 - 16 UNC	2B	2.938	0.500	1.252	0.381	0.286	0.438
1305801008	●	3/8 - 24 UNF	2B	2.938	0.500	1.252	0.381	0.286	0.438
1305801108	●	1/2 - 13 UNC	2B	3.375	0.614	1.934	0.367	0.275	0.438
1305801208	●	1/2 - 20 UNF	2B	3.375	0.614	1.934	0.367	0.275	0.438

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

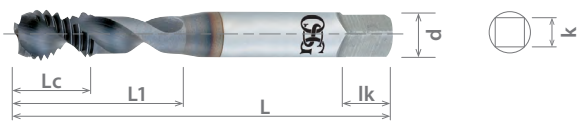
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									300-800 SFM	200-700 SFM						

○ Good ◎ Best

List 13158

HY-PRO® SYNCHRO AL US-AL-SFT

SPIRAL FLUTE | HSSE | V | 2 FLUTE | C/2.5P | 45° | PACKED 1 PIECE



EDP Number		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1315800108	●	M3 x 0.5	6H	49.20	4.10	16.00	3.58	2.79	4.76
1315800208	●	M4 x 0.7	6H	54.00	5.60	19.10	4.27	3.33	6.35
1315800308	●	M5 x 0.8	6H	60.30	6.40	22.20	4.93	3.86	6.35
1315800408	●	M6 x 1	6H	63.50	8.00	25.40	6.48	4.85	7.94
1315800508	●	M8 x 1.25	6H	69.10	10.00	28.60	8.08	6.05	9.53
1315800608	●	M10 x 1.25	6H	74.60	12.00	31.80	9.68	7.26	11.11
1315800708	●	M10 x 1.5	6H	74.60	12.00	31.80	9.68	7.26	11.11
1315800808	●	M12 x 1.5	6H	85.70	14.00	49.10	9.32	6.99	11.11
1315800908	●	M12 x 1.75	6H	85.70	14.00	49.10	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

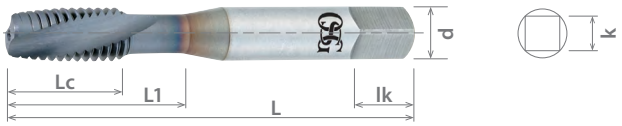
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									300-800 SFM	200-700 SFM						

○ Good ◎ Best

List 13059

HY-PRO® SYNCHRO AL US-AL-RFT, Synchronized, RHC/LHS for Through Holes

SPIRAL FLUTE | HSSE | V | 2 FLUTE | C/6P | 20° | LH | PACKED 1 PIECE



EDP Number		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1305900108	●	No. 6 - 32 UNC	2B	1.992	0.370	0.685	0.141	0.110	0.188
1305900208	●	No. 8 - 32 UNC	2B	2.118	0.374	0.752	0.168	0.131	0.250
1305900308	●	No. 10 - 24 UNC	2B	2.358	0.492	0.866	0.194	0.152	0.250
1305900408	●	No. 10 - 32 UNF	2B	2.358	0.492	0.866	0.194	0.152	0.250
1305900508	●	1/4 - 20 UNC	2B	2.457	0.594	0.996	0.255	0.191	0.313
1305900608	●	1/4 - 28 UNF	2B	2.457	0.594	0.996	0.255	0.191	0.313
1305900708	●	5/16 - 18 UNC	2B	2.457	0.665	1.126	0.318	0.238	0.375
1305900808	●	5/16 - 24 UNF	2B	2.457	0.665	1.126	0.318	0.238	0.375
1305900908	●	3/8 - 16 UNC	2B	2.937	0.752	1.252	0.381	0.286	0.438
1305901008	●	3/8 - 24 UNF	2B	2.937	0.752	1.252	0.381	0.286	0.438
1305901108	●	1/2 - 13 UNC	2B	3.374	0.921	1.933	0.367	0.275	0.438
1305901208	●	1/2 - 20 UNF	2B	3.374	0.921	1.933	0.367	0.275	0.438

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

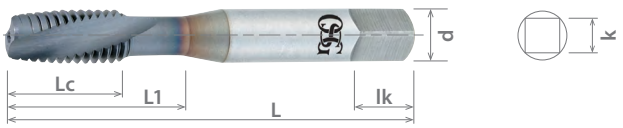
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									300-800 SFM	200-700 SFM						

○ Good ◎ Best

List 13159

SPIRAL FLUTE | HSSE | V | 2 FLUTE | C/6P | 20° | LH | PACKED 1 PIECE

HY-PRO® SYNCHRO AL US-AL-RFT, Synchronized, RHC/LHS for Through Holes



EDP Number		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1315900108	●	M3 x 0.5	6H	49.20	6.10	16.00	3.58	2.79	4.76
1315900208	●	M4 x 0.7	6H	53.80	8.40	19.10	4.27	3.33	6.35
1315900308	●	M5 x 0.8	6H	60.10	9.60	22.20	4.93	3.86	6.35
1315900408	●	M6 x 1	6H	62.50	12.00	25.40	6.48	4.85	7.94
1315900508	●	M8 x 1.25	6H	69.10	15.00	28.60	8.08	6.05	9.53
1315900608	●	M10 x 1.25	6H	74.60	18.00	31.80	9.68	7.26	11.11
1315900708	●	M10 x 1.5	6H	74.60	18.00	31.80	9.68	7.26	11.11
1315900808	●	M12 x 1.5	6H	85.70	21.00	49.10	9.32	6.99	11.11
1315900908	●	M12 x 1.75	6H	85.70	21.00	49.10	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

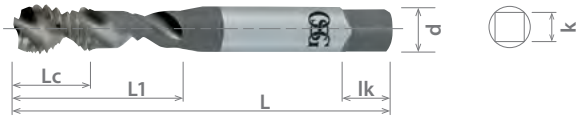
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									300-800 SFM	200-700 SFM						

○ Good ◎ Best

List 295

HY-PRO® AL-SFT

SPIRAL FLUTE | HSSE | BR | 2 FLUTE | C/2.5P | 50° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
2951300	●	No. 4 - 40 UNC	H2	1.875	0.196	0.559	0.141	0.110	0.188
2951400	●	No. 4 - 40 UNC	H3	1.875	0.196	0.559	0.141	0.110	0.188
2952500	●	No. 6 - 32 UNC	H2	2.000	0.248	0.685	0.141	0.110	0.188
2952600	●	No. 6 - 32 UNC	H3	2.000	0.248	0.685	0.141	0.110	0.188
2953100	●	No. 8 - 32 UNC	H2	2.125	0.251	0.751	0.168	0.131	0.250
2953200	●	No. 8 - 32 UNC	H3	2.125	0.251	0.751	0.168	0.131	0.250
2953800	●	No. 10 - 24 UNC	H3	2.375	0.326	0.866	0.194	0.152	0.250
2954300	●	No. 10 - 32 UNF	H2	2.375	0.326	0.866	0.194	0.152	0.250
2954400	●	No. 10 - 32 UNF	H3	2.375	0.326	0.866	0.194	0.152	0.250
2954600	●	No. 10 - 32 UNF	H5	2.375	0.326	0.866	0.194	0.152	0.250
2955000	●	1/4 - 20 UNC	H3	2.500	0.397	0.996	0.255	0.191	0.313
2955200	●	1/4 - 20 UNC	H5	2.500	0.397	0.996	0.255	0.191	0.313
2955600	●	1/4 - 28 UNF	H3	2.500	0.397	0.996	0.255	0.191	0.313
2956200	●	5/16 - 18 UNC	H3	2.719	0.444	1.125	0.318	0.238	0.375
2956400	●	5/16 - 18 UNC	H5	2.719	0.444	1.125	0.318	0.238	0.375
2956800	●	5/16 - 24 UNF	H3	2.719	0.444	1.125	0.318	0.238	0.375
2956900	●	5/16 - 24 UNF	H4	2.719	0.444	1.125	0.318	0.238	0.375
2957400	●	3/8 - 16 UNC	H3	2.938	0.500	1.251	0.381	0.286	0.438
2957600	●	3/8 - 16 UNC	H5	2.938	0.500	1.251	0.381	0.286	0.438
2958000	●	3/8 - 24 UNF	H3	2.938	0.500	1.251	0.381	0.286	0.438

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

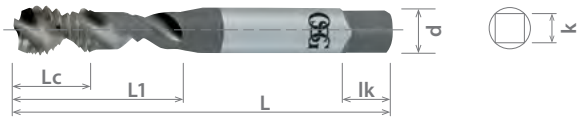
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						
									40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 296

HY-PRO® AL-SFT

SPIRAL FLUTE | HSSE | BR | 2 FLUTE | C/2P | 50° | PACKED 1 PIECE



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
2963300	●	M3 x 0.5	D3	49.20	4.10	16.00	3.58	2.79	4.76
2963400	●	M4 x 0.7	D4	54.00	5.60	19.10	4.27	3.33	6.35
2963500	●	M5 x 0.8	D5	60.30	6.40	22.19	4.93	3.86	6.35
2963600	●	M6 x 1	D5	63.50	8.00	25.40	6.48	4.85	7.94
2963800	●	M8 x 1.25	D5	69.10	10.00	28.60	8.08	6.05	9.53
2964000	●	M10 x 1.25	D5	74.60	11.98	31.80	9.68	7.26	11.11
2964100	●	M10 x 1.5	D6	74.60	11.98	31.80	9.68	7.26	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 13019

SPIRAL FLUTE | HSSE | N | C/2.5P | 50° | PACKED 1 PIECE

HY-PRO® AL-DIN EX-AL-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1301900103	●	No. 2 - 56 UNC	H2	1.772	0.437	-	0.141	0.110	0.188	2
1301900203	●	No. 4 - 40 UNC	H2	2.205	0.196	0.740	0.141	0.110	0.188	2
1301900303	●	No. 6 - 32 UNC	H3	2.205	0.248	0.783	0.141	0.110	0.188	3
1301900403	●	No. 8 - 32 UNC	H3	2.480	0.251	0.826	0.168	0.131	0.250	3
1301900503	●	No. 10 - 24 UNC	H3	2.756	0.326	0.976	0.194	0.152	0.250	3
1301900603	●	No. 10 - 32 UNF	H3	2.756	0.326	0.976	0.194	0.152	0.250	3
1301900703	●	1/4 - 20 UNC	H3	3.150	0.397	1.177	0.255	0.191	0.313	3
1301900803	●	1/4 - 20 UNC	H5	3.150	0.397	1.177	0.255	0.191	0.313	3
1301900903	●	1/4 - 28 UNF	H3	3.150	0.397	1.177	0.255	0.191	0.313	3
1301901003	●	5/16 - 18 UNC	H3	3.543	0.444	1.377	0.318	0.238	0.375	3
1301901103	●	5/16 - 18 UNC	H5	3.543	0.444	1.377	0.318	0.238	0.375	3
1301901203	●	5/16 - 24 UNF	H3	3.543	0.444	1.377	0.318	0.238	0.375	3
1301901303	●	3/8 - 16 UNC	H3	3.937	0.500	1.535	0.381	0.286	0.438	3
1301901403	●	3/8 - 16 UNC	H5	3.937	0.500	1.535	0.381	0.286	0.438	3
1301901503	●	3/8 - 24 UNF	H3	3.543	0.500	1.377	0.381	0.286	0.438	3
1301901603	●	7/16 - 14 UNC	H3	3.937	0.570	1.712	0.323	0.242	0.406	3
1301901703	●	7/16 - 14 UNC	H5	3.937	0.570	1.712	0.323	0.242	0.406	3
1301901803	●	7/16 - 20 UNF	H3	3.937	0.570	1.712	0.323	0.242	0.406	3
1301901903	●	1/2 - 13 UNC	H3	4.331	0.614	1.933	0.367	0.275	0.438	3
1301902003	●	1/2 - 13 UNC	H5	4.331	0.614	1.933	0.367	0.275	0.438	3
1301902103	●	1/2 - 20 UNF	H3	3.937	0.614	1.933	0.367	0.275	0.438	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 13119

SPIRAL FLUTE | HSSE | N | 3 FLUTE | C/2.5P | 50° | PACKED 1 PIECE

HY-PRO® AL-DIN EX-AL-SFT, DIN Overall Length



EDP Number		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1311900103	●	M3 x 0.5	D3	56.00	5.00	19.30	3.58	2.79	4.76
1311900303	●	M4 x 0.7	D4	63.00	5.00	21.00	4.27	3.33	6.35
1311900403	●	M5 x 0.8	D4	70.00	8.00	27.20	4.93	3.86	6.35
1311900503	●	M6 x 1	D5	80.00	10.00	28.00	6.48	4.85	7.94
1311900803	●	M8 x 1.25	D5	90.00	10.00	35.00	8.08	6.05	9.53
1311900903	●	M10 x 1.25	D5	100.00	12.00	39.00	9.68	7.26	11.11
1311901003	●	M10 x 1.5	D6	100.00	12.00	39.00	9.68	7.26	11.11
1311901103	●	M12 x 1.25	D5	100.00	14.00	49.10	9.32	6.99	11.11
1311901203	●	M12 x 1.5	D5	100.00	14.00	49.10	9.32	6.99	11.11
1311901303	●	M12 x 1.75	D6	110.00	14.00	49.10	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

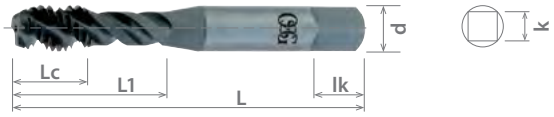
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 290

HY-PRO® SFT

SPIRAL FLUTE | HSSE | BR | S/O | TiCN | C/2.5 | 45° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2905600	●	No. 2 - 56 UNC	H2	1.750	0.437	0.476	0.141	0.110	0.188	2	Bright
2905601	●	No. 2 - 56 UNC	H2	1.750	0.437	0.476	0.141	0.110	0.188	2	Steam Oxide
2905608	●	No. 2 - 56 UNC	H2	1.750	0.437	0.476	0.141	0.110	0.188	2	TiCN
2906000	●	No. 3 - 48 UNC	H2	1.813	0.496	0.535	0.141	0.110	0.188	2	Bright
2906001	●	No. 3 - 48 UNC	H2	1.813	0.496	0.535	0.141	0.110	0.188	2	Steam Oxide
2906008	●	No. 3 - 48 UNC	H2	1.813	0.496	0.535	0.141	0.110	0.188	2	TiCN
2906400	●	No. 4 - 40 UNC	H2	1.875	0.196	0.559	0.141	0.110	0.188	3	Bright
2906401	●	No. 4 - 40 UNC	H2	1.875	0.196	0.559	0.141	0.110	0.188	3	Steam Oxide
2906408	●	No. 4 - 40 UNC	H2	1.875	0.196	0.559	0.141	0.110	0.188	3	TiCN
2911400	●	No. 4 - 40 UNC	H3	1.875	0.196	0.559	0.141	0.110	0.188	3	Bright
2911401	●	No. 4 - 40 UNC	H3	1.875	0.196	0.559	0.141	0.110	0.188	3	Steam Oxide
2911408	●	No. 4 - 40 UNC	H3	1.875	0.196	0.559	0.141	0.110	0.188	3	TiCN
2916500	●	No. 4 - 40 UNC	H4	1.875	0.196	0.559	0.141	0.110	0.188	3	Bright
2916501	●	No. 4 - 40 UNC	H4	1.875	0.196	0.559	0.141	0.110	0.188	3	Steam Oxide
2916508	●	No. 4 - 40 UNC	H4	1.875	0.196	0.559	0.141	0.110	0.188	3	TiCN
2916600	●	No. 4 - 40 UNC	H5	1.875	0.196	0.559	0.141	0.110	0.188	3	Bright
2916601	●	No. 4 - 40 UNC	H5	1.875	0.196	0.559	0.141	0.110	0.188	3	Steam Oxide
2916608	●	No. 4 - 40 UNC	H5	1.875	0.196	0.559	0.141	0.110	0.188	3	TiCN
2916800	●	No. 4 - 48 UNF	H2	1.875	0.196	0.559	0.141	0.110	0.188	3	Bright
2916801	●	No. 4 - 48 UNF	H2	1.875	0.196	0.559	0.141	0.110	0.188	3	Steam Oxide
2916808	●	No. 4 - 48 UNF	H2	1.875	0.196	0.559	0.141	0.110	0.188	3	TiCN
2907000	●	No. 5 - 40 UNC	H2	1.938	0.200	0.625	0.141	0.110	0.188	3	Bright
2907001	●	No. 5 - 40 UNC	H2	1.938	0.200	0.625	0.141	0.110	0.188	3	Steam Oxide
2907008	●	No. 5 - 40 UNC	H2	1.938	0.200	0.625	0.141	0.110	0.188	3	TiCN
2907400	●	No. 6 - 32 UNC	H2	2.000	0.248	0.685	0.141	0.110	0.188	3	Bright
2907401	●	No. 6 - 32 UNC	H2	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
2907408	●	No. 6 - 32 UNC	H2	2.000	0.248	0.685	0.141	0.110	0.188	3	TiCN
2912400	●	No. 6 - 32 UNC	H3	2.000	0.248	0.685	0.141	0.110	0.188	3	Bright
2912401	●	No. 6 - 32 UNC	H3	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
2912408	●	No. 6 - 32 UNC	H3	2.000	0.248	0.685	0.141	0.110	0.188	3	TiCN
2917400	●	No. 6 - 32 UNC	H5	2.000	0.248	0.685	0.141	0.110	0.188	3	Bright
2917401	●	No. 6 - 32 UNC	H5	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
2917408	●	No. 6 - 32 UNC	H5	2.000	0.248	0.685	0.141	0.110	0.188	3	TiCN
2917500	●	No. 6 - 32 UNC	H7	2.000	0.248	0.685	0.141	0.110	0.188	3	Bright
2917501	●	No. 6 - 32 UNC	H7	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
2917508	●	No. 6 - 32 UNC	H7	2.000	0.248	0.685	0.141	0.110	0.188	3	TiCN
2917700	●	No. 6 - 32 UNC	H11	2.000	0.248	0.685	0.141	0.110	0.188	3	Bright
2917701	●	No. 6 - 32 UNC	H11	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
2917708	●	No. 6 - 32 UNC	H11	2.000	0.248	0.685	0.141	0.110	0.188	3	TiCN
2907200	●	No. 6 - 40 UNF	H2	2.000	0.248	0.685	0.141	0.110	0.188	3	Bright
2907201	●	No. 6 - 40 UNF	H2	2.000	0.248	0.685	0.141	0.110	0.188	3	Steam Oxide
2907208	●	No. 6 - 40 UNF	H2	2.000	0.248	0.685	0.141	0.110	0.188	3	TiCN
2907800	●	No. 8 - 32 UNC	H2	2.125	0.251	0.751	0.168	0.131	0.250	3	Bright
2907801	●	No. 8 - 32 UNC	H2	2.125	0.251	0.751	0.168	0.131	0.250	3	Steam Oxide
2907808	●	No. 8 - 32 UNC	H2	2.125	0.251	0.751	0.168	0.131	0.250	3	TiCN
2912800	●	No. 8 - 32 UNC	H3	2.125	0.251	0.751	0.168	0.131	0.250	3	Bright
2912801	●	No. 8 - 32 UNC	H3	2.125	0.251	0.751	0.168	0.131	0.250	3	Steam Oxide
2912808	●	No. 8 - 32 UNC	H3	2.125	0.251	0.751	0.168	0.131	0.250	3	TiCN
2917800	●	No. 8 - 32 UNC	H5	2.125	0.251	0.751	0.168	0.131	0.250	3	Bright
2917801	●	No. 8 - 32 UNC	H5	2.125	0.251	0.751	0.168	0.131	0.250	3	Steam Oxide
2917808	●	No. 8 - 32 UNC	H5	2.125	0.251	0.751	0.168	0.131	0.250	3	TiCN
2918000	●	No. 8 - 32 UNC	H7	2.125	0.251	0.751	0.168	0.131	0.250	3	Bright
2918001	●	No. 8 - 32 UNC	H7	2.125	0.251	0.751	0.168	0.131	0.250	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HYT

List 290 (Continued)

HY-PRO® SFT

SPIRAL FLUTE | HSSE | BR | S/O | TiCN | C/2.5 | 45° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2918008	●	No. 8 - 32 UNC	H7	2.125	0.251	0.751	0.168	0.131	0.250	3	TiCN
2918100	●	No. 8 - 32 UNC	H11	2.125	0.251	0.751	0.168	0.131	0.250	3	Bright
2918101	●	No. 8 - 32 UNC	H11	2.125	0.251	0.751	0.168	0.131	0.250	3	Steam Oxide
2918108	●	No. 8 - 32 UNC	H11	2.125	0.251	0.751	0.168	0.131	0.250	3	TiCN
2913400	●	No. 10 - 24 UNC	H3	2.375	0.326	0.866	0.194	0.152	0.250	3	Bright
2913401	●	No. 10 - 24 UNC	H3	2.375	0.326	0.866	0.194	0.152	0.250	3	Steam Oxide
2913408	●	No. 10 - 24 UNC	H3	2.375	0.326	0.866	0.194	0.152	0.250	3	TiCN
2918400	●	No. 10 - 24 UNC	H5	2.375	0.326	0.866	0.194	0.152	0.250	3	Bright
2918401	●	No. 10 - 24 UNC	H5	2.375	0.326	0.866	0.194	0.152	0.250	3	Steam Oxide
2918408	●	No. 10 - 24 UNC	H5	2.375	0.326	0.866	0.194	0.152	0.250	3	TiCN
2923400	●	No. 10 - 24 UNC	H11	2.375	0.326	0.866	0.194	0.152	0.250	3	Bright
2923401	●	No. 10 - 24 UNC	H11	2.375	0.326	0.866	0.194	0.152	0.250	3	Steam Oxide
2923408	●	No. 10 - 24 UNC	H11	2.375	0.326	0.866	0.194	0.152	0.250	3	TiCN
2908800	●	No. 10 - 32 UNF	H2	2.375	0.326	0.866	0.194	0.152	0.250	3	Bright
2908801	●	No. 10 - 32 UNF	H2	2.375	0.326	0.866	0.194	0.152	0.250	3	Steam Oxide
2908808	●	No. 10 - 32 UNF	H2	2.375	0.326	0.866	0.194	0.152	0.250	3	TiCN
2913800	●	No. 10 - 32 UNF	H3	2.375	0.326	0.866	0.194	0.152	0.250	3	Bright
2913801	●	No. 10 - 32 UNF	H3	2.375	0.326	0.866	0.194	0.152	0.250	3	Steam Oxide
2913808	●	No. 10 - 32 UNF	H3	2.375	0.326	0.866	0.194	0.152	0.250	3	TiCN
2918800	●	No. 10 - 32 UNF	H5	2.375	0.326	0.866	0.194	0.152	0.250	3	Bright
2918801	●	No. 10 - 32 UNF	H5	2.375	0.326	0.866	0.194	0.152	0.250	3	Steam Oxide
2918808	●	No. 10 - 32 UNF	H5	2.375	0.326	0.866	0.194	0.152	0.250	3	TiCN
2919000	●	No. 10 - 32 UNF	H7	2.375	0.326	0.866	0.194	0.152	0.250	3	Bright
2919001	●	No. 10 - 32 UNF	H7	2.375	0.326	0.866	0.194	0.152	0.250	3	Steam Oxide
2919008	●	No. 10 - 32 UNF	H7	2.375	0.326	0.866	0.194	0.152	0.250	3	TiCN
2919100	●	No. 10 - 32 UNF	H11	2.375	0.326	0.866	0.194	0.152	0.250	3	Bright
2919101	●	No. 10 - 32 UNF	H11	2.375	0.326	0.866	0.194	0.152	0.250	3	Steam Oxide
2919108	●	No. 10 - 32 UNF	H11	2.375	0.326	0.866	0.194	0.152	0.250	3	TiCN
2923600	●	No. 12 - 24 UNC	H3	2.375	0.330	0.933	0.220	0.165	0.281	3	Bright
2923601	●	No. 12 - 24 UNC	H3	2.375	0.330	0.933	0.220	0.165	0.281	3	Steam Oxide
2923608	●	No. 12 - 24 UNC	H3	2.375	0.330	0.933	0.220	0.165	0.281	3	TiCN
2923800	●	No. 12 - 28 UNF	H3	2.375	0.330	0.933	0.220	0.165	0.281	3	Bright
2923801	●	No. 12 - 28 UNF	H3	2.375	0.330	0.933	0.220	0.165	0.281	3	Steam Oxide
2923808	●	No. 12 - 28 UNF	H3	2.375	0.330	0.933	0.220	0.165	0.281	3	TiCN
2928000	●	1/4 - 20 UNC	H2	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2928001	●	1/4 - 20 UNC	H2	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2928008	●	1/4 - 20 UNC	H2	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2930000	●	1/4 - 20 UNC	H3	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2930001	●	1/4 - 20 UNC	H3	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2930008	●	1/4 - 20 UNC	H3	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2940000	●	1/4 - 20 UNC	H5	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2940001	●	1/4 - 20 UNC	H5	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2940008	●	1/4 - 20 UNC	H5	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2940200	●	1/4 - 20 UNC	H7	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2940201	●	1/4 - 20 UNC	H7	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2940208	●	1/4 - 20 UNC	H7	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2940300	●	1/4 - 20 UNC	H11	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2940301	●	1/4 - 20 UNC	H11	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

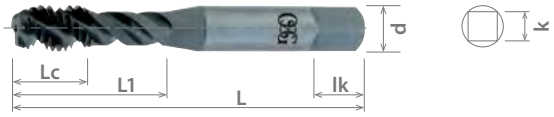
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 290 (Continued)

SPIRAL FLUTE | HSSE | BR | S/O | TiCN | C/2.5 | 45° | PACKED 1 PIECE

HY-PRO® SFT



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2940308	●	1/4 - 20 UNC	H11	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2930300	●	1/4 - 28 UNF	H2	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2930301	●	1/4 - 28 UNF	H2	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2930308	●	1/4 - 28 UNF	H2	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2930400	●	1/4 - 28 UNF	H3	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2930401	●	1/4 - 28 UNF	H3	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2930408	●	1/4 - 28 UNF	H3	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2935400	●	1/4 - 28 UNF	H4	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2935401	●	1/4 - 28 UNF	H4	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2935408	●	1/4 - 28 UNF	H4	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2940400	●	1/4 - 28 UNF	H5	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2940401	●	1/4 - 28 UNF	H5	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2940408	●	1/4 - 28 UNF	H5	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2940600	●	1/4 - 28 UNF	H7	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2940601	●	1/4 - 28 UNF	H7	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2940608	●	1/4 - 28 UNF	H7	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2940700	●	1/4 - 28 UNF	H11	2.500	0.397	0.996	0.255	0.191	0.313	3	Bright
2940701	●	1/4 - 28 UNF	H11	2.500	0.397	0.996	0.255	0.191	0.313	3	Steam Oxide
2940708	●	1/4 - 28 UNF	H11	2.500	0.397	0.996	0.255	0.191	0.313	3	TiCN
2930600	●	5/16 - 18 UNC	H2	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2930601	●	5/16 - 18 UNC	H2	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2930608	●	5/16 - 18 UNC	H2	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2930800	●	5/16 - 18 UNC	H3	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2930801	●	5/16 - 18 UNC	H3	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2930808	●	5/16 - 18 UNC	H3	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2940800	●	5/16 - 18 UNC	H5	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2940801	●	5/16 - 18 UNC	H5	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2940808	●	5/16 - 18 UNC	H5	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2941000	●	5/16 - 18 UNC	H7	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2941001	●	5/16 - 18 UNC	H7	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2941008	●	5/16 - 18 UNC	H7	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2941100	●	5/16 - 18 UNC	H11	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2941101	●	5/16 - 18 UNC	H11	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2941108	●	5/16 - 18 UNC	H11	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2926400	●	5/16 - 24 UNF	H2	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2926401	●	5/16 - 24 UNF	H2	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2926408	●	5/16 - 24 UNF	H2	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2931200	●	5/16 - 24 UNF	H3	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2931201	●	5/16 - 24 UNF	H3	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2931208	●	5/16 - 24 UNF	H3	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2936200	●	5/16 - 24 UNF	H4	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2936201	●	5/16 - 24 UNF	H4	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2936208	●	5/16 - 24 UNF	H4	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2941200	●	5/16 - 24 UNF	H5	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2941201	●	5/16 - 24 UNF	H5	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2941208	●	5/16 - 24 UNF	H5	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2941300	●	5/16 - 24 UNF	H6	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2941301	●	5/16 - 24 UNF	H6	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2941308	●	5/16 - 24 UNF	H6	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2941400	●	5/16 - 24 UNF	H7	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright
2941401	●	5/16 - 24 UNF	H7	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2941408	●	5/16 - 24 UNF	H7	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2941500	●	5/16 - 24 UNF	H11	2.719	0.444	1.125	0.318	0.238	0.375	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 290 (Continued)

HY-PRO® SFT

SPIRAL FLUTE | HSSE | BR | S/O | TiCN | C/2.5 | 45° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2941501	●	5/16 - 24 UNF	H11	2.719	0.444	1.125	0.318	0.238	0.375	3	Steam Oxide
2941508	●	5/16 - 24 UNF	H11	2.719	0.444	1.125	0.318	0.238	0.375	3	TiCN
2931500	●	3/8 - 16 UNC	H2	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2931501	●	3/8 - 16 UNC	H2	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2931508	●	3/8 - 16 UNC	H2	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2931600	●	3/8 - 16 UNC	H3	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2931601	●	3/8 - 16 UNC	H3	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2931608	●	3/8 - 16 UNC	H3	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2941600	●	3/8 - 16 UNC	H5	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2941601	●	3/8 - 16 UNC	H5	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2941608	●	3/8 - 16 UNC	H5	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2942100	●	3/8 - 16 UNC	H7	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2942101	●	3/8 - 16 UNC	H7	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2942108	●	3/8 - 16 UNC	H7	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2941900	●	3/8 - 16 UNC	H11	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2941901	●	3/8 - 16 UNC	H11	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2941908	●	3/8 - 16 UNC	H11	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2926800	●	3/8 - 24 UNF	H2	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2926801	●	3/8 - 24 UNF	H2	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2926808	●	3/8 - 24 UNF	H2	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2931800	●	3/8 - 24 UNF	H3	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2931801	●	3/8 - 24 UNF	H3	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2931808	●	3/8 - 24 UNF	H3	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2936800	●	3/8 - 24 UNF	H4	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2936801	●	3/8 - 24 UNF	H4	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2936808	●	3/8 - 24 UNF	H4	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2941800	●	3/8 - 24 UNF	H5	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2941801	●	3/8 - 24 UNF	H5	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2941808	●	3/8 - 24 UNF	H5	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2941700	●	3/8 - 24 UNF	H7	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2941701	●	3/8 - 24 UNF	H7	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2941708	●	3/8 - 24 UNF	H7	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2942300	●	3/8 - 24 UNF	H11	2.938	0.500	1.251	0.381	0.286	0.438	3	Bright
2942301	●	3/8 - 24 UNF	H11	2.938	0.500	1.251	0.381	0.286	0.438	3	Steam Oxide
2942308	●	3/8 - 24 UNF	H11	2.938	0.500	1.251	0.381	0.286	0.438	3	TiCN
2932000	●	7/16 - 14 UNC	H3	3.156	0.570	1.712	0.323	0.242	0.406	3	Bright
2932001	●	7/16 - 14 UNC	H3	3.156	0.570	1.712	0.323	0.242	0.406	3	Steam Oxide
2932008	●	7/16 - 14 UNC	H3	3.156	0.570	1.712	0.323	0.242	0.406	3	TiCN
2942000	●	7/16 - 14 UNC	H5	3.156	0.570	1.712	0.323	0.242	0.406	3	Bright
2942001	●	7/16 - 14 UNC	H5	3.156	0.570	1.712	0.323	0.242	0.406	3	Steam Oxide
2942008	●	7/16 - 14 UNC	H5	3.156	0.570	1.712	0.323	0.242	0.406	3	TiCN
2943100	●	7/16 - 14 UNC	H7	3.156	0.570	1.712	0.323	0.242	0.406	3	Bright
2943101	●	7/16 - 14 UNC	H7	3.156	0.570	1.712	0.323	0.242	0.406	3	Steam Oxide
2943108	●	7/16 - 14 UNC	H7	3.156	0.570	1.712	0.323	0.242	0.406	3	TiCN
2943300	●	7/16 - 14 UNC	H11	3.156	0.570	1.712	0.323	0.242	0.406	3	Bright
2943301	●	7/16 - 14 UNC	H11	3.156	0.570	1.712	0.323	0.242	0.406	3	Steam Oxide
2943308	●	7/16 - 14 UNC	H11	3.156	0.570	1.712	0.323	0.242	0.406	3	TiCN
2932200	●	7/16 - 20 UNF	H3	3.156	0.570	1.712	0.323	0.242	0.406	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

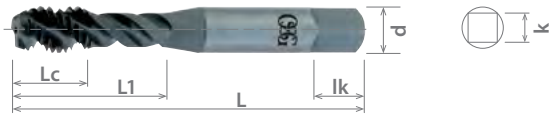
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 290 (Continued)

SPIRAL FLUTE | HSSE | BR | S/O | TiCN | C/2.5 | 45° | PACKED 1 PIECE

HY-PRO® SFT



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2932201	●	7/16 - 20 UNF	H3	3.156	0.570	1.712	0.323	0.242	0.406	3	Steam Oxide
2932208	●	7/16 - 20 UNF	H3	3.156	0.570	1.712	0.323	0.242	0.406	3	TiCN
2942200	●	7/16 - 20 UNF	H5	3.156	0.570	1.712	0.323	0.242	0.406	3	Bright
2942201	●	7/16 - 20 UNF	H5	3.156	0.570	1.712	0.323	0.242	0.406	3	Steam Oxide
2942208	●	7/16 - 20 UNF	H5	3.156	0.570	1.712	0.323	0.242	0.406	3	TiCN
2949000	●	7/16 - 20 UNF	H7	3.156	0.570	1.712	0.323	0.242	0.406	3	Bright
2949001	●	7/16 - 20 UNF	H7	3.156	0.570	1.712	0.323	0.242	0.406	3	Steam Oxide
2949008	●	7/16 - 20 UNF	H7	3.156	0.570	1.712	0.323	0.242	0.406	3	TiCN
2942800	●	7/16 - 20 UNF	H11	3.156	0.570	1.712	0.323	0.242	0.406	3	Bright
2942801	●	7/16 - 20 UNF	H11	3.156	0.570	1.712	0.323	0.242	0.406	3	Steam Oxide
2942808	●	7/16 - 20 UNF	H11	3.156	0.570	1.712	0.323	0.242	0.406	3	TiCN
2932400	●	1/2 - 13 UNC	H3	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2932401	●	1/2 - 13 UNC	H3	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2932408	●	1/2 - 13 UNC	H3	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2942400	●	1/2 - 13 UNC	H5	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2942401	●	1/2 - 13 UNC	H5	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2942408	●	1/2 - 13 UNC	H5	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2942500	●	1/2 - 13 UNC	H7	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2942501	●	1/2 - 13 UNC	H7	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2942508	●	1/2 - 13 UNC	H7	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2942700	●	1/2 - 13 UNC	H11	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2942701	●	1/2 - 13 UNC	H11	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2942708	●	1/2 - 13 UNC	H11	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2927600	●	1/2 - 20 UNF	H2	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2927601	●	1/2 - 20 UNF	H2	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2927608	●	1/2 - 20 UNF	H2	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2932600	●	1/2 - 20 UNF	H3	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2932601	●	1/2 - 20 UNF	H3	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2932608	●	1/2 - 20 UNF	H3	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2942600	●	1/2 - 20 UNF	H5	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2942601	●	1/2 - 20 UNF	H5	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2942608	●	1/2 - 20 UNF	H5	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2942900	●	1/2 - 20 UNF	H7	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2942901	●	1/2 - 20 UNF	H7	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2942908	●	1/2 - 20 UNF	H7	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2943000	●	1/2 - 20 UNF	H11	3.375	0.614	1.933	0.367	0.275	0.438	3	Bright
2943001	●	1/2 - 20 UNF	H11	3.375	0.614	1.933	0.367	0.275	0.438	3	Steam Oxide
2943008	●	1/2 - 20 UNF	H11	3.375	0.614	1.933	0.367	0.275	0.438	3	TiCN
2948600	●	9/16 - 12 UNC	H3	3.594	0.665	1.972	0.429	0.322	0.500	4	Bright
2948601	●	9/16 - 12 UNC	H3	3.594	0.665	1.972	0.429	0.322	0.500	4	Steam Oxide
2948608	●	9/16 - 12 UNC	H3	3.594	0.665	1.972	0.429	0.322	0.500	4	TiCN
2948800	●	9/16 - 18 UNF	H3	3.594	0.665	1.972	0.429	0.322	0.500	4	Bright
2948801	●	9/16 - 18 UNF	H3	3.594	0.665	1.972	0.429	0.322	0.500	4	Steam Oxide
2948808	●	9/16 - 18 UNF	H3	3.594	0.665	1.972	0.429	0.322	0.500	4	TiCN
2933200	●	5/8 - 11 UNC	H3	3.813	0.728	2.125	0.480	0.360	0.563	4	Bright
2933201	●	5/8 - 11 UNC	H3	3.813	0.728	2.125	0.480	0.360	0.563	4	Steam Oxide
2933208	●	5/8 - 11 UNC	H3	3.813	0.728	2.125	0.480	0.360	0.563	4	TiCN
2943200	●	5/8 - 11 UNC	H5	3.813	0.728	2.125	0.480	0.360	0.563	4	Bright
2943201	●	5/8 - 11 UNC	H5	3.813	0.728	2.125	0.480	0.360	0.563	4	Steam Oxide
2943208	●	5/8 - 11 UNC	H5	3.813	0.728	2.125	0.480	0.360	0.563	4	TiCN
2933400	●	5/8 - 18 UNF	H3	3.813	0.728	2.125	0.480	0.360	0.563	4	Bright
2933401	●	5/8 - 18 UNF	H3	3.813	0.728	2.125	0.480	0.360	0.563	4	Steam Oxide
2933408	●	5/8 - 18 UNF	H3	3.813	0.728	2.125	0.480	0.360	0.563	4	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 290 (Continued)

HY-PRO® SFT

SPIRAL FLUTE | HSSE | BR | S/O | TiCN | C/2.5 | 45° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2933600	●	3/4 - 10 UNC	H3	4.250	0.799	2.433	0.590	0.442	0.688	4	Bright
2933601	●	3/4 - 10 UNC	H3	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
2933608	●	3/4 - 10 UNC	H3	4.250	0.799	2.433	0.590	0.442	0.688	4	TiCN
2943600	●	3/4 - 10 UNC	H5	4.250	0.799	2.433	0.590	0.442	0.688	4	Bright
2943601	●	3/4 - 10 UNC	H5	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
2943608	●	3/4 - 10 UNC	H5	4.250	0.799	2.433	0.590	0.442	0.688	4	TiCN
2933800	●	3/4 - 16 UNF	H3	4.250	0.799	2.433	0.590	0.442	0.688	4	Bright
2933801	●	3/4 - 16 UNF	H3	4.250	0.799	2.433	0.590	0.442	0.688	4	Steam Oxide
2933808	●	3/4 - 16 UNF	H3	4.250	0.799	2.433	0.590	0.442	0.688	4	TiCN
2943800	●	3/4 - 16 UNF	H5	4.250	0.818	2.433	0.590	0.442	0.688	4	Bright
2943801	●	3/4 - 16 UNF	H5	4.250	0.818	2.433	0.590	0.442	0.688	4	Steam Oxide
2943808	●	3/4 - 16 UNF	H5	4.250	0.818	2.433	0.590	0.442	0.688	4	TiCN
2944000	●	7/8 - 9 UNC	H5	4.688	0.889	2.653	0.697	0.523	0.750	4	Bright
2944001	●	7/8 - 9 UNC	H5	4.688	0.889	2.653	0.697	0.523	0.750	4	Steam Oxide
2944008	●	7/8 - 9 UNC	H5	4.688	0.889	2.653	0.697	0.523	0.750	4	TiCN
2939200	●	7/8 - 14 UNF	H4	4.688	0.889	2.653	0.697	0.523	0.750	4	Bright
2939201	●	7/8 - 14 UNF	H4	4.688	0.889	2.653	0.697	0.523	0.750	4	Steam Oxide
2939208	●	7/8 - 14 UNF	H4	4.688	0.889	2.653	0.697	0.523	0.750	4	TiCN
2944400	●	1 - 8 UNC	H5	5.125	1.000	3.012	0.800	0.600	0.813	4	Bright
2944401	●	1 - 8 UNC	H5	5.125	1.000	3.012	0.800	0.600	0.813	4	Steam Oxide
2944408	●	1 - 8 UNC	H5	5.125	1.000	3.012	0.800	0.600	0.813	4	TiCN
2939600	●	1 - 12 UNF	H4	5.125	1.000	3.012	0.800	0.600	0.813	4	Bright
2939601	●	1 - 12 UNF	H4	5.125	1.000	3.012	0.800	0.600	0.813	4	Steam Oxide
2939608	●	1 - 12 UNF	H4	5.125	1.000	3.012	0.800	0.600	0.813	4	TiCN
2947201	●	1- 1/8 - 7 UNC	H6	5.438	1.141	3.075	0.896	0.672	0.875	4	Steam Oxide
2947601	●	1- 1/8 - 8 UN	H6	5.438	1.141	3.075	0.896	0.672	0.875	4	Steam Oxide
2945001	●	1- 1/8 - 12 UNF	H5	5.438	1.141	3.075	0.896	0.672	0.875	4	Steam Oxide
2947701	●	1- 1/4 - 7 UNC	H6	5.750	1.141	3.075	1.021	0.766	1.000	4	Steam Oxide
2947901	●	1- 1/4 - 8 UN	H6	5.750	1.141	3.075	1.021	0.766	1.000	4	Steam Oxide
2945601	●	1- 1/4 - 12 UNF	H5	5.750	1.141	3.075	1.021	0.766	1.000	4	Steam Oxide
2948001	●	1- 3/8 - 6 UNC	H6	6.063	1.334	3.591	1.108	0.831	1.063	4	Steam Oxide
2948201	●	1- 3/8 - 8 UN	H6	6.063	1.334	3.591	1.108	0.831	1.063	4	Steam Oxide
2946201	●	1- 3/8 - 12 UNF	H5	6.063	1.334	3.591	1.108	0.831	1.063	4	Steam Oxide
2948301	●	1- 1/2 - 6 UNC	H6	6.375	1.334	3.591	1.233	0.925	1.125	4	Steam Oxide
2948501	●	1- 1/2 - 8 UN	H6	6.375	1.334	3.591	1.233	0.925	1.125	4	Steam Oxide
2946801	●	1- 1/2 - 12 UNF	H5	6.375	1.334	3.591	1.233	0.925	1.125	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

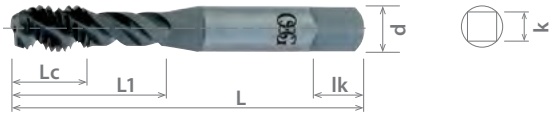
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 299

SPIRAL FLUTE | HSSE | BR | S/O | TiCN | C/2.5 | 45° | PACKED 1 PIECE

HY-PRO® SFT



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
2990400	●	M3 x 0.5	D3	49.20	4.08	16.00	3.58	2.79	4.76	3	Bright
2990401	●	M3 x 0.5	D3	49.20	4.08	16.00	3.58	2.79	4.76	3	Steam Oxide
2990408	●	M3 x 0.5	D3	49.20	4.08	16.00	3.58	2.79	4.76	3	TiCN
2993101	●	M3 x 0.5	D11	49.20	4.08	16.00	3.58	2.79	4.76	3	Steam Oxide
2990500	●	M3.5 x 0.6	D4	50.80	4.08	17.50	3.58	2.79	4.76	3	Bright
2990501	●	M3.5 x 0.6	D4	50.80	4.08	17.50	3.58	2.79	4.76	3	Steam Oxide
2990508	●	M3.5 x 0.6	D4	50.80	4.08	17.50	3.58	2.79	4.76	3	TiCN
2993301	●	M3.5 x 0.6	D11	50.80	4.08	17.50	3.58	2.79	4.76	3	Steam Oxide
2990600	●	M4 x 0.7	D4	54.00	4.80	19.10	4.27	3.33	6.35	3	Bright
2990601	●	M4 x 0.7	D4	54.00	4.80	19.10	4.27	3.33	6.35	3	Steam Oxide
2990608	●	M4 x 0.7	D4	54.00	4.80	19.10	4.27	3.33	6.35	3	TiCN
2993501	●	M4 x 0.7	D11	54.00	4.80	19.10	4.27	3.33	6.35	3	Steam Oxide
2990800	●	M5 x 0.8	D4	60.30	5.58	22.19	4.93	3.86	6.35	3	Bright
2990801	●	M5 x 0.8	D4	60.30	5.58	22.19	4.93	3.86	6.35	3	Steam Oxide
2990808	●	M5 x 0.8	D4	60.30	5.58	22.19	4.93	3.86	6.35	3	TiCN
2993701	●	M5 x 0.8	D11	60.30	5.58	22.19	4.93	3.86	6.35	3	Steam Oxide
2991000	●	M6 x 1	D5	63.50	8.00	25.40	6.48	4.85	7.94	3	Bright
2991001	●	M6 x 1	D5	63.50	8.00	25.40	6.48	4.85	7.94	3	Steam Oxide
2991008	●	M6 x 1	D5	63.50	8.00	25.40	6.48	4.85	7.94	3	TiCN
2993901	●	M6 x 1	D11	63.50	8.00	25.40	6.48	4.85	7.94	3	Steam Oxide
2991100	●	M7 x 1	D5	69.10	8.00	28.60	8.08	6.05	9.53	3	Bright
2991101	●	M7 x 1	D5	69.10	8.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2991108	●	M7 x 1	D5	69.10	8.00	28.60	8.08	6.05	9.53	3	TiCN
2994101	●	M7 x 1	D11	69.10	8.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2991300	●	M8 x 1	D5	69.10	10.00	28.60	8.08	6.05	9.53	3	Bright
2991301	●	M8 x 1	D5	69.10	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2991308	●	M8 x 1	D5	69.10	10.00	28.60	8.08	6.05	9.53	3	TiCN
2994301	●	M8 x 1	D11	69.10	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2991400	●	M8 x 1.25	D5	69.10	10.00	28.60	8.08	6.05	9.53	3	Bright
2991401	●	M8 x 1.25	D5	69.10	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2991408	●	M8 x 1.25	D5	69.10	10.00	28.60	8.08	6.05	9.53	3	TiCN
2994501	●	M8 x 1.25	D11	69.10	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2991600	●	M10 x 1	D5	74.60	11.98	31.80	9.68	7.26	11.11	3	Bright
2991601	●	M10 x 1	D5	74.60	11.98	31.80	9.68	7.26	11.11	3	Steam Oxide
2991608	●	M10 x 1	D5	74.60	11.98	31.80	9.68	7.26	11.11	3	TiCN
2994701	●	M10 x 1	D11	74.60	11.98	31.80	9.68	7.26	11.11	3	Steam Oxide
2991700	●	M10 x 1.25	D5	74.60	11.98	31.80	9.68	7.26	11.11	3	Bright
2991701	●	M10 x 1.25	D5	74.60	11.98	31.80	9.68	7.26	11.11	3	Steam Oxide
2991708	●	M10 x 1.25	D5	74.60	11.98	31.80	9.68	7.26	11.11	3	TiCN
2994901	●	M10 x 1.25	D11	74.60	11.98	31.80	9.68	7.26	11.11	3	Steam Oxide
2991800	●	M10 x 1.5	D6	74.60	11.98	31.80	9.68	7.26	11.11	3	Bright
2991801	●	M10 x 1.5	D6	74.60	11.98	31.80	9.68	7.26	11.11	3	Steam Oxide
2991808	●	M10 x 1.5	D6	74.60	11.98	31.80	9.68	7.26	11.11	3	TiCN
2995101	●	M10 x 1.5	D11	74.60	11.98	31.80	9.68	7.26	11.11	3	Steam Oxide
2992100	●	M12 x 1.25	D5	85.70	13.99	49.90	9.32	6.99	11.11	3	Bright
2992101	●	M12 x 1.25	D5	85.70	13.99	49.90	9.32	6.99	11.11	3	Steam Oxide
2992108	●	M12 x 1.25	D5	85.70	13.99	49.90	9.32	6.99	11.11	3	TiCN
2995201	●	M12 x 1.25	D11	85.70	13.99	49.90	9.32	6.99	11.11	3	Steam Oxide
2992200	●	M12 x 1.5	D6	85.70	13.99	49.90	9.32	6.99	11.11	3	Bright
2992201	●	M12 x 1.5	D6	85.70	13.99	49.90	9.32	6.99	11.11	3	Steam Oxide
2992208	●	M12 x 1.5	D6	85.70	13.99	49.90	9.32	6.99	11.11	3	TiCN
2995501	●	M12 x 1.5	D11	85.70	13.99	49.90	9.32	6.99	11.11	3	Steam Oxide
2992300	●	M12 x 1.75	D6	85.70	13.99	49.90	9.32	6.99	11.11	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

List 299 (Continued)

HY-PRO® SFT

SPIRAL FLUTE | HSSE | BR | S/O | TiCN | C/2.5 | 45° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
2992301	●	M12 x 1.75	D6	85.70	13.99	49.90	9.32	6.99	11.11	3	Steam Oxide
2992308	●	M12 x 1.75	D6	85.70	13.99	49.90	9.32	6.99	11.11	3	TiCN
2995701	●	M12 x 1.75	D11	85.70	13.99	49.90	9.32	6.99	11.11	3	Steam Oxide
2992501	●	M14 x 1.5	D6	91.30	16.00	50.08	10.90	8.18	12.70	3	Steam Oxide
2992601	●	M14 x 2	D7	91.30	16.00	50.08	10.90	8.18	12.70	3	Steam Oxide
2992801	●	M16 x 1.5	D6	96.80	16.00	54.00	12.19	9.14	14.29	3	Steam Oxide
2992901	●	M16 x 2	D7	96.80	16.00	54.00	12.19	9.14	14.29	3	Steam Oxide
2993001	●	M18 x 1.5	D6	102.40	19.98	54.99	13.77	10.31	15.88	4	Steam Oxide
2993201	●	M18 x 2.5	D7	102.40	19.98	54.99	13.77	10.31	15.88	4	Steam Oxide
2993401	●	M20 x 1.5	D6	113.50	19.98	61.79	16.56	12.42	17.46	4	Steam Oxide
2993601	●	M20 x 2.5	D8	113.50	19.98	61.79	16.56	12.42	17.46	4	Steam Oxide
2993801	●	M22 x 1.5	D6	119.10	19.98	67.41	17.70	13.28	19.05	4	Steam Oxide
2994001	●	M22 x 2.5	D8	119.10	19.98	67.41	17.70	13.28	19.05	4	Steam Oxide
2994201	●	M24 x 1.5	D6	124.60	24.00	68.40	19.30	14.48	19.05	4	Steam Oxide
2994401	●	M24 x 3	D8	124.60	24.00	68.40	19.30	14.48	19.05	4	Steam Oxide
2994601	●	M27 x 1.5	D6	101.60	24.00	51.10	22.76	17.07	22.23	4	Steam Oxide
2994801	●	M27 x 3	D8	130.20	24.00	76.50	22.76	17.07	22.23	4	Steam Oxide
2995001	●	M30 x 1.5	D6	101.60	27.99	78.10	25.93	19.46	25.40	4	Steam Oxide
2995301	●	M30 x 3.5	D9	101.60	27.99	78.10	25.93	19.46	25.40	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

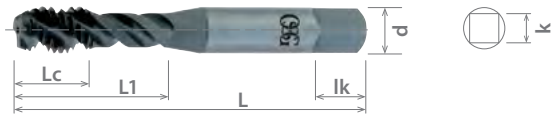
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 297

HY-PRO® SEVEN SFT

SPIRAL FLUTE | HSS | BR | S/O | TiN | C/1.5 | 50° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2984500	●	No. 3 - 48 UNC	2B	1.813	0.496	0.535	0.141	0.110	0.188	2	Bright
2984501	●	No. 3 - 48 UNC	2B	1.813	0.496	0.535	0.141	0.110	0.188	2	Steam Oxide
2984505	●	No. 3 - 48 UNC	2B	1.813	0.496	0.535	0.141	0.110	0.188	2	TiN
2984600	●	No. 3 - 56 UNF	2B	1.813	0.496	0.535	0.141	0.110	0.188	2	Bright
2984601	●	No. 3 - 56 UNF	2B	1.813	0.496	0.535	0.141	0.110	0.188	2	Steam Oxide
2984605	●	No. 3 - 56 UNF	2B	1.813	0.496	0.535	0.141	0.110	0.188	2	TiN
2985000	●	No. 4 - 40 UNC	2B	1.875	0.295	0.559	0.141	0.110	0.188	2	Bright
2985001	●	No. 4 - 40 UNC	2B	1.875	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
2985005	●	No. 4 - 40 UNC	2B	1.875	0.295	0.559	0.141	0.110	0.188	2	TiN
2986400	●	No. 4 - 48 UNF	2B	1.875	0.295	0.559	0.141	0.110	0.188	2	Bright
2986401	●	No. 4 - 48 UNF	2B	1.875	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
2986405	●	No. 4 - 48 UNF	2B	1.875	0.295	0.559	0.141	0.110	0.188	2	TiN
2986500	●	No. 5 - 40 UNC	2B	1.938	0.311	0.625	0.141	0.110	0.188	2	Bright
2986501	●	No. 5 - 40 UNC	2B	1.938	0.311	0.625	0.141	0.110	0.188	2	Steam Oxide
2986505	●	No. 5 - 40 UNC	2B	1.938	0.311	0.625	0.141	0.110	0.188	2	TiN
2985200	●	No. 6 - 32 UNC	2B	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2985201	●	No. 6 - 32 UNC	2B	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2985205	●	No. 6 - 32 UNC	2B	2.000	0.370	0.685	0.141	0.110	0.188	2	TiN
2986600	●	No. 6 - 40 UNF	2B	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2986601	●	No. 6 - 40 UNF	2B	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2986605	●	No. 6 - 40 UNF	2B	2.000	0.370	0.685	0.141	0.110	0.188	2	TiN
2985300	●	No. 8 - 32 UNC	2B	2.125	0.374	0.751	0.168	0.131	0.250	3	Bright
2985301	●	No. 8 - 32 UNC	2B	2.125	0.374	0.751	0.168	0.131	0.250	3	Steam Oxide
2985305	●	No. 8 - 32 UNC	2B	2.125	0.374	0.751	0.168	0.131	0.250	3	TiN
2986700	●	No. 8 - 36 UNF	2B	2.125	0.374	0.751	0.168	0.131	0.250	3	Bright
2986701	●	No. 8 - 36 UNF	2B	2.125	0.374	0.751	0.168	0.131	0.250	3	Steam Oxide
2986705	●	No. 8 - 36 UNF	2B	2.125	0.374	0.751	0.168	0.131	0.250	3	TiN
2985400	●	No. 10 - 24 UNC	2B	2.375	0.492	0.866	0.194	0.152	0.250	3	Bright
2985401	●	No. 10 - 24 UNC	2B	2.375	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2985405	●	No. 10 - 24 UNC	2B	2.375	0.492	0.866	0.194	0.152	0.250	3	TiN
2985500	●	No. 10 - 32 UNF	2B	2.375	0.492	0.866	0.194	0.152	0.250	3	Bright
2985501	●	No. 10 - 32 UNF	2B	2.375	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2985505	●	No. 10 - 32 UNF	2B	2.375	0.492	0.866	0.194	0.152	0.250	3	TiN
2986800	●	No. 12 - 24 UNC	2B	2.375	0.496	0.933	0.220	0.165	0.281	3	Bright
2986801	●	No. 12 - 24 UNC	2B	2.375	0.496	0.933	0.220	0.165	0.281	3	Steam Oxide
2986805	●	No. 12 - 24 UNC	2B	2.375	0.496	0.933	0.220	0.165	0.281	3	TiN
2985600	●	1/4 - 20 UNC	2B	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2985601	●	1/4 - 20 UNC	2B	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2985605	●	1/4 - 20 UNC	2B	2.500	0.594	0.996	0.255	0.191	0.313	3	TiN
2985700	●	1/4 - 28 UNF	2B	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2985701	●	1/4 - 28 UNF	2B	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2985705	●	1/4 - 28 UNF	2B	2.500	0.594	0.996	0.255	0.191	0.313	3	TiN
2985800	●	5/16 - 18 UNC	2B	2.719	0.665	1.125	0.318	0.238	0.375	3	Bright
2985801	●	5/16 - 18 UNC	2B	2.719	0.665	1.125	0.318	0.238	0.375	3	Steam Oxide
2985805	●	5/16 - 18 UNC	2B	2.719	0.665	1.125	0.318	0.238	0.375	3	TiN
2985900	●	5/16 - 24 UNF	2B	2.719	0.665	1.125	0.318	0.238	0.375	3	Bright
2985901	●	5/16 - 24 UNF	2B	2.719	0.665	1.125	0.318	0.238	0.375	3	Steam Oxide
2985905	●	5/16 - 24 UNF	2B	2.719	0.665	1.125	0.318	0.238	0.375	3	TiN
2986000	●	3/8 - 16 UNC	2B	2.938	0.751	1.251	0.381	0.286	0.438	3	Bright
2986001	●	3/8 - 16 UNC	2B	2.938	0.751	1.251	0.381	0.286	0.438	3	Steam Oxide
2986005	●	3/8 - 16 UNC	2B	2.938	0.751	1.251	0.381	0.286	0.438	3	TiN
2986100	●	3/8 - 24 UNF	2B	2.938	0.751	1.251	0.381	0.286	0.438	3	Bright
2986101	●	3/8 - 24 UNF	2B	2.938	0.751	1.251	0.381	0.286	0.438	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 297 (Continued)

HY-PRO® SEVEN SFT

SPIRAL FLUTE | HSS | BR | S/O | TiN | C/1.5 | 50° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2986105	●	3/8 - 24 UNF	2B	2.938	0.751	1.251	0.381	0.286	0.438	3	TiN
2986900	●	7/16 - 14 UNC	2B	3.156	0.858	1.712	0.323	0.242	0.406	3	Bright
2986901	●	7/16 - 14 UNC	2B	3.156	0.858	1.712	0.323	0.242	0.406	3	Steam Oxide
2986905	●	7/16 - 14 UNC	2B	3.156	0.858	1.712	0.323	0.242	0.406	3	TiN
2987000	●	7/16 - 20 UNF	2B	3.156	0.858	1.712	0.323	0.242	0.406	3	Bright
2987001	●	7/16 - 20 UNF	2B	3.156	0.858	1.712	0.323	0.242	0.406	3	Steam Oxide
2987005	●	7/16 - 20 UNF	2B	3.156	0.858	1.712	0.323	0.242	0.406	3	TiN
2986200	●	1/2 - 13 UNC	2B	3.375	0.921	1.933	0.367	0.275	0.438	3	Bright
2986201	●	1/2 - 13 UNC	2B	3.375	0.921	1.933	0.367	0.275	0.438	3	Steam Oxide
2986205	●	1/2 - 13 UNC	2B	3.375	0.921	1.933	0.367	0.275	0.438	3	TiN
2986300	●	1/2 - 20 UNF	2B	3.375	0.921	1.933	0.367	0.275	0.438	3	Bright
2986301	●	1/2 - 20 UNF	2B	3.375	0.921	1.933	0.367	0.275	0.438	3	Steam Oxide
2986305	●	1/2 - 20 UNF	2B	3.375	0.921	1.933	0.367	0.275	0.438	3	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

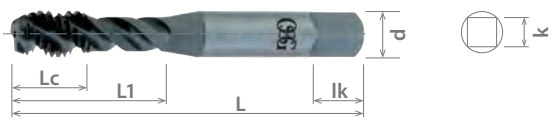
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎								○	○						
50-90 SFM	40-80 SFM								30-80 SFM	30-80 SFM						

○ Good ◎ Best

List 298

HY-PRO® SEVEN SFT

SPIRAL FLUTE | HSS | BR | S/O | TiN | C/1.5 | 50° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
2988000	●	M3 x 0.5	49.20	8.00	16.00	3.58	2.79	4.76	2	Bright
2988001	●	M3 x 0.5	49.20	8.00	16.00	3.58	2.79	4.76	2	Steam Oxide
2988005	●	M3 x 0.5	49.20	8.00	16.00	3.58	2.79	4.76	2	TiN
2988100	●	M4 x 0.7	54.00	8.97	19.10	4.27	3.33	6.35	3	Bright
2988101	●	M4 x 0.7	54.00	8.97	19.10	4.27	3.33	6.35	3	Steam Oxide
2988105	●	M4 x 0.7	54.00	8.97	19.10	4.27	3.33	6.35	3	TiN
2988200	●	M5 x 0.8	60.30	12.70	22.19	4.93	3.86	6.35	3	Bright
2988201	●	M5 x 0.8	60.30	12.70	22.19	4.93	3.86	6.35	3	Steam Oxide
2988205	●	M5 x 0.8	60.30	12.70	22.19	4.93	3.86	6.35	3	TiN
2988300	●	M6 x 1	63.50	15.18	25.40	6.48	4.85	7.94	3	Bright
2988301	●	M6 x 1	63.50	15.18	25.40	6.48	4.85	7.94	3	Steam Oxide
2988305	●	M6 x 1	63.50	15.18	25.40	6.48	4.85	7.94	3	TiN
2988400	●	M8 x 1.25	69.10	16.89	28.60	8.08	6.05	9.53	3	Bright
2988401	●	M8 x 1.25	69.10	16.89	28.60	8.08	6.05	9.53	3	Steam Oxide
2988405	●	M8 x 1.25	69.10	16.89	28.60	8.08	6.05	9.53	3	TiN
2988500	●	M10 x 1.5	74.60	19.10	31.80	9.68	7.26	11.11	3	Bright
2988501	●	M10 x 1.5	74.60	19.10	31.80	9.68	7.26	11.11	3	Steam Oxide
2988505	●	M10 x 1.5	74.60	19.10	31.80	9.68	7.26	11.11	3	TiN
2988600	●	M12 x 1.75	85.70	21.00	49.10	9.32	6.99	11.11	3	Bright
2988601	●	M12 x 1.75	85.70	21.00	49.10	9.32	6.99	11.11	3	Steam Oxide
2988605	●	M12 x 1.75	85.70	21.00	49.10	9.32	6.99	11.11	3	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎								○	○						
50-90 SFM	40-80 SFM								30-80 SFM	30-80 SFM						

○ Good ◎ Best

List 107

OSG GENERAL PURPOSE-SFT

SPIRAL FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5 | C/4.5P | 50° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1406100	●	No. 3 - 48 UNC	H2	Bottom (1.5P)	1.813	0.496	0.535	0.141	0.110	0.188	2	Bright
1406000	●	No. 3 - 48 UNC	H2	Plug (4.5P)	1.813	0.496	0.535	0.141	0.110	0.188	2	Bright
1406500	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.326	0.535	0.141	0.110	0.188	2	Bright
1406501	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.326	0.535	0.141	0.110	0.188	2	Steam Oxide
1406508	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.326	0.535	0.141	0.110	0.188	2	TiCN
1406505	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.875	0.326	0.535	0.141	0.110	0.188	2	TiN
1406400	●	No. 4 - 40 UNC	H2	Plug (4.5P)	1.875	0.326	0.535	0.141	0.110	0.188	2	Bright
1406401	●	No. 4 - 40 UNC	H2	Plug (4.5P)	1.875	0.326	0.535	0.141	0.110	0.188	2	Steam Oxide
1406408	●	No. 4 - 40 UNC	H2	Plug (4.5P)	1.875	0.326	0.535	0.141	0.110	0.188	2	TiCN
1406405	●	No. 4 - 40 UNC	H2	Plug (4.5P)	1.875	0.326	0.535	0.141	0.110	0.188	2	TiN
1407100	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.938	0.330	0.618	0.141	0.110	0.188	2	Bright
1407108	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.938	0.330	0.618	0.141	0.110	0.188	2	TiCN
1407000	●	No. 5 - 40 UNC	H2	Plug (4.5P)	1.938	0.330	0.618	0.141	0.110	0.188	2	Bright
1407008	●	No. 5 - 40 UNC	H2	Plug (4.5P)	1.938	0.330	0.618	0.141	0.110	0.188	2	TiCN
5001500	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	Bright
5001508	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	TiCN
5001505	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	TiN
5001400	●	No. 6 - 32 UNC	H2	Plug (4.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	Bright
5001405	●	No. 6 - 32 UNC	H2	Plug (4.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	TiN
1412500	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	Bright
1412501	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	Steam Oxide
1412508	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	TiCN
1412505	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	TiN
1412400	●	No. 6 - 32 UNC	H3	Plug (4.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	Bright
1412401	●	No. 6 - 32 UNC	H3	Plug (4.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	Steam Oxide
1412408	●	No. 6 - 32 UNC	H3	Plug (4.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	TiCN
1412405	●	No. 6 - 32 UNC	H3	Plug (4.5P)	2.000	0.397	0.685	0.141	0.110	0.188	2	TiN
5001900	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	Bright
5001908	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	TiCN
5001800	●	No. 8 - 32 UNC	H2	Plug (4.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	Bright
5001808	●	No. 8 - 32 UNC	H2	Plug (4.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	TiCN
1412900	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	Bright
1412901	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	Steam Oxide
1412908	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	TiCN
1412905	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	TiN
1412800	●	No. 8 - 32 UNC	H3	Plug (4.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	Bright
1412808	●	No. 8 - 32 UNC	H3	Plug (4.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	TiCN
1412805	●	No. 8 - 32 UNC	H3	Plug (4.5P)	2.125	0.401	0.759	0.168	0.131	0.250	3	TiN
1413300	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	Bright
1413301	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	Steam Oxide
1413308	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiCN
1413305	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

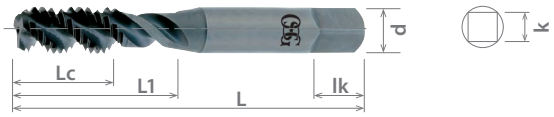
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 107 (Continued)

OSG GENERAL PURPOSE-SFT

SPIRAL FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5 | C/4.5P | 50° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1413200	●	No. 10 - 24 UNC	H3	Plug (4.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	Bright
1413208	●	No. 10 - 24 UNC	H3	Plug (4.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiCN
1413205	●	No. 10 - 24 UNC	H3	Plug (4.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiN
5002700	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	Bright
5002708	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiCN
5002705	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiN
5002600	●	No. 10 - 32 UNF	H2	Plug (4.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	Bright
1413500	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	Bright
1413501	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	Steam Oxide
1413508	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiCN
1413505	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiN
1413400	●	No. 10 - 32 UNF	H3	Plug (4.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	Bright
1413408	●	No. 10 - 32 UNF	H3	Plug (4.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiCN
1413405	●	No. 10 - 32 UNF	H3	Plug (4.5P)	2.375	0.511	0.874	0.194	0.152	0.250	3	TiN
1413700	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	2.375	0.515	0.937	0.220	0.165	0.281	3	Bright
1413701	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	2.375	0.515	0.937	0.220	0.165	0.281	3	Steam Oxide
1413708	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	2.375	0.515	0.937	0.220	0.165	0.281	3	TiCN
1413600	●	No. 12 - 24 UNC	H3	Plug (4.5P)	2.375	0.515	0.937	0.220	0.165	0.281	3	Bright
1430100	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	Bright
1430101	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	Steam Oxide
1430108	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiCN
1430105	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiN
1430000	●	1/4 - 20 UNC	H3	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	Bright
1430001	●	1/4 - 20 UNC	H3	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	Steam Oxide
1430008	●	1/4 - 20 UNC	H3	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiCN
1430005	●	1/4 - 20 UNC	H3	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiN
5003500	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	Bright
5003508	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiCN
5003505	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiN
5003400	●	1/4 - 20 UNC	H5	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	Bright
5003408	●	1/4 - 20 UNC	H5	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiCN
5003405	●	1/4 - 20 UNC	H5	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiN
1430300	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	Bright
1430308	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiCN
1430305	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiN
1430200	●	1/4 - 28 UNF	H3	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	Bright
1430208	●	1/4 - 28 UNF	H3	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiCN
1430205	●	1/4 - 28 UNF	H3	Plug (4.5P)	2.500	0.645	1.000	0.255	0.191	0.313	3	TiN
1430500	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	Bright
1430501	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	Steam Oxide
1430508	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiCN
1430505	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiN
1430400	●	5/16 - 18 UNC	H3	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	Bright
1430401	●	5/16 - 18 UNC	H3	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	Steam Oxide
1430408	●	5/16 - 18 UNC	H3	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiCN
1430405	●	5/16 - 18 UNC	H3	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiN
5004700	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	Bright
5004708	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiCN
5004705	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiN
5004600	●	5/16 - 18 UNC	H5	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	Bright
5004608	●	5/16 - 18 UNC	H5	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiCN
1430700	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	Bright
1430708	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 107 (Continued)

OSG GENERAL PURPOSE-SFT

SPIRAL FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5 | C/4.5P | 50° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1430705	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiN
1430600	●	5/16 - 24 UNF	H3	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	Bright
1430608	●	5/16 - 24 UNF	H3	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiCN
1430605	●	5/16 - 24 UNF	H3	Plug (4.5P)	2.719	0.708	1.129	0.318	0.238	0.375	3	TiN
1430900	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	Bright
1430901	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	Steam Oxide
1430908	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiCN
1430905	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiN
1430800	●	3/8 - 16 UNC	H3	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	Bright
1430801	●	3/8 - 16 UNC	H3	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	Steam Oxide
1430808	●	3/8 - 16 UNC	H3	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiCN
1430805	●	3/8 - 16 UNC	H3	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiN
5005500	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	Bright
5005508	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiCN
5005505	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiN
5005400	●	3/8 - 16 UNC	H5	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	Bright
5005408	●	3/8 - 16 UNC	H5	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiCN
1431100	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	Bright
1431108	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiCN
1431105	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiN
1431000	●	3/8 - 24 UNF	H3	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	Bright
1431008	●	3/8 - 24 UNF	H3	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiCN
1431005	●	3/8 - 24 UNF	H3	Plug (4.5P)	2.938	0.771	1.251	0.381	0.286	0.438	3	TiN
1431300	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	Bright
1431308	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiCN
1431305	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiN
1431200	●	7/16 - 14 UNC	H3	Plug (4.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	Bright
1431208	●	7/16 - 14 UNC	H3	Plug (4.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiCN
1431205	●	7/16 - 14 UNC	H3	Plug (4.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiN
5006200	●	7/16 - 14 UNC	H5	Bottom (1.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	Bright
5006205	●	7/16 - 14 UNC	H5	Bottom (1.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiN
1431700	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	Bright
1431708	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiCN
1431705	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiN
1431600	●	7/16 - 20 UNF	H3	Plug (4.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	Bright
1431608	●	7/16 - 20 UNF	H3	Plug (4.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiCN
1431605	●	7/16 - 20 UNF	H3	Plug (4.5P)	3.156	0.901	1.780	0.323	0.242	0.406	3	TiN
1432100	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	Bright
1432101	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	Steam Oxide
1432108	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiCN
1432105	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiN
1432000	●	1/2 - 13 UNC	H3	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	Bright
1432001	●	1/2 - 13 UNC	H3	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	Steam Oxide
1432008	●	1/2 - 13 UNC	H3	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiCN
1432005	●	1/2 - 13 UNC	H3	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiN
5007100	●	1/2 - 13 UNC	H5	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	Bright
5007108	●	1/2 - 13 UNC	H5	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiCN
5007000	●	1/2 - 13 UNC	H5	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 107 (Continued)

OSG GENERAL PURPOSE-SFT

SPIRAL FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5 | C/4.5P | 50° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
5007008	●	1/2 - 13 UNC	H5	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiCN
1432500	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	Bright
1432508	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiCN
1432505	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiN
1432400	●	1/2 - 20 UNF	H3	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	Bright
1432408	●	1/2 - 20 UNF	H3	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiCN
1432405	●	1/2 - 20 UNF	H3	Plug (4.5P)	3.375	0.960	1.929	0.367	0.275	0.438	3	TiN
1432900	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	Bright
1432908	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	TiCN
1432905	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	TiN
1432800	●	5/8 - 11 UNC	H3	Plug (4.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	Bright
1432808	●	5/8 - 11 UNC	H3	Plug (4.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	TiCN
1433300	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	Bright
1433308	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	TiCN
1433305	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	TiN
1433200	●	5/8 - 18 UNF	H3	Plug (4.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	Bright
1433208	●	5/8 - 18 UNF	H3	Plug (4.5P)	3.813	1.110	2.129	0.480	0.360	0.563	4	TiCN
1433700	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	Bright
1433708	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	TiCN
1433705	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	TiN
1433600	●	3/4 - 10 UNC	H3	Plug (4.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	Bright
1433608	●	3/4 - 10 UNC	H3	Plug (4.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	TiCN
1433605	●	3/4 - 10 UNC	H3	Plug (4.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	TiN
1434100	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	Bright
1434108	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	TiCN
1434105	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	TiN
1434000	●	3/4 - 16 UNF	H3	Plug (4.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	Bright
1434008	●	3/4 - 16 UNF	H3	Plug (4.5P)	4.250	1.240	2.429	0.590	0.442	0.688	4	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 143

OSG GENERAL PURPOSE-SFT

SPIRAL FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5 | C/4.5P | 50° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1985200	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	8.30	15.79	3.58	2.79	4.76	2	Bright
1985201	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	8.30	15.79	3.58	2.79	4.76	2	Steam Oxide
1985208	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	8.30	15.79	3.58	2.79	4.76	2	TiCN
1985100	●	M3 x 0.5	D3	Plug (4.5P)	49.20	8.30	15.79	3.58	2.79	4.76	2	Bright
1985105	●	M3 x 0.5	D3	Plug (4.5P)	49.20	8.30	15.79	3.58	2.79	4.76	2	TiN
1985500	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	10.00	19.30	4.27	3.33	6.35	3	Bright
1985501	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	10.00	19.30	4.27	3.33	6.35	3	Steam Oxide
1985508	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	10.00	19.30	4.27	3.33	6.35	3	TiCN
1985400	●	M4 x 0.7	D4	Plug (4.5P)	54.00	10.00	19.30	4.27	3.33	6.35	3	Bright
1985408	●	M4 x 0.7	D4	Plug (4.5P)	54.00	10.00	19.30	4.27	3.33	6.35	3	TiCN
1985405	●	M4 x 0.7	D4	Plug (4.5P)	54.00	10.00	19.30	4.27	3.33	6.35	3	TiN
1985800	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	13.00	22.40	4.93	3.86	6.35	3	Bright
1985801	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	13.00	22.40	4.93	3.86	6.35	3	Steam Oxide
1985808	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	13.00	22.40	4.93	3.86	6.35	3	TiCN
1985700	●	M5 x 0.8	D4	Plug (4.5P)	60.30	13.00	22.40	4.93	3.86	6.35	3	Bright
1985708	●	M5 x 0.8	D4	Plug (4.5P)	60.30	13.00	22.40	4.93	3.86	6.35	3	TiCN
1985705	●	M5 x 0.8	D4	Plug (4.5P)	60.30	13.00	22.40	4.93	3.86	6.35	3	TiN
1986100	●	M6 x 1	D5	Bottom (1.5P)	63.50	16.30	25.70	6.48	4.85	7.94	3	Bright
1986101	●	M6 x 1	D5	Bottom (1.5P)	63.50	16.30	25.70	6.48	4.85	7.94	3	Steam Oxide
1986108	●	M6 x 1	D5	Bottom (1.5P)	63.50	16.30	25.70	6.48	4.85	7.94	3	TiCN
1986000	●	M6 x 1	D5	Plug (4.5P)	63.50	16.30	25.70	6.48	4.85	7.94	3	Bright
1986008	●	M6 x 1	D5	Plug (4.5P)	63.50	16.30	25.70	6.48	4.85	7.94	3	TiCN
1986005	●	M6 x 1	D5	Plug (4.5P)	63.50	16.30	25.70	6.48	4.85	7.94	3	TiN
1986400	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	18.00	28.70	8.08	6.05	9.53	3	Bright
1986401	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	18.00	28.70	8.08	6.05	9.53	3	Steam Oxide
1986408	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	18.00	28.70	8.08	6.05	9.53	3	TiCN
1986300	●	M8 x 1.25	D5	Plug (4.5P)	69.10	18.00	28.70	8.08	6.05	9.53	3	Bright
1986308	●	M8 x 1.25	D5	Plug (4.5P)	69.10	18.00	28.70	8.08	6.05	9.53	3	TiCN
1986305	●	M8 x 1.25	D5	Plug (4.5P)	69.10	18.00	28.70	8.08	6.05	9.53	3	TiN
1986700	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	19.50	31.69	9.68	7.26	11.11	3	Bright
1986701	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	19.50	31.69	9.68	7.26	11.11	3	Steam Oxide
1986708	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	19.50	31.69	9.68	7.26	11.11	3	TiCN
1986600	●	M10 x 1.5	D6	Plug (4.5P)	74.60	19.50	31.69	9.68	7.26	11.11	3	Bright
1986608	●	M10 x 1.5	D6	Plug (4.5P)	74.60	19.50	31.69	9.68	7.26	11.11	3	TiCN
1986605	●	M10 x 1.5	D6	Plug (4.5P)	74.60	19.50	31.69	9.68	7.26	11.11	3	TiN
1987000	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	24.40	48.99	9.32	6.99	11.11	3	Bright
1987001	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	24.40	48.99	9.32	6.99	11.11	3	Steam Oxide
1987008	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	24.40	48.99	9.32	6.99	11.11	3	TiCN
1986900	●	M12 x 1.75	D6	Plug (4.5P)	85.70	24.40	48.99	9.32	6.99	11.11	3	Bright
1986908	●	M12 x 1.75	D6	Plug (4.5P)	85.70	24.40	48.99	9.32	6.99	11.11	3	TiCN
1986905	●	M12 x 1.75	D6	Plug (4.5P)	85.70	24.40	48.99	9.32	6.99	11.11	3	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 13020

OSG GENERAL PURPOSE-SFT

SPIRAL FLUTE | HSS | S/0 | C/1.5 | C/4P | 45° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1302001401	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.248	0.685	0.141	0.110	0.188	3
1302000101	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.248	0.685	0.141	0.110	0.188	3
1302001501	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.125	0.251	0.751	0.168	0.131	0.250	3
1302000201	●	No. 8 - 32 UNC	H3	Plug (4P)	2.125	0.251	0.751	0.168	0.131	0.250	3
1302001601	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.375	0.326	0.866	0.194	0.152	0.250	3
1302000301	●	No. 10 - 24 UNC	H3	Plug (4P)	2.375	0.326	0.866	0.194	0.152	0.250	3
1302001701	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.375	0.326	0.866	0.194	0.152	0.250	3
1302000401	●	No. 10 - 32 UNF	H3	Plug (4P)	2.375	0.326	0.866	0.194	0.152	0.250	3
1302001801	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.397	0.996	0.255	0.191	0.313	3
1302000501	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.397	0.996	0.255	0.191	0.313	3
1302001901	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.397	0.996	0.255	0.191	0.313	3
1302000601	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.397	0.996	0.255	0.191	0.313	3
1302002001	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.719	0.444	1.125	0.318	0.238	0.375	3
1302000701	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.444	1.125	0.318	0.238	0.375	3
1302002101	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.719	0.444	1.125	0.318	0.238	0.375	3
1302000801	●	5/16 - 24 UNF	H3	Plug (4P)	2.719	0.444	1.125	0.318	0.238	0.375	3
1302002201	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.938	0.500	1.251	0.381	0.286	0.438	3
1302000901	●	3/8 - 16 UNC	H3	Plug (4P)	2.938	0.500	1.251	0.381	0.286	0.438	3
1302002301	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.938	0.500	1.251	0.381	0.286	0.438	3
1302001001	●	3/8 - 24 UNF	H3	Plug (4P)	2.938	0.500	1.251	0.381	0.286	0.438	3
1302002401	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.375	0.614	1.933	0.367	0.275	0.438	3
1302001101	●	1/2 - 13 UNC	H3	Plug (4P)	3.375	0.614	1.933	0.367	0.275	0.438	3
1302002501	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.813	0.728	2.125	0.480	0.360	0.563	4
1302001201	●	5/8 - 11 UNC	H3	Plug (4P)	3.813	0.728	2.125	0.480	0.360	0.563	4
1302002601	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.813	0.728	2.125	0.480	0.360	0.563	4
1302001301	●	5/8 - 18 UNF	H3	Plug (4P)	3.813	0.728	2.125	0.480	0.360	0.563	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

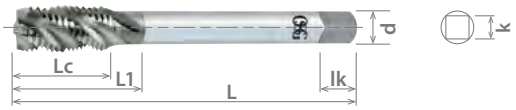
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 123

OSG GENERAL PURPOSE EX-SFT, JIS

SPIRAL FLUTE | HSSE | BR | C/2.5P | 50° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
11544	●	M3 x 0.5	OH2	47.00	6.00	19.00	4.00	3.20	6.00	3
11556	●	M4 x 0.7	OH2	55.00	8.40	22.70	5.00	4.00	7.00	3
11571	●	M5 x 0.8	OH2	64.00	10.00	26.10	5.50	4.50	7.00	3
11583	●	M6 x 1	OH2	67.00	12.00	31.60	6.00	4.50	7.00	3
11601	●	M8 x 1.25	OH2	70.00	15.00	37.00	6.20	5.00	8.00	3
11624	●	M10 x 1.25	OH2	75.00	18.00	41.00	7.00	5.50	8.00	3
11621	●	M10 x 1.5	OH2	75.00	18.00	41.00	7.00	5.50	8.00	3
11653	●	M12 x 1.5	OH2	82.00	21.00	48.00	8.50	6.50	9.00	3
11650	●	M12 x 1.75	OH2	82.00	21.00	48.00	8.50	6.50	9.00	3
11683	●	M14 x 1.5	OH2	88.00	30.00	48.00	10.50	8.00	11.00	3
11680	●	M14 x 2	OH2	88.00	30.00	48.00	10.50	8.00	11.00	3
11708	●	M16 x 1.5	OH2	95.00	32.00	52.00	12.50	10.00	13.00	3
11705	●	M16 x 2	OH2	95.00	32.00	52.00	12.50	10.00	13.00	3
11735	●	M18 x 1.5	OH2	100.00	37.00	55.00	14.00	11.00	14.00	4
11730	●	M18 x 2.5	OH2	100.00	37.00	55.00	14.00	11.00	14.00	4
11762	●	M20 x 1.5	OH2	105.00	37.00	58.00	15.00	12.00	15.00	4
11757	●	M20 x 2.5	OH2	105.00	37.00	58.00	15.00	12.00	15.00	4
11772	●	M22 x 2.5	OH2	115.00	38.00	63.00	17.00	13.00	16.00	4
11799	●	M24 x 3	OH2	120.00	45.00	66.00	19.00	15.00	18.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request. List 123 Taps will normally produce JIS Class II and ISO 6H Limits.

STT

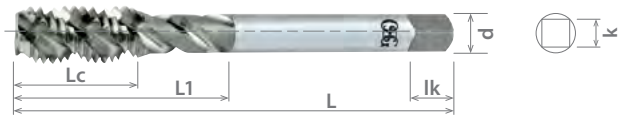
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 918

SPIRAL FLUTE | HSS | BR | C/1.5 | C/4.5P | 50° | PACKED 1 PIECE

OSG GENERAL PURPOSE-LS-SFT, Long Shank



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1296100	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	4.000	0.326	0.555	0.141	0.110	0.188	2
1296000	●	No. 4 - 40 UNC	H2	Plug (4.5P)	4.000	0.326	0.555	0.141	0.110	0.188	2
1296300	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	4.000	0.397	0.685	0.141	0.110	0.188	2
1296500	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	6.000	0.397	0.685	0.141	0.110	0.188	2
1296200	●	No. 6 - 32 UNC	H3	Plug (4.5P)	4.000	0.397	0.685	0.141	0.110	0.188	2
1296400	●	No. 6 - 32 UNC	H3	Plug (4.5P)	6.000	0.397	0.685	0.141	0.110	0.188	2
1296700	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	4.000	0.401	0.759	0.168	0.131	0.250	3
1296900	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	6.000	0.472	0.830	0.168	0.131	0.250	3
1296600	●	No. 8 - 32 UNC	H3	Plug (4.5P)	4.000	0.401	0.759	0.168	0.131	0.250	3
1296800	●	No. 8 - 32 UNC	H3	Plug (4.5P)	6.000	0.472	0.830	0.168	0.131	0.250	3
1297100	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	4.000	0.511	0.874	0.194	0.152	0.250	3
1297300	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	6.000	0.511	0.874	0.194	0.152	0.250	3
1297000	●	No. 10 - 24 UNC	H3	Plug (4.5P)	4.000	0.511	0.874	0.194	0.152	0.250	3
1297200	●	No. 10 - 24 UNC	H3	Plug (4.5P)	6.000	0.511	0.874	0.194	0.152	0.250	3
1297500	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	4.000	0.511	0.874	0.194	0.152	0.250	3
1297700	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	6.000	0.511	0.874	0.194	0.152	0.250	3
1297400	●	No. 10 - 32 UNF	H3	Plug (4.5P)	4.000	0.511	0.874	0.194	0.152	0.250	3
1297600	●	No. 10 - 32 UNF	H3	Plug (4.5P)	6.000	0.511	0.874	0.194	0.152	0.250	3
1297900	●	1/4 - 20 UNC	H3	Bottom (1.5P)	4.000	0.645	1.007	0.255	0.191	0.313	3
1298100	●	1/4 - 20 UNC	H3	Bottom (1.5P)	6.000	0.645	1.007	0.255	0.191	0.313	3
1297800	●	1/4 - 20 UNC	H3	Plug (4.5P)	4.000	0.645	1.007	0.255	0.191	0.313	3
1298000	●	1/4 - 20 UNC	H3	Plug (4.5P)	6.000	0.645	1.007	0.255	0.191	0.313	3
1298300	●	1/4 - 28 UNF	H3	Bottom (1.5P)	6.000	0.645	1.007	0.255	0.191	0.313	3
1298200	●	1/4 - 28 UNF	H3	Plug (4.5P)	6.000	0.645	1.007	0.255	0.191	0.313	3
1298500	●	5/16 - 18 UNC	H3	Bottom (1.5P)	6.000	0.708	1.129	0.318	0.238	0.375	3
1298400	●	5/16 - 18 UNC	H3	Plug (4.5P)	6.000	0.708	1.129	0.318	0.238	0.375	3
1298700	●	3/8 - 16 UNC	H3	Bottom (1.5P)	6.000	0.771	1.251	0.381	0.286	0.438	3
1298600	●	3/8 - 16 UNC	H3	Plug (4.5P)	6.000	0.771	1.251	0.381	0.286	0.438	3
1298900	●	7/16 - 14 UNC	H3	Bottom (1.5P)	6.000	0.901	1.708	0.323	0.242	0.406	3
1298800	●	7/16 - 14 UNC	H3	Plug (4.5P)	6.000	0.901	1.708	0.323	0.242	0.406	3
1299100	●	1/2 - 13 UNC	H3	Bottom (1.5P)	6.000	0.960	1.929	0.367	0.275	0.438	3
1299000	●	1/2 - 13 UNC	H3	Plug (4.5P)	6.000	0.960	1.929	0.367	0.275	0.438	3
1299300	●	5/8 - 11 UNC	H3	Bottom (1.5P)	6.000	1.110	2.129	0.480	0.360	0.563	4
1299200	●	5/8 - 11 UNC	H3	Plug (4.5P)	6.000	1.110	2.129	0.480	0.360	0.563	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

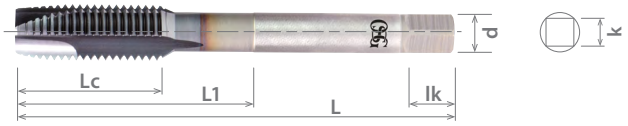
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 16515

A BRAND A-POT, DIN Overall Length

SPIRAL POINT | VC10 | V | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1651505608	●	No. 2 - 56 UNC	H2	1.772	0.437	0.476	0.141	0.110	0.188	2
1651505708	●	No. 2 - 64 UNF	H2	1.772	0.437	0.476	0.141	0.110	0.188	2
1651505808	●	No. 3 - 48 UNC	H2	1.969	0.500	0.539	0.141	0.110	0.188	2
1651505908	●	No. 3 - 56 UNF	H2	1.969	0.500	0.539	0.141	0.110	0.188	2
1651500108	●	No. 4 - 40 UNC	H2	2.205	0.295	0.704	0.141	0.110	0.188	2
1651500208	●	No. 4 - 48 UNF	H2	2.205	0.295	0.704	0.141	0.110	0.188	2
1651500308	●	No. 5 - 40 UNC	H2	2.205	0.299	0.708	0.141	0.110	0.188	3
1651500408	●	No. 5 - 44 UNF	H2	2.205	0.299	0.708	0.141	0.110	0.188	3
1651500608	●	No. 6 - 32 UNC	H2	2.205	0.370	0.783	0.141	0.110	0.188	3
1651500508	●	No. 6 - 32 UNC	H3	2.205	0.370	0.783	0.141	0.110	0.188	3
1651500708	●	No. 6 - 40 UNF	H2	2.205	0.370	0.783	0.141	0.110	0.188	3
1651500908	●	No. 8 - 32 UNC	H2	2.480	0.374	0.826	0.168	0.131	0.250	3
1651500808	●	No. 8 - 32 UNC	H3	2.480	0.374	0.826	0.168	0.131	0.250	3
1651501008	●	No. 8 - 36 UNF	H2	2.480	0.374	0.826	0.168	0.131	0.250	3
1651501108	●	No. 10 - 24 UNC	H3	2.756	0.492	0.976	0.194	0.152	0.250	3
1651501308	●	No. 10 - 32 UNF	H2	2.756	0.492	0.976	0.194	0.152	0.250	3
1651501208	●	No. 10 - 32 UNF	H3	2.756	0.492	0.976	0.194	0.152	0.250	3
1651501408	●	No. 12 - 24 UNC	H3	3.150	0.496	1.177	0.220	0.165	0.281	3
1651501508	●	No. 12 - 28 UNF	H3	3.150	0.496	1.177	0.220	0.165	0.281	3
1651506008	●	No. 12 - 32 UNEF	H3	3.150	0.496	1.177	0.220	0.165	0.281	3
1651501708	●	1/4 - 20 UNC	H3	3.150	0.594	1.177	0.255	0.191	0.313	3
1651501608	●	1/4 - 20 UNC	H5	3.150	0.594	1.177	0.255	0.191	0.313	3
1651501908	●	1/4 - 28 UNF	H3	3.150	0.590	1.173	0.255	0.191	0.313	3
1651501808	●	1/4 - 28 UNF	H4	3.150	0.590	1.173	0.255	0.191	0.313	3
1651506108	●	1/4 - 32 UNEF	H3	3.150	0.586	1.169	0.255	0.191	0.313	3
1651502108	●	5/16 - 18 UNC	H3	3.543	0.665	1.377	0.318	0.238	0.375	3
1651502008	●	5/16 - 18 UNC	H5	3.543	0.665	1.377	0.318	0.238	0.375	3
1651502308	●	5/16 - 24 UNF	H3	3.543	0.661	1.374	0.318	0.238	0.375	3
1651502208	●	5/16 - 24 UNF	H4	3.543	0.661	1.374	0.318	0.238	0.375	3
1651506208	●	5/16 - 32 UNEF	H3	3.150	0.653	1.366	0.318	0.238	0.375	3
1651502508	●	3/8 - 16 UNC	H3	3.937	0.751	1.535	0.381	0.286	0.438	3
1651502408	●	3/8 - 16 UNC	H5	3.937	0.751	1.535	0.381	0.286	0.438	3
1651502708	●	3/8 - 24 UNF	H3	3.543	0.751	1.377	0.381	0.286	0.438	3
1651502608	●	3/8 - 24 UNF	H4	3.543	0.751	1.377	0.381	0.286	0.438	3
1651506308	●	3/8 - 32 UNEF	H3	3.543	0.744	1.370	0.381	0.286	0.438	3
1651502908	●	7/16 - 14 UNC	H3	3.937	0.858	1.291	0.323	0.242	0.406	3
1651502808	●	7/16 - 14 UNC	H5	3.937	0.858	1.291	0.323	0.242	0.406	3
1651503108	●	7/16 - 20 UNF	H3	3.937	0.858	1.291	0.323	0.242	0.406	3
1651503008	●	7/16 - 20 UNF	H5	3.937	0.858	1.291	0.323	0.242	0.406	3
1651506408	●	7/16 - 28 UNEF	H4	3.543	0.858	1.291	0.323	0.242	0.406	3
1651503308	●	1/2 - 13 UNC	H3	4.331	0.921	1.354	0.367	0.275	0.438	3
1651503208	●	1/2 - 13 UNC	H5	4.331	0.921	1.354	0.367	0.275	0.438	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

CONTINUED ›

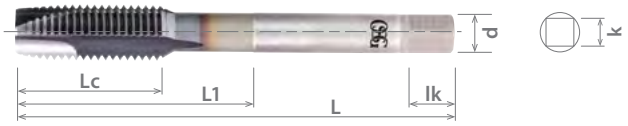
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	40-65 SFM	35-55 SFM	25-75 SFM	25-60 SFM	25-60 SFM	60-100 SFM	70-120 SFM	70-120 SFM			40-65 SFM			

○ Good ◎ Best

List 16515 (Continued)

A BRAND A-POT, DIN Overall Length

SPIRAL POINT | VC10 | V | C/4P | 0° | SHANK h6 | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1651503508	●	1/2 - 20 UNF	H3	3.937	0.921	1.354	0.367	0.275	0.438	3
1651503408	●	1/2 - 20 UNF	H5	3.937	0.921	1.354	0.367	0.275	0.438	3
1651506508	●	1/2 - 28 UNEF	H4	3.937	0.921	1.354	0.367	0.275	0.438	3
1651503708	●	9/16 - 12 UNC	H3	4.331	1.000	1.472	0.429	0.322	0.500	3
1651503608	●	9/16 - 12 UNC	H5	4.331	1.000	1.472	0.429	0.322	0.500	3
1651503908	●	9/16 - 18 UNF	H3	3.937	1.000	1.472	0.429	0.322	0.500	3
1651503808	●	9/16 - 18 UNF	H5	3.937	1.000	1.472	0.429	0.322	0.500	3
1651506608	●	9/16 - 24 UNEF	H4	3.937	1.000	1.472	0.429	0.322	0.500	3
1651504108	●	5/8 - 11 UNC	H3	4.331	1.090	1.562	0.480	0.360	0.563	3
1651504008	●	5/8 - 11 UNC	H5	4.331	1.090	1.562	0.480	0.360	0.563	3
1651504308	●	5/8 - 18 UNF	H3	3.937	1.090	1.562	0.480	0.360	0.563	3
1651504208	●	5/8 - 18 UNF	H5	3.937	1.090	1.562	0.480	0.360	0.563	3
1651506708	●	5/8 - 24 UNEF	H4	3.937	1.090	1.562	0.480	0.360	0.563	3
1651506808	●	11/16 - 24 UNEF	H4	4.331	1.200	1.712	0.542	0.406	0.625	3
1651504508	●	3/4 - 10 UNC	H3	4.921	1.200	1.712	0.590	0.442	0.688	3
1651504408	●	3/4 - 10 UNC	H5	4.921	1.200	1.712	0.590	0.442	0.688	3
1651504708	●	3/4 - 16 UNF	H3	4.331	1.200	1.712	0.590	0.442	0.688	3
1651504608	●	3/4 - 16 UNF	H5	4.331	1.200	1.712	0.590	0.442	0.688	3
1651506908	●	3/4 - 20 UNEF	H5	4.331	1.200	1.712	0.590	0.442	0.688	3
1651507008	●	13/16 - 20 UNEF	H5	4.921	1.200	1.712	0.652	0.489	0.688	3
1651504908	●	7/8 - 9 UNC	H4	5.512	1.334	1.885	0.697	0.523	0.750	3
1651504808	●	7/8 - 9 UNC	H6	5.512	1.334	1.885	0.697	0.523	0.750	3
1651505108	●	7/8 - 14 UNF	H4	4.921	1.334	1.885	0.697	0.523	0.750	3
1651505008	●	7/8 - 14 UNF	H6	4.921	1.334	1.885	0.697	0.523	0.750	3
1651507108	●	7/8 - 20 UNEF	H5	4.921	1.334	1.885	0.697	0.523	0.750	3
1651507208	●	15/16 - 20 UNEF	H5	5.512	1.500	2.090	0.760	0.570	0.750	3
1651505308	●	1 - 8 UNC	H4	6.299	1.500	2.090	0.800	0.600	0.813	3
1651505208	●	1 - 8 UNC	H6	6.299	1.500	2.090	0.800	0.600	0.813	3
1651505508	●	1 - 12 UNF	H4	5.512	1.500	2.090	0.800	0.600	0.813	3
1651505408	●	1 - 12 UNF	H6	5.512	1.500	2.090	0.800	0.600	0.813	3
1651507408	●	1 - 14 UNS	H6	5.512	1.500	2.090	0.800	0.600	0.813	3
1651507308	●	1 - 20 UNEF	H5	5.512	1.500	2.090	0.800	0.600	0.813	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

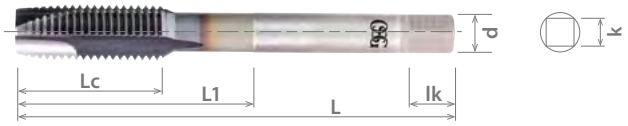
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	40-65 SFM	35-55 SFM	25-75 SFM	25-60 SFM	25-60 SFM	60-100 SFM	70-120 SFM	70-120 SFM			40-65 SFM			

○ Good ◎ Best

List 16510

A BRAND A-POT, DIN Overall Length

SPIRAL POINT | VC10 | V | C/4P | 0° | SHANK h6 | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1651003008	●	M1.4 x 0.3	D2	40.00	7.90	8.90	3.58	2.79	4.76	2
1651003108	●	M1.6 x 0.35	D3	40.00	7.90	8.90	3.58	2.79	4.76	2
1651003208	●	M1.7 x 0.35	D3	40.00	9.50	10.50	3.58	2.79	4.76	2
1651003308	●	M2 x 0.25	D2	45.00	11.10	12.10	3.58	2.79	4.76	2
1651003408	●	M2 x 0.4	D3	45.00	11.10	12.10	3.58	2.79	4.76	2
1651003508	●	M2.2 x 0.25	D2	45.00	11.10	12.10	3.58	2.79	4.76	2
1651003608	●	M2.2 x 0.45	D3	45.00	11.10	12.10	3.58	2.79	4.76	2
1651003708	●	M2.3 x 0.4	D3	45.00	11.10	12.10	3.58	2.79	4.76	2
1651003808	●	M2.5 x 0.35	D3	50.00	12.80	13.80	3.58	2.79	4.76	2
1651003908	●	M2.5 x 0.45	D3	50.00	12.80	13.80	3.58	2.79	4.76	2
1651004008	●	M2.6 x 0.45	D3	50.00	12.80	13.80	3.58	2.79	4.76	2
1651004108	●	M3 x 0.35	D3	56.00	6.10	18.10	3.58	2.79	4.76	3
1651000108	●	M3 x 0.5	D3	56.00	6.10	18.10	3.58	2.79	4.76	3
1651004208	●	M3.5 x 0.35	D3	56.00	7.20	19.80	3.58	2.79	4.76	3
1651004308	●	M3.5 x 0.6	D3	56.00	7.20	19.80	3.58	2.79	4.76	3
1651000208	●	M4 x 0.5	D3	63.00	8.40	21.00	4.27	3.33	6.35	3
1651000308	●	M4 x 0.7	D4	63.00	8.40	21.00	4.27	3.33	6.35	3
1651004408	●	M4.5 x 0.5	D3	70.00	9.10	24.80	4.93	3.86	6.35	3
1651004508	●	M4.5 x 0.75	D4	70.00	9.10	24.80	4.93	3.86	6.35	3
1651000408	●	M5 x 0.5	D3	70.00	9.10	24.80	4.93	3.86	6.35	3
1651000508	●	M5 x 0.8	D4	70.00	9.10	24.80	4.93	3.86	6.35	3
1651004608	●	M5.5 x 0.5	D3	80.00	10.80	29.70	5.59	4.19	7.14	3
1651000608	●	M6 x 0.5	D3	80.00	12.00	29.70	6.48	4.85	7.94	3
1651000708	●	M6 x 0.75	D4	80.00	12.00	29.70	6.48	4.85	7.94	3
1651000808	●	M6 x 1	D5	80.00	12.00	29.70	6.48	4.85	7.94	3
1651004708	●	M7 x 0.75	D4	80.00	12.10	29.70	8.08	6.05	9.53	3
1651004808	●	M7 x 1	D5	80.00	12.10	29.70	8.08	6.05	9.53	3
1651004908	●	M8 x 0.75	D4	80.00	15.40	30.00	8.08	6.05	9.53	3
1651000908	●	M8 x 1	D5	90.00	15.40	34.80	8.08	6.05	9.53	3
1651001008	●	M8 x 1.25	D5	90.00	15.40	34.80	8.08	6.05	9.53	3
1651005008	●	M9 x 0.75	D4	90.00	14.00	34.70	9.68	7.26	11.11	3
1651005108	●	M9 x 1	D5	90.00	14.00	34.70	9.68	7.26	11.11	3
1651005208	●	M9 x 1.25	D5	90.00	15.40	34.70	9.68	7.26	11.11	3
1651005308	●	M10 x 0.75	D4	90.00	17.00	34.80	9.68	7.26	11.11	3
1651001108	●	M10 x 1	D5	90.00	18.00	34.80	9.68	7.26	11.11	3
1651001208	●	M10 x 1.25	D5	100.00	17.00	38.90	9.68	7.26	11.11	3
1651001308	●	M10 x 1.5	D6	100.00	18.00	38.90	9.68	7.26	11.11	3
1651005408	●	M11 x 0.75	D4	90.00	18.00	29.00	8.20	6.15	10.32	3
1651005508	●	M11 x 1	D5	90.00	18.00	29.00	8.20	6.15	10.32	3
1651005608	●	M11 x 1.5	D6	100.00	18.00	29.00	8.20	6.15	10.32	3
1651001408	●	M12 x 1	D5	100.00	21.00	32.00	9.32	6.99	11.11	3
1651001508	●	M12 x 1.25	D6	100.00	21.00	32.00	9.32	6.99	11.11	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	40-65 SFM	35-55 SFM	25-75 SFM	25-60 SFM	25-60 SFM	60-100 SFM	70-120 SFM	70-120 SFM			40-65 SFM			

○ Good ◎ Best

List 16510 (Continued)

A BRAND A-POT, DIN Overall Length

SPIRAL POINT | VC10 | V | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1651001608	●	M12 x 1.5	D6	100.00	21.00	32.00	9.32	6.99	11.11	3
1651001708	●	M12 x 1.75	D6	110.00	21.00	32.00	9.32	6.99	11.11	3
1651005708	●	M14 x 1	D5	100.00	24.00	36.00	10.90	8.18	12.70	4
1651005808	●	M14 x 1.25	D6	100.00	24.00	36.00	10.90	8.18	12.70	4
1651001808	●	M14 x 1.5	D6	100.00	24.00	36.00	10.90	8.18	12.70	4
1651001908	●	M14 x 2	D7	110.00	24.00	36.00	10.90	8.18	12.70	3
1651005908	●	M15 x 1	D5	100.00	24.00	36.00	12.19	9.14	14.29	4
1651007308	●	M15 x 1.25	D6	100.00	24.00	36.00	12.19	9.14	14.29	4
1651006008	●	M15 x 1.5	D6	100.00	24.00	36.00	12.19	9.14	14.29	4
1651007208	●	M15 x 2	D7	110.00	24.00	36.00	12.19	9.14	14.29	3
1651006108	●	M16 x 1	D5	100.00	24.00	36.00	12.19	9.14	14.29	4
1651007408	●	M16 x 1.25	D6	100.00	24.00	36.00	12.19	9.14	14.29	4
1651002008	●	M16 x 1.5	D6	100.00	24.00	36.00	12.19	9.14	14.29	4
1651002108	●	M16 x 2	D7	110.00	24.00	36.00	12.19	9.14	14.29	3
1651006208	●	M17 x 1	D5	100.00	24.00	36.00	13.77	10.31	15.88	4
1651007508	●	M17 x 1.25	D6	100.00	24.00	36.00	13.77	10.31	15.88	4
1651006308	●	M17 x 1.5	D6	100.00	24.00	36.00	13.77	10.31	15.88	4
1651006408	●	M18 x 1	D5	110.00	30.00	43.00	13.77	10.31	15.88	4
1651007608	●	M18 x 1.25	D6	110.00	30.00	43.00	13.77	10.31	15.88	4
1651002208	●	M18 x 1.5	D6	110.00	30.00	43.00	13.77	10.31	15.88	4
1651006508	●	M18 x 2	D7	125.00	30.00	43.00	13.77	10.31	15.88	4
1651002308	●	M18 x 2.5	D7	125.00	30.00	43.00	13.77	10.31	15.88	3
1651006608	●	M20 x 1	D5	125.00	30.00	44.00	16.56	12.42	17.46	4
1651002408	●	M20 x 1.5	D6	125.00	30.00	44.00	16.56	12.42	17.46	4
1651006708	●	M20 x 2	D7	140.00	30.00	44.00	16.56	12.42	17.46	4
1651002508	●	M20 x 2.5	D7	140.00	30.00	44.00	16.56	12.42	17.46	3
1651006808	●	M22 x 1	D5	125.00	30.00	44.00	17.70	13.28	19.05	4
1651002608	●	M22 x 1.5	D6	125.00	30.00	44.00	17.70	13.28	19.05	4
1651006908	●	M22 x 2	D7	140.00	30.00	44.00	17.70	13.28	19.05	4
1651002708	●	M22 x 2.5	D7	140.00	30.00	44.00	17.70	13.28	19.05	3
1651007008	●	M24 x 1	D5	140.00	36.00	51.00	19.30	14.48	19.05	4
1651002808	●	M24 x 1.5	D6	140.00	36.00	51.00	19.30	14.48	19.05	4
1651007108	●	M24 x 2	D7	140.00	36.00	51.00	19.30	14.48	19.05	4
1651002908	●	M24 x 3	D8	160.00	36.00	51.00	19.30	14.48	19.05	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	40-65 SFM	35-55 SFM	25-75 SFM	25-60 SFM	25-60 SFM	60-100 SFM	70-120 SFM	70-120 SFM			40-65 SFM			

○ Good ◎ Best

List 16555

A BRAND A-OIL-POT, DIN Overall Length

SPIRAL POINT | VC10 | V | 3 FLUTE | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1655500108	●	1/4 - 20 UNC	H5	3.150	0.598	1.181	0.255	0.191	0.313	3
1655500208	●	1/4 - 28 UNF	H4	3.150	0.598	1.181	0.255	0.191	0.313	3
1655500308	●	5/16 - 18 UNC	H5	3.543	0.665	1.377	0.318	0.238	0.375	3
1655500408	●	5/16 - 24 UNF	H4	3.543	0.665	1.377	0.318	0.238	0.375	3
1655500508	●	3/8 - 16 UNC	H5	3.937	0.751	1.535	0.381	0.286	0.438	3
1655500608	●	3/8 - 24 UNF	H4	3.543	0.751	1.377	0.381	0.286	0.438	3
1655500708	●	7/16 - 14 UNC	H5	3.937	0.858	1.291	0.323	0.242	0.406	3
1655500808	●	7/16 - 20 UNF	H5	3.937	0.858	1.291	0.323	0.242	0.406	3
1655500908	●	1/2 - 13 UNC	H5	4.331	0.921	1.354	0.367	0.275	0.438	3
1655501008	●	1/2 - 20 UNF	H5	3.937	0.921	1.354	0.367	0.275	0.438	3
1655501108	●	9/16 - 12 UNC	H5	4.331	1.000	1.472	0.429	0.322	0.500	3
1655501208	●	9/16 - 18 UNF	H5	3.937	1.000	1.472	0.429	0.322	0.500	3
1655501308	●	5/8 - 11 UNC	H5	4.331	1.090	1.562	0.480	0.360	0.563	3
1655501408	●	5/8 - 18 UNF	H5	3.937	1.090	1.562	0.480	0.360	0.563	3
1655501508	●	3/4 - 10 UNC	H5	4.921	1.200	1.712	0.590	0.442	0.688	3
1655501608	●	3/4 - 16 UNF	H5	4.331	1.200	1.712	0.590	0.442	0.688	3
1655501708	●	7/8 - 9 UNC	H6	5.512	1.334	1.885	0.697	0.523	0.750	3
1655501808	●	7/8 - 14 UNF	H6	4.921	1.334	1.885	0.697	0.523	0.750	3
1655501908	●	1 - 8 UNC	H6	6.299	1.500	2.090	0.800	0.600	0.813	3
1655502008	●	1 - 12 UNF	H6	5.512	1.500	2.090	0.800	0.600	0.813	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
100-200 SFM	100-200 SFM	100-200 SFM	50-120 SFM	45-110 SFM	40-120 SFM	40-120 SFM	40-100 SFM	80-160 SFM	90-220 SFM	90-220 SFM			60-120 SFM			

○ Good ◎ Best

List 16550

A BRAND A-OIL-POT, DIN Overall Length

A | SPIRAL POINT | VC10 | V | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1655000108	●	M6 x 0.75	D4	80.00	12.00	30.00	6.48	4.85	7.94	3
1655000208	●	M6 x 1	D5	80.00	12.00	30.00	6.48	4.85	7.94	3
1655000308	●	M7 x 1	D5	80.00	12.00	30.00	8.08	6.05	9.53	3
1655000408	●	M8 x 0.75	D4	80.00	15.00	30.00	8.08	6.05	9.53	3
1655000508	●	M8 x 1	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
1655000608	●	M8 x 1.25	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
1655000708	●	M9 x 1.25	D5	90.00	15.00	35.00	9.68	7.26	11.11	3
1655000808	●	M10 x 1	D5	90.00	18.00	35.00	9.68	7.26	11.11	3
1655000908	●	M10 x 1.25	D5	100.00	18.00	39.00	9.68	7.26	11.11	3
1655001008	●	M10 x 1.5	D6	100.00	18.00	39.00	9.68	7.26	11.11	3
1655001108	●	M11 x 1.5	D5	100.00	18.00	29.00	8.20	6.15	10.32	3
1655001208	●	M12 x 1	D5	100.00	21.00	32.00	9.32	6.99	11.11	3
1655001308	●	M12 x 1.25	D6	100.00	21.00	32.00	9.32	6.99	11.11	3
1655001408	●	M12 x 1.5	D6	100.00	21.00	32.00	9.32	6.99	11.11	3
1655001508	●	M12 x 1.75	D6	110.00	21.00	32.00	9.32	6.99	11.11	3
1655001608	●	M14 x 1.5	D6	100.00	24.00	36.00	10.90	8.18	12.70	4
1655001708	●	M14 x 2	D7	110.00	24.00	36.00	10.90	8.18	12.70	3
1655001808	●	M15 x 1.5	D6	100.00	24.00	36.00	12.19	9.14	14.29	4
1655001908	●	M16 x 1.5	D6	100.00	24.00	36.00	12.19	9.14	14.29	4
1655002008	●	M16 x 2	D7	110.00	24.00	36.00	12.19	9.14	14.29	3
1655002108	●	M17 x 1.5	D6	100.00	24.00	36.00	13.77	10.31	15.88	4
1655002208	●	M18 x 1.5	D6	110.00	30.00	43.00	13.77	10.31	15.88	4
1655002308	●	M18 x 2.5	D7	125.00	30.00	43.00	13.77	10.31	15.88	3
1655002408	●	M20 x 1.5	D6	125.00	30.00	44.00	16.56	12.42	17.46	4
1655002508	●	M20 x 2.5	D7	140.00	30.00	44.00	16.56	12.42	17.46	3
1655002608	●	M22 x 1.5	D6	125.00	30.00	44.00	17.70	13.28	19.05	4
1655002708	●	M22 x 2	D7	140.00	30.00	44.00	17.70	13.28	19.05	4
1655002808	●	M22 x 2.5	D7	140.00	30.00	44.00	17.70	13.28	19.05	3
1655002908	●	M24 x 1.5	D6	140.00	36.00	51.00	19.30	14.48	19.05	4
1655003008	●	M24 x 2	D7	140.00	36.00	51.00	19.30	14.48	19.05	4
1655003108	●	M24 x 3	D8	160.00	36.00	51.00	19.30	14.48	19.05	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

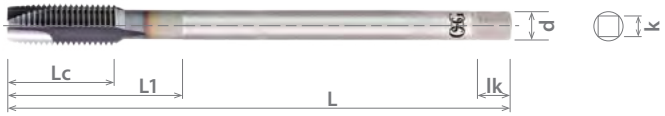
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
100-200 SFM	100-200 SFM	100-200 SFM	50-120 SFM	45-110 SFM	40-120 SFM	40-120 SFM	40-100 SFM	80-160 SFM	90-220 SFM	90-220 SFM			60-120 SFM			

○ Good ◎ Best

List 16535

A BRAND A-LT-POT, Long Shank

SPIRAL POINT | VC10 | V | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1653506008	●	No. 4 - 40 UNC	H2	3.149	0.342	0.751	0.141	0.110	0.188	2
1653506108	●	No. 4 - 48 UNF	H2	3.149	0.342	0.751	0.141	0.110	0.188	2
1653500708	●	No. 5 - 40 UNC	H2	3.937	0.350	0.759	0.141	0.110	0.188	3
1653506308	●	No. 5 - 44 UNF	H2	3.937	0.350	0.759	0.141	0.110	0.188	3
1653501008	●	No. 6 - 32 UNC	H3	4.724	0.429	0.842	0.141	0.110	0.188	3
1653501108	●	No. 6 - 40 UNF	H2	3.937	0.433	0.846	0.141	0.110	0.188	3
1653501308	●	No. 8 - 32 UNC	H3	4.724	0.444	0.897	0.168	0.131	0.250	3
1653501408	●	No. 8 - 36 UNF	H2	3.937	0.444	0.897	0.168	0.131	0.250	3
1653501508	●	No. 10 - 24 UNC	H3	4.921	0.574	1.059	0.194	0.152	0.250	3
1653501708	●	No. 10 - 32 UNF	H3	5.906	0.582	1.066	0.194	0.152	0.250	3
1653501808	●	No. 12 - 24 UNC	H3	4.921	0.590	1.271	0.220	0.165	0.280	3
1653501908	●	No. 12 - 28 UNF	H3	4.921	0.590	1.271	0.220	0.165	0.280	3
1653502108	●	1/4 - 20 UNC	H5	5.906	0.704	1.366	0.255	0.191	0.287	3
1653502308	●	1/4 - 28 UNF	H4	5.906	0.704	1.366	0.255	0.191	0.287	3
1653502508	●	5/16 - 18 UNC	H5	5.906	0.803	1.633	0.318	0.238	0.343	3
1653502708	●	5/16 - 24 UNF	H4	5.906	0.803	1.633	0.318	0.238	0.343	3
1653502908	●	3/8 - 16 UNC	H5	5.906	0.917	1.897	0.381	0.286	0.398	3
1653503108	●	3/8 - 24 UNF	H4	5.906	0.929	1.897	0.381	0.286	0.398	3
1653503308	●	7/16 - 14 UNC	H5	5.906	0.858	2.362	0.323	0.242	0.406	3
1653503508	●	7/16 - 20 UNF	H5	5.906	0.858	2.362	0.323	0.242	0.406	3
1653503708	●	1/2 - 13 UNC	H5	7.087	0.921	2.834	0.367	0.275	0.438	3
1653503908	●	1/2 - 20 UNF	H5	7.087	0.921	2.834	0.367	0.275	0.438	3
1653504108	●	9/16 - 12 UNC	H5	7.087	1.000	2.834	0.429	0.322	0.500	3
1653504308	●	9/16 - 18 UNF	H5	7.087	1.000	2.834	0.429	0.322	0.500	3
1653504508	●	5/8 - 11 UNC	H5	7.087	1.090	2.834	0.480	0.360	0.563	3
1653504708	●	5/8 - 18 UNF	H5	7.087	1.090	2.834	0.480	0.360	0.563	3
1653504908	●	3/4 - 10 UNC	H5	7.874	1.200	3.149	0.590	0.442	0.688	3
1653505108	●	3/4 - 16 UNF	H5	7.874	1.200	3.149	0.590	0.442	0.688	3
1653505308	●	7/8 - 9 UNC	H6	7.874	1.334	3.149	0.697	0.523	0.750	3
1653505508	●	7/8 - 14 UNF	H6	7.874	1.334	3.149	0.697	0.523	0.750	3
1653505708	●	1 - 8 UNC	H6	7.874	1.500	3.149	0.800	0.600	0.813	3
1653505908	●	1 - 12 UNF	H6	7.874	1.500	3.149	0.800	0.600	0.813	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

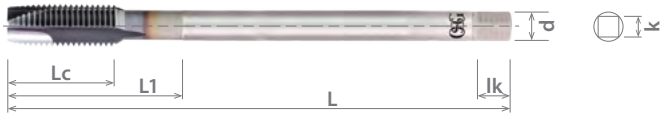
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	40-65 SFM	35-55 SFM	25-75 SFM	25-60 SFM	25-60 SFM	60-100 SFM	70-120 SFM	70-120 SFM			40-65 SFM			

○ Good ◎ Best

List 16530

A BRAND A-LT-POT, Long Shank

SPIRAL POINT | VC10 | V | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1653001208	●	M3 x 0.35	D3	100.00	6.00	20.00	3.58	2.79	4.76	3
1653001308	●	M3 x 0.5	D3	100.00	6.00	20.00	3.58	2.79	4.76	3
1653001408	●	M3.5 x 0.35	D3	100.00	7.00	23.00	3.58	2.79	4.76	3
1653001508	●	M3.5 x 0.6	D3	100.00	7.00	23.00	3.58	2.79	4.76	3
1653001608	●	M4 x 0.5	D3	100.00	8.00	27.00	4.27	3.33	6.35	3
1653001708	●	M4 x 0.7	D4	100.00	8.00	27.00	4.27	3.33	6.35	3
1653001808	●	M4.5 x 0.5	D4	100.00	9.00	30.00	4.93	3.86	6.35	3
1653001908	●	M4.5 x 0.75	D4	100.00	9.00	30.00	4.93	3.86	6.35	3
1653002008	●	M5 x 0.5	D3	125.00	9.00	32.90	4.93	3.86	6.35	3
1653002108	●	M5 x 0.8	D4	125.00	9.00	32.90	4.93	3.86	6.35	3
1653002208	●	M5.5 x 0.5	D3	125.00	10.00	35.90	5.59	4.19	7.14	3
1653002308	●	M6 x 0.5	D3	125.00	11.00	40.00	6.48	4.85	7.94	3
1653002508	●	M6 x 0.75	D4	150.00	11.00	40.00	6.48	4.85	7.94	3
1653002708	●	M6 x 1	D5	150.00	11.00	40.00	6.48	4.85	7.94	3
1653003308	●	M8 x 0.75	D4	150.00	15.00	51.90	8.08	6.05	9.53	3
1653003508	●	M8 x 1	D5	150.00	15.00	51.90	8.08	6.05	9.53	3
1653003708	●	M8 x 1.25	D5	150.00	15.00	51.90	8.08	6.05	9.53	3
1653004508	●	M10 x 0.75	D4	150.00	18.00	59.90	9.68	7.26	11.11	3
1653004708	●	M10 x 1	D5	150.00	18.00	59.90	9.68	7.26	11.11	3
1653004908	●	M10 x 1.25	D5	150.00	18.00	59.90	9.68	7.26	11.11	3
1653005108	●	M10 x 1.5	D6	150.00	18.00	59.90	9.68	7.26	11.11	3
1653006108	●	M12 x 1	D5	180.00	21.00	72.00	9.32	6.99	11.11	3
1653006308	●	M12 x 1.25	D6	180.00	21.00	72.00	9.32	6.99	11.11	3
1653006508	●	M12 x 1.5	D6	180.00	21.00	72.00	9.32	6.99	11.11	3
1653006708	●	M12 x 1.75	D6	180.00	21.00	72.00	9.32	6.99	11.11	3
1653006808	●	M14 x 1	D5	150.00	24.00	59.90	10.90	8.18	12.70	4
1653006908	●	M14 x 1.25	D6	150.00	24.00	59.90	10.90	8.18	12.70	4
1653007008	●	M14 x 1.5	D6	150.00	24.00	59.90	10.90	8.18	12.70	4
1653007108	●	M14 x 2	D7	150.00	24.00	59.90	10.90	8.18	12.70	3
1653007208	●	M15 x 1	D5	160.00	24.00	64.00	12.19	9.14	14.29	4
1653007308	●	M15 x 1.5	D6	160.00	24.00	64.00	12.19	9.14	14.29	4
1653007408	●	M16 x 1	D4	160.00	24.00	64.00	12.19	9.14	14.29	3
1653007508	●	M16 x 1.5	D6	160.00	24.00	64.00	12.19	9.14	14.29	3
1653007708	●	M16 x 2	D7	180.00	24.00	72.00	12.19	9.14	14.29	3
1653008008	●	M18 x 1	D5	180.00	29.00	72.00	13.77	10.31	15.88	4
1653008108	●	M18 x 1.5	D6	180.00	29.00	72.00	13.77	10.31	15.88	4
1653008208	●	M18 x 2	D7	180.00	29.00	72.00	13.77	10.31	15.88	4
1653008308	●	M18 x 2.5	D7	180.00	29.00	72.00	13.77	10.31	15.88	3
1653008408	●	M20 x 1	D5	200.00	29.00	80.00	16.56	12.42	17.46	4
1653008508	●	M20 x 1.5	D6	200.00	29.00	80.00	16.56	12.42	17.46	4
1653008608	●	M20 x 2	D7	200.00	29.00	80.00	16.56	12.42	17.46	4
1653008708	●	M20 x 2.5	D7	200.00	29.00	80.00	16.56	12.42	17.46	3
1653008808	●	M22 x 1	D5	200.00	29.00	80.00	17.70	13.28	19.05	4
1653008908	●	M22 x 1.5	D6	200.00	29.00	80.00	17.70	13.28	19.05	4
1653009008	●	M22 x 2	D7	200.00	29.00	80.00	17.70	13.28	19.05	4
1653009108	●	M22 x 2.5	D7	200.00	29.00	80.00	17.70	13.28	19.05	3
1653009208	●	M24 x 1	D5	200.00	35.00	80.00	19.30	14.48	19.05	4
1653009308	●	M24 x 1.5	D6	200.00	35.00	80.00	19.30	14.48	19.05	4
1653009408	●	M24 x 2	D7	200.00	35.00	80.00	19.30	14.48	19.05	4
1653009508	●	M24 x 3	D8	200.00	35.00	80.00	19.30	14.48	19.05	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	◎	◎	◎	○	○	○			◎			
80-120 SFM	80-120 SFM	80-120 SFM	40-65 SFM	35-55 SFM	25-75 SFM	25-60 SFM	25-60 SFM	60-100 SFM	70-120 SFM	70-120 SFM			40-65 SFM			

○ Good ◎ Best

List 337Ni

SPIRAL POINT | VC10 | HR | C/5P | 0° | PACKED 1 PIECE

EXOPRO® WHR-Ni-POT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
3370002562	●	No. 2 - 56 UNC	H2	1.772	0.437	0.476	0.141	0.110	0.188	2
3370004402	●	No. 4 - 40 UNC	H2	2.205	0.562	0.602	0.141	0.110	0.188	3
3370004403	●	No. 4 - 40 UNC	H3	2.205	0.562	0.602	0.141	0.110	0.188	3
3370004482	●	No. 4 - 48 UNF	H2	2.205	0.562	0.602	0.141	0.110	0.188	3
3370006322	●	No. 6 - 32 UNC	H2	2.205	0.688	-	0.141	0.110	0.188	3
3370006323	●	No. 6 - 32 UNC	H3	2.205	0.688	-	0.141	0.110	0.188	3
3370008322	●	No. 8 - 32 UNC	H2	2.480	0.751	-	0.168	0.131	0.250	3
3370008323	●	No. 8 - 32 UNC	H3	2.480	0.751	-	0.168	0.131	0.250	3
3370010242	●	No. 10 - 24 UNC	H2	2.756	0.874	-	0.194	0.152	0.250	3
3370010243	●	No. 10 - 24 UNC	H3	2.756	0.874	-	0.194	0.152	0.250	3
3370010322	●	No. 10 - 32 UNF	H2	2.756	0.870	-	0.194	0.152	0.250	3
3370010323	●	No. 10 - 32 UNF	H3	2.756	0.870	-	0.194	0.152	0.250	3
3370014203	●	1/4 - 20 UNC	H3	3.150	1.000	-	0.255	0.191	0.313	3
3370014205	●	1/4 - 20 UNC	H5	3.150	1.000	-	0.255	0.191	0.313	3
3370014283	●	1/4 - 28 UNF	H3	3.150	0.992	-	0.255	0.191	0.313	3
3370014284	●	1/4 - 28 UNF	H4	3.150	0.992	-	0.255	0.191	0.313	3
3370516183	●	5/16 - 18 UNC	H3	3.543	0.665	1.377	0.318	0.238	0.375	3
3370516185	●	5/16 - 18 UNC	H5	3.543	0.665	1.377	0.318	0.238	0.375	3
3370516243	●	5/16 - 24 UNF	H3	3.543	0.657	1.370	0.318	0.238	0.375	3
3370516245	●	5/16 - 24 UNF	H5	3.543	0.657	1.370	0.318	0.238	0.375	3
3370038163	●	3/8 - 16 UNC	H3	3.937	0.751	1.535	0.381	0.286	0.438	3
3370038165	●	3/8 - 16 UNC	H5	3.937	0.751	1.535	0.381	0.286	0.438	3
3370038243	●	3/8 - 24 UNF	H3	3.543	0.740	1.377	0.381	0.286	0.438	3
3370038245	●	3/8 - 24 UNF	H5	3.543	0.740	1.377	0.381	0.286	0.438	3
3370716143	●	7/16 - 14 UNC	H3	3.937	0.858	1.291	0.323	0.242	0.406	3
3370716145	●	7/16 - 14 UNC	H5	3.937	0.858	1.291	0.323	0.242	0.406	3
3370716203	●	7/16 - 20 UNF	H3	3.937	0.858	1.291	0.323	0.242	0.406	3
3370716205	●	7/16 - 20 UNF	H5	3.937	0.858	1.291	0.323	0.242	0.406	3
3370012133	●	1/2 - 13 UNC	H3	4.331	0.921	1.354	0.367	0.275	0.438	3
3370012135	●	1/2 - 13 UNC	H5	4.331	0.921	1.354	0.367	0.275	0.438	3
3370012203	●	1/2 - 20 UNF	H3	3.937	0.921	1.354	0.367	0.275	0.438	3
3370012205	●	1/2 - 20 UNF	H5	3.937	0.921	1.354	0.367	0.275	0.438	3
3370916183	●	9/16 - 18 UNF	H3	3.937	1.000	1.472	0.429	0.322	0.500	3
3370916185	●	9/16 - 18 UNF	H5	3.937	1.000	1.472	0.429	0.322	0.500	3
3370058113	●	5/8 - 11 UNC	H3	4.331	1.090	1.562	0.480	0.360	0.563	3
3370058115	●	5/8 - 11 UNC	H5	4.331	1.090	1.562	0.480	0.360	0.563	3
3370058183	●	5/8 - 18 UNF	H3	3.937	1.090	1.562	0.480	0.360	0.563	3
3370058185	●	5/8 - 18 UNF	H5	3.937	1.090	1.562	0.480	0.360	0.563	3
3370034103	●	3/4 - 10 UNC	H3	4.921	1.200	1.712	0.590	0.442	0.688	4
3370034105	●	3/4 - 10 UNC	H5	4.921	1.200	1.712	0.590	0.442	0.688	4
3370034163	●	3/4 - 16 UNF	H3	4.331	1.200	1.712	0.590	0.442	0.688	4
3370034165	●	3/4 - 16 UNF	H5	4.331	1.200	1.712	0.590	0.442	0.688	4
3370078093	●	7/8 - 9 UNC	H3	5.512	1.334	1.885	0.697	0.523	0.750	4
3370078095	●	7/8 - 9 UNC	H5	5.512	1.334	1.885	0.697	0.523	0.750	4
3370078143	●	7/8 - 14 UNF	H3	4.921	1.334	1.885	0.697	0.523	0.750	4
3370078145	●	7/8 - 14 UNF	H5	4.921	1.334	1.885	0.697	0.523	0.750	4
3370001083	●	1 - 8 UNC	H3	6.299	1.500	2.090	0.800	0.600	0.813	4
3370001085	●	1 - 8 UNC	H5	6.299	1.500	2.090	0.800	0.600	0.813	4
3370001123	●	1 - 12 UNF	H3	5.512	1.500	2.090	0.800	0.600	0.813	4
3370001125	●	1 - 12 UNF	H5	5.512	1.500	2.090	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎				○	
							8-20 SFM				8-15 SFM				8-12 SFM	

○ Good ◎ Best

List 338Ni

SPIRAL POINT | VC10 | HR | C/5P | 0° | PACKED 1 PIECE

EXOPRO® WHR-Ni-POT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
3380250453	●	M2.5 x 0.45	D3	50.00	12.00	13.80	3.58	2.79	4.76	2
3380003053	●	M3 x 0.5	D3	56.00	16.00	21.00	3.58	2.79	4.76	3
3380004074	●	M4 x 0.7	D4	63.00	19.00	25.50	4.27	3.33	6.35	3
3380005084	●	M5 x 0.8	D4	70.00	22.00	-	4.93	3.86	6.35	3
3380006755	●	M6 x 0.75	D5	80.00	25.00	33.90	6.48	4.85	7.94	3
3380006105	●	M6 x 1	D5	80.00	25.00	33.90	6.48	4.85	7.94	3
3380008105	●	M8 x 1	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
3380008255	●	M8 x 1.25	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
3380010255	●	M10 x 1.25	D5	100.00	22.00	43.50	9.68	7.26	11.11	3
3380010156	●	M10 x 1.5	D6	100.00	22.00	43.50	9.68	7.26	11.11	3
3380012156	●	M12 x 1.5	D6	100.00	21.00	32.00	9.32	6.99	11.11	3
3380012756	●	M12 x 1.75	D6	110.00	21.00	32.00	9.32	6.99	11.11	3
3380014156	●	M14 x 1.5	D6	100.00	24.00	36.00	10.90	8.18	12.70	3
3380014207	●	M14 x 2	D7	110.00	24.00	36.00	10.90	8.18	12.70	3
3380016156	●	M16 x 1.5	D6	100.00	24.00	36.00	12.19	9.14	14.29	3
3380016207	●	M16 x 2	D7	110.00	24.00	36.00	12.19	9.14	14.29	3
3380018156	●	M18 x 1.5	D6	110.00	30.00	43.00	13.77	10.31	15.88	3
3380018257	●	M18 x 2.5	D7	125.00	30.00	43.00	13.77	10.31	15.88	3
3380020156	●	M20 x 1.5	D6	125.00	30.00	44.00	16.56	12.42	17.46	3
3380020258	●	M20 x 2.5	D8	140.00	30.00	44.00	16.56	12.42	17.46	3
3380022156	●	M22 x 1.5	D6	125.00	30.00	44.00	17.70	13.28	19.05	3
3380022258	●	M22 x 2.5	D8	140.00	30.00	44.00	17.70	13.28	19.05	3
3380024156	●	M24 x 1.5	D6	140.00	36.00	51.00	19.30	14.48	19.05	4
3380024308	●	M24 x 3	D8	160.00	36.00	51.00	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

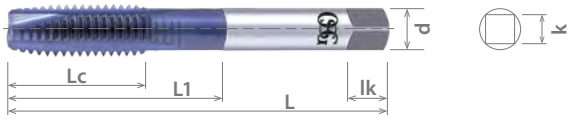
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎				○	
							8-20 SFM				8-15 SFM				8-12 SFM	

○ Good ◎ Best

List 312Ti

EXOTAP® VC-10 V-Ti-POT

SPIRAL POINT | VC10 | V | C/SP | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1105610108	●	No. 2 - 56 UNC	H2	1.752	0.437	-	0.141	0.110	0.188	2
1105610208	●	No. 4 - 40 UNC	H2	1.874	0.562	-	0.141	0.110	0.188	3
1105610408	●	No. 6 - 32 UNC	H2	2.000	0.688	-	0.141	0.110	0.188	3
1105610508	●	No. 6 - 32 UNC	H3	2.000	0.688	-	0.141	0.110	0.188	3
1105610608	●	No. 6 - 40 UNF	H2	2.000	0.688	-	0.141	0.110	0.188	3
1105610708	●	No. 8 - 32 UNC	H2	2.126	0.751	-	0.168	0.131	0.250	3
1105610808	●	No. 8 - 32 UNC	H3	2.126	0.751	-	0.168	0.131	0.250	3
1105610908	●	No. 8 - 36 UNF	H2	2.126	0.751	-	0.168	0.131	0.250	3
1105611008	●	No. 10 - 24 UNC	H3	2.374	0.874	-	0.194	0.152	0.250	3
1105611108	●	No. 10 - 32 UNF	H2	2.374	0.866	-	0.194	0.152	0.250	3
1105611208	●	No. 10 - 32 UNF	H3	2.374	0.866	-	0.194	0.152	0.250	3
1105611308	●	1/4 - 20 UNC	H3	2.500	1.000	-	0.255	0.191	0.313	3
1105611408	●	1/4 - 20 UNC	H5	2.500	1.000	-	0.255	0.191	0.313	3
1105611508	●	1/4 - 28 UNF	H3	2.500	0.988	-	0.255	0.191	0.313	3
1105611608	●	1/4 - 28 UNF	H4	2.500	0.988	-	0.255	0.191	0.313	3
1105611708	●	5/16 - 18 UNC	H3	2.720	0.665	1.125	0.318	0.238	0.375	3
1105611808	●	5/16 - 18 UNC	H5	2.720	0.665	1.125	0.318	0.238	0.375	3
1105611908	●	5/16 - 24 UNF	H3	2.720	0.657	1.118	0.318	0.238	0.375	3
1105612008	●	5/16 - 24 UNF	H4	2.720	0.657	1.118	0.318	0.238	0.375	3
1105612108	●	3/8 - 16 UNC	H3	2.937	0.751	1.251	0.381	0.286	0.438	3
1105612208	●	3/8 - 16 UNC	H5	2.937	0.751	1.251	0.381	0.286	0.438	3
1105612308	●	3/8 - 24 UNF	H3	2.937	0.740	1.240	0.381	0.286	0.438	3
1105612408	●	3/8 - 24 UNF	H4	2.937	0.740	1.240	0.381	0.286	0.438	3
1105612508	●	7/16 - 14 UNC	H3	3.157	0.858	1.291	0.323	0.242	0.406	3
1105612608	●	7/16 - 14 UNC	H5	3.157	0.858	1.291	0.323	0.242	0.406	3
1105612708	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3
1105612808	●	7/16 - 20 UNF	H5	3.157	0.858	1.291	0.323	0.242	0.406	3
1105612908	●	1/2 - 13 UNC	H3	3.374	0.921	1.354	0.367	0.275	0.438	3
1105613008	●	1/2 - 13 UNC	H5	3.374	0.921	1.354	0.367	0.275	0.438	3
1105613108	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3
1105613208	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3
1105613308	●	9/16 - 18 UNF	H3	3.594	1.000	1.472	0.429	0.322	0.500	3
1105613408	●	9/16 - 18 UNF	H5	3.594	1.000	1.472	0.429	0.322	0.500	3
1105613508	●	5/8 - 11 UNC	H3	3.811	1.090	1.562	0.480	0.360	0.563	3
1105613608	●	5/8 - 18 UNF	H3	3.811	1.090	1.562	0.480	0.360	0.563	3
1105613708	●	5/8 - 18 UNF	H5	3.811	1.090	1.562	0.480	0.360	0.563	3
1105613808	●	3/4 - 10 UNC	H5	4.252	1.200	1.712	0.590	0.442	0.688	4
1105613908	●	3/4 - 16 UNF	H3	4.252	1.200	1.712	0.590	0.442	0.688	4
1105614008	●	3/4 - 16 UNF	H5	4.252	1.200	1.712	0.590	0.442	0.688	4
1105614208	●	7/8 - 9 UNC	H3	4.689	1.334	1.885	0.697	0.523	0.750	4
1105614308	●	7/8 - 9 UNC	H5	4.689	1.334	1.885	0.697	0.523	0.750	4
1105614408	●	7/8 - 14 UNF	H3	4.689	1.334	1.885	0.697	0.523	0.750	4
1105614508	●	7/8 - 14 UNF	H5	4.689	1.334	1.956	0.697	0.523	0.750	4
1105614108	●	1 - 8 UNC	H5	5.126	1.500	2.090	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

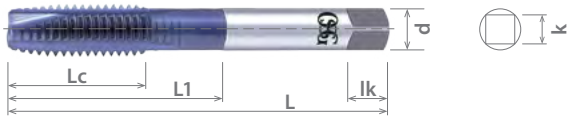
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○				◎	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 344Ti

EXOTAP® VC-10 V-Ti-POT

SPIRAL POINT | VC10 | V | 3 FLUTE | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1115810108	●	M3 x 0.5	D3	49.20	15.90	20.90	3.58	2.79	4.76
1115810208	●	M4 x 0.7	D4	54.00	19.00	25.40	4.27	3.33	6.35
1115810308	●	M5 x 0.8	D4	60.30	22.20	-	4.93	3.86	6.35
1115810408	●	M6 x 1	D5	63.50	25.30	33.80	6.48	4.85	7.94
1115810508	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53
1115810608	●	M10 x 1.25	D5	74.00	18.00	31.80	9.68	7.26	11.11
1115810708	●	M10 x 1.5	D6	74.00	18.00	31.80	9.68	7.26	11.11
1115810808	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○				◎	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 316Ti

SPIRAL POINT | VC10 | V | C/SP | 0° | PACKED 1 PIECE

EXOTAP® VC-10 VPO-Ti-POT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
31621408	●	1/4 - 28 UNF	H3	3.140	1.000	-	0.255	0.191	0.313	3
31621508	●	1/4 - 28 UNF	H4	3.140	1.000	-	0.255	0.191	0.313	3
31621808	●	5/16 - 24 UNF	H3	3.540	0.665	1.378	0.318	0.238	0.375	3
31621908	●	5/16 - 24 UNF	H4	3.540	0.665	1.378	0.318	0.238	0.375	3
31622208	●	3/8 - 24 UNF	H3	3.540	0.752	1.378	0.381	0.286	0.438	3
31622308	●	3/8 - 24 UNF	H4	3.540	0.752	1.378	0.381	0.286	0.438	3
31622608	●	7/16 - 20 UNF	H3	3.930	0.858	1.291	0.323	0.242	0.406	3
31622708	●	7/16 - 20 UNF	H4	3.930	0.858	1.291	0.323	0.242	0.406	3
31623008	●	1/2 - 20 UNF	H3	3.930	0.921	1.354	0.367	0.275	0.438	3
31623108	●	1/2 - 20 UNF	H5	3.930	0.921	1.354	0.367	0.275	0.438	3
31623408	●	9/16 - 18 UNF	H3	3.930	1.000	1.472	0.429	0.322	0.500	3
31623508	●	9/16 - 18 UNF	H5	3.930	1.000	1.472	0.429	0.322	0.500	3
31623808	●	5/8 - 18 UNF	H3	3.930	1.091	1.563	0.480	0.360	0.563	3
31623908	●	5/8 - 18 UNF	H4	3.930	1.091	1.563	0.480	0.360	0.563	3
31624208	●	3/4 - 16 UNF	H3	4.330	1.201	1.713	0.590	0.442	0.688	4
31624308	●	3/4 - 16 UNF	H4	4.330	1.201	1.713	0.590	0.442	0.688	4
31624608	●	7/8 - 14 UNF	H4	4.920	1.335	1.886	0.697	0.523	0.750	4
31624708	●	7/8 - 14 UNF	H6	4.920	1.335	1.886	0.697	0.523	0.750	4
31625008	●	1 - 12 UNF	H4	5.510	1.500	2.091	0.800	0.600	0.813	4
31625108	●	1 - 12 UNF	H6	5.510	1.500	2.091	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○				◎	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 347Ti

SPIRAL POINT | VC10 | V | C/5P | 0° | PACKED 1 PIECE

EXOTAP® VC-10 VPO-Ti-POT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
34720508	●	M8 x 1	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
34720708	●	M10 x 1.25	D5	100.00	18.00	39.00	9.68	7.26	11.11	3
34720908	●	M12 x 1.25	D5	100.00	21.00	32.00	9.32	6.99	11.11	3
34721008	●	M12 x 1.5	D6	100.00	21.00	32.00	9.32	6.99	11.11	3
34721208	●	M14 x 1.5	D6	100.00	24.00	36.00	10.90	8.18	12.70	3
34721408	●	M16 x 1.5	D6	100.00	24.00	36.00	12.19	9.14	14.29	3
34721608	●	M18 x 1.5	D6	110.00	30.00	43.00	13.77	10.31	15.88	3
34721808	●	M20 x 1.5	D6	125.00	30.00	44.00	16.56	12.42	17.46	3
34722008	●	M22 x 1.5	D6	125.00	30.00	44.00	17.70	13.28	19.05	3
34722208	●	M24 x 1.5	D6	140.00	36.00	51.00	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○				◎	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 312Ni

EXOTAP® VC-10 Ni-POT

SPIRAL POINT | VC10 | S/O | V | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1772201	●	No. 2 - 56 UNC	H2	1.752	0.472	-	0.141	0.110	0.188	2	Steam Oxide
1776201	●	No. 4 - 40 UNC	H2	1.874	0.606	-	0.141	0.110	0.188	3	Steam Oxide
1776208	●	No. 4 - 40 UNC	H2	1.874	0.606	-	0.141	0.110	0.188	3	V
1776301	●	No. 4 - 40 UNC	H3	1.874	0.606	-	0.141	0.110	0.188	3	Steam Oxide
1772001	●	No. 4 - 40 UNC	H4	1.874	0.606	-	0.141	0.110	0.188	2	Steam Oxide
1772101	●	No. 4 - 48 UNF	H2	1.874	0.606	-	0.141	0.110	0.188	2	Steam Oxide
1771501	●	No. 6 - 32 UNC	H2	2.000	0.744	-	0.141	0.110	0.188	3	Steam Oxide
1706301	●	No. 6 - 32 UNC	H3	2.000	0.744	-	0.141	0.110	0.188	3	Steam Oxide
1706308	●	No. 6 - 32 UNC	H3	2.000	0.744	-	0.141	0.110	0.188	3	V
1706401	●	No. 6 - 32 UNC	H5	2.000	0.744	-	0.141	0.110	0.188	3	Steam Oxide
1771601	●	No. 6 - 32 UNC	H7	2.000	0.744	-	0.141	0.110	0.188	3	Steam Oxide
1706501	●	No. 8 - 32 UNC	H3	2.126	0.822	-	0.168	0.131	0.250	3	Steam Oxide
1706508	●	No. 8 - 32 UNC	H3	2.126	0.822	-	0.168	0.131	0.250	3	V
1771701	●	No. 8 - 32 UNC	H4	2.126	0.822	-	0.168	0.131	0.250	3	Steam Oxide
1706601	●	No. 8 - 32 UNC	H5	2.126	0.822	-	0.168	0.131	0.250	3	Steam Oxide
1706701	●	No. 10 - 24 UNC	H3	2.374	0.948	-	0.194	0.152	0.250	3	Steam Oxide
1706708	●	No. 10 - 24 UNC	H3	2.374	0.948	-	0.194	0.152	0.250	3	V
1706801	●	No. 10 - 24 UNC	H5	2.374	0.948	-	0.194	0.152	0.250	3	Steam Oxide
1771801	●	No. 10 - 32 UNF	H2	2.374	0.948	-	0.194	0.152	0.250	3	Steam Oxide
1706901	●	No. 10 - 32 UNF	H3	2.374	0.948	-	0.194	0.152	0.250	3	Steam Oxide
1706908	●	No. 10 - 32 UNF	H3	2.374	0.948	-	0.194	0.152	0.250	3	V
1771901	●	No. 10 - 32 UNF	H4	2.374	0.948	-	0.194	0.152	0.250	3	Steam Oxide
1707001	●	No. 10 - 32 UNF	H5	2.374	0.948	-	0.194	0.152	0.250	3	Steam Oxide
1707101	●	1/4 - 20 UNC	H3	2.500	1.102	-	0.255	0.191	0.313	3	Steam Oxide
1707108	●	1/4 - 20 UNC	H3	2.500	1.102	-	0.255	0.191	0.313	3	V
1707201	●	1/4 - 20 UNC	H5	2.500	1.102	-	0.255	0.191	0.313	3	Steam Oxide
1772301	●	1/4 - 20 UNC	H7	2.500	1.102	-	0.255	0.191	0.313	3	Steam Oxide
1707301	●	1/4 - 28 UNF	H3	2.500	1.102	-	0.255	0.191	0.313	3	Steam Oxide
1707308	●	1/4 - 28 UNF	H3	2.500	1.102	-	0.255	0.191	0.313	3	V
1772401	●	1/4 - 28 UNF	H4	2.500	1.102	-	0.255	0.191	0.313	3	Steam Oxide
1707401	●	1/4 - 28 UNF	H5	2.500	1.102	-	0.255	0.191	0.313	3	Steam Oxide
1707501	●	5/16 - 18 UNC	H3	2.720	0.799	1.259	0.318	0.238	0.375	3	Steam Oxide
1707508	●	5/16 - 18 UNC	H3	2.720	0.799	1.259	0.318	0.238	0.375	3	V
1707601	●	5/16 - 18 UNC	H5	2.720	0.799	1.259	0.318	0.238	0.375	3	Steam Oxide
1707701	●	5/16 - 24 UNF	H3	2.720	0.799	1.259	0.318	0.238	0.375	3	Steam Oxide
1707708	●	5/16 - 24 UNF	H3	2.720	0.799	1.259	0.318	0.238	0.375	3	V
1707801	●	5/16 - 24 UNF	H5	2.720	0.799	1.259	0.318	0.238	0.375	3	Steam Oxide
1707901	●	3/8 - 16 UNC	H3	2.937	0.917	1.417	0.381	0.286	0.438	3	Steam Oxide
1707908	●	3/8 - 16 UNC	H3	2.937	0.917	1.417	0.381	0.286	0.438	3	V
1708001	●	3/8 - 16 UNC	H5	2.937	0.917	1.417	0.381	0.286	0.438	3	Steam Oxide
1708101	●	3/8 - 24 UNF	H3	2.937	0.917	1.417	0.381	0.286	0.438	3	Steam Oxide
1708108	●	3/8 - 24 UNF	H3	2.937	0.917	1.417	0.381	0.286	0.438	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎	○	○	○		
							8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 312Ni (Continued)

EXOTAP® VC-10 Ni-POT

SPIRAL POINT	VC10	S/O	V	C/5P	0°	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1708201	●	3/8 - 24 UNF	H5	2.937	0.917	1.417	0.381	0.286	0.438	3	Steam Oxide
1708301	●	7/16 - 14 UNC	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
1708401	●	7/16 - 14 UNC	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
1708501	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
1708508	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	V
1708601	●	7/16 - 20 UNF	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
1708701	●	1/2 - 13 UNC	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
1708708	●	1/2 - 13 UNC	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	V
1708801	●	1/2 - 13 UNC	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
1708901	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
1708908	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	V
1709001	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
1717201	●	9/16 - 18 UNF	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide
1717301	●	9/16 - 18 UNF	H5	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide
1717401	●	5/8 - 11 UNC	H3	3.811	1.090	1.562	0.480	0.360	0.563	3	Steam Oxide
1717501	●	5/8 - 18 UNF	H3	3.811	1.090	1.562	0.480	0.360	0.563	3	Steam Oxide
1717601	●	5/8 - 18 UNF	H5	3.811	1.090	1.562	0.480	0.360	0.563	3	Steam Oxide
1772501	●	3/4 - 10 UNC	H3	4.252	1.200	1.712	0.590	0.442	0.688	3	Steam Oxide
1717701	●	3/4 - 10 UNC	H5	4.252	1.200	1.712	0.590	0.442	0.688	4	Steam Oxide
1717801	●	3/4 - 16 UNF	H3	4.252	1.200	1.712	0.590	0.442	0.688	4	Steam Oxide
1717901	●	3/4 - 16 UNF	H5	4.252	1.200	1.712	0.590	0.442	0.688	4	Steam Oxide
1718101	●	7/8 - 9 UNC	H3	4.689	1.334	1.885	0.697	0.523	0.750	4	Steam Oxide
1718201	●	7/8 - 9 UNC	H5	4.689	1.334	1.885	0.697	0.523	0.750	4	Steam Oxide
1718301	●	7/8 - 14 UNF	H3	4.689	1.334	1.885	0.697	0.523	0.750	4	Steam Oxide
1718401	●	7/8 - 14 UNF	H5	4.689	1.334	1.885	0.697	0.523	0.750	4	Steam Oxide
1718001	●	1 - 8 UNC	H5	5.126	1.500	2.090	0.800	0.600	0.813	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

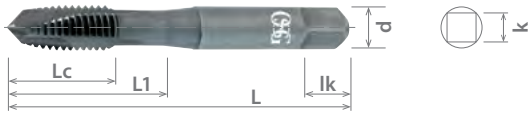
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎	○	○	○		
							8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 344Ni

EXOTAP® VC-10 Ni-POT

SPIRAL POINT | VC10 | S/O | V | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1115710001	●	M2.5 x 0.45	D3	46.00	12.00	13.70	3.58	2.79	4.76	2	Steam Oxide
1115710008	●	M2.5 x 0.45	D3	46.00	12.00	13.70	3.58	2.79	4.76	2	V
1115710101	●	M3 x 0.5	D3	49.20	16.00	23.10	3.58	2.79	4.76	3	Steam Oxide
1115710108	●	M3 x 0.5	D3	49.50	16.00	23.10	3.58	2.79	4.76	3	V
1115710201	●	M4 x 0.7	D4	54.00	19.00	25.70	4.27	3.33	6.35	3	Steam Oxide
1115710208	●	M4 x 0.7	D4	54.00	19.00	25.70	4.27	3.33	6.35	3	V
1115710301	●	M5 x 0.8	D4	60.30	22.00	-	4.93	3.86	6.35	3	Steam Oxide
1115710308	●	M5 x 0.8	D4	60.30	22.00	-	4.93	3.86	6.35	3	V
1115710401	●	M6 x 1	D5	63.50	25.00	33.70	6.48	4.85	7.94	3	Steam Oxide
1115710408	●	M6 x 1	D5	63.50	25.00	33.70	6.48	4.85	7.94	3	V
1115710501	●	M8 x 1.25	D5	69.09	15.00	28.80	8.08	6.05	9.53	3	Steam Oxide
1115710508	●	M8 x 1.25	D5	69.09	15.00	28.80	8.08	6.05	9.53	3	V
1115710601	●	M10 x 1.25	D5	74.60	18.00	32.00	9.68	7.26	11.11	3	Steam Oxide
1115710608	●	M10 x 1.25	D5	74.60	18.00	32.00	9.68	7.26	11.11	3	V
1115710701	●	M10 x 1.5	D6	74.60	18.00	32.00	9.68	7.26	11.11	3	Steam Oxide
1115710708	●	M10 x 1.5	D6	74.60	18.00	32.00	9.68	7.26	11.11	3	V
1115710801	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	Steam Oxide
1115710808	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

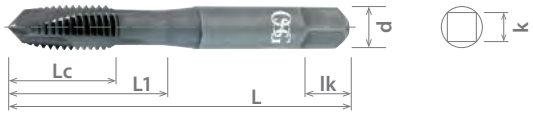
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎	○	○	○		
							8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 312

EXOTAP® VC-10 POT

SPIRAL POINT | VC10 | S/O | V | C/SP | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1759001	●	No. 2 - 56 UNC	H2	1.752	0.437	0.476	0.141	0.110	0.188	2	Steam Oxide
1759008	●	No. 2 - 56 UNC	H2	1.752	0.437	0.476	0.141	0.110	0.188	2	V
1757001	●	No. 4 - 40 UNC	H2	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1757008	●	No. 4 - 40 UNC	H2	1.874	0.303	0.566	0.141	0.110	0.188	2	V
1759101	●	No. 4 - 40 UNC	H3	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1759108	●	No. 4 - 40 UNC	H3	1.874	0.303	0.566	0.141	0.110	0.188	2	V
1759201	●	No. 4 - 40 UNC	H4	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1759208	●	No. 4 - 40 UNC	H4	1.874	0.303	0.566	0.141	0.110	0.188	2	V
1759301	●	No. 4 - 40 UNC	H5	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1759308	●	No. 4 - 40 UNC	H5	1.874	0.303	0.566	0.141	0.110	0.188	2	V
1757101	●	No. 5 - 40 UNC	H2	1.937	0.307	0.633	0.141	0.110	0.188	3	Steam Oxide
1757108	●	No. 5 - 40 UNC	H2	1.937	0.307	0.633	0.141	0.110	0.188	3	V
1759401	●	No. 6 - 32 UNC	H2	2.000	0.377	0.692	0.141	0.110	0.188	3	Steam Oxide
1759408	●	No. 6 - 32 UNC	H2	2.000	0.377	0.692	0.141	0.110	0.188	3	V
1757201	●	No. 6 - 32 UNC	H3	2.000	0.377	0.692	0.141	0.110	0.188	3	Steam Oxide
1757208	●	No. 6 - 32 UNC	H3	2.000	0.377	0.692	0.141	0.110	0.188	3	V
1759501	●	No. 6 - 32 UNC	H4	2.000	0.377	0.692	0.141	0.110	0.188	3	Steam Oxide
1759508	●	No. 6 - 32 UNC	H4	2.000	0.377	0.692	0.141	0.110	0.188	3	V
1759601	●	No. 6 - 32 UNC	H5	2.000	0.377	0.692	0.141	0.110	0.188	3	Steam Oxide
1759608	●	No. 6 - 32 UNC	H5	2.000	0.377	0.692	0.141	0.110	0.188	3	V
1759701	●	No. 6 - 32 UNC	H6	2.000	0.377	0.692	0.141	0.110	0.188	3	Steam Oxide
1759708	●	No. 6 - 32 UNC	H6	2.000	0.377	0.692	0.141	0.110	0.188	3	V
1759801	●	No. 8 - 32 UNC	H2	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1759808	●	No. 8 - 32 UNC	H2	2.126	0.381	0.759	0.168	0.131	0.250	3	V
1757301	●	No. 8 - 32 UNC	H3	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1757308	●	No. 8 - 32 UNC	H3	2.126	0.381	0.759	0.168	0.131	0.250	3	V
1759901	●	No. 8 - 32 UNC	H4	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1759908	●	No. 8 - 32 UNC	H4	2.126	0.381	0.759	0.168	0.131	0.250	3	V
1760001	●	No. 8 - 32 UNC	H5	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1760008	●	No. 8 - 32 UNC	H5	2.126	0.381	0.759	0.168	0.131	0.250	3	V
1760101	●	No. 8 - 32 UNC	H6	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1760108	●	No. 8 - 32 UNC	H6	2.126	0.381	0.759	0.168	0.131	0.250	3	V
1757401	●	No. 10 - 24 UNC	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1757408	●	No. 10 - 24 UNC	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1760201	●	No. 10 - 24 UNC	H5	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1760208	●	No. 10 - 24 UNC	H5	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1760301	●	No. 10 - 32 UNF	H2	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1760308	●	No. 10 - 32 UNF	H2	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1757501	●	No. 10 - 32 UNF	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1757508	●	No. 10 - 32 UNF	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1760401	●	No. 10 - 32 UNF	H4	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1760408	●	No. 10 - 32 UNF	H4	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1760501	●	No. 10 - 32 UNF	H5	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1760508	●	No. 10 - 32 UNF	H5	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1760601	●	No. 10 - 32 UNF	H6	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1760608	●	No. 10 - 32 UNF	H6	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1757601	●	1/4 - 20 UNC	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1757608	●	1/4 - 20 UNC	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1700201	●	1/4 - 20 UNC	H5	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1700208	●	1/4 - 20 UNC	H5	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1757701	●	1/4 - 28 UNF	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1757708	●	1/4 - 28 UNF	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1700301	●	1/4 - 28 UNF	H4	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1700308	●	1/4 - 28 UNF	H4	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1700401	●	1/4 - 28 UNF	H5	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1700408	●	1/4 - 28 UNF	H5	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1700501	●	1/4 - 28 UNF	H6	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 312 (Continued)

EXOTAP® VC-10 POT

SPIRAL POINT | VC10 | S/O | V | C/5P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1700508	●	1/4 - 28 UNF	H6	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1757801	●	5/16 - 18 UNC	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1757808	●	5/16 - 18 UNC	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1700601	●	5/16 - 18 UNC	H5	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1700608	●	5/16 - 18 UNC	H5	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1757901	●	5/16 - 24 UNF	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1757908	●	5/16 - 24 UNF	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1700701	●	5/16 - 24 UNF	H4	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1700708	●	5/16 - 24 UNF	H4	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1700801	●	5/16 - 24 UNF	H5	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1700808	●	5/16 - 24 UNF	H5	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1700901	●	5/16 - 24 UNF	H6	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1700908	●	5/16 - 24 UNF	H6	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1758001	●	3/8 - 16 UNC	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1758008	●	3/8 - 16 UNC	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1701001	●	3/8 - 16 UNC	H5	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1701008	●	3/8 - 16 UNC	H5	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1758101	●	3/8 - 24 UNF	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1758108	●	3/8 - 24 UNF	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1701101	●	3/8 - 24 UNF	H4	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1701108	●	3/8 - 24 UNF	H4	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1701201	●	3/8 - 24 UNF	H5	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1701208	●	3/8 - 24 UNF	H5	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1701301	●	3/8 - 24 UNF	H6	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1701308	●	3/8 - 24 UNF	H6	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1758201	●	7/16 - 14 UNC	H3	3.157	0.893	1.291	0.323	0.242	0.406	3	Steam Oxide
1758208	●	7/16 - 14 UNC	H3	3.157	0.893	1.291	0.323	0.242	0.406	3	V
1701401	●	7/16 - 14 UNC	H5	3.157	0.893	1.291	0.323	0.242	0.406	3	Steam Oxide
1701408	●	7/16 - 14 UNC	H5	3.157	0.893	1.291	0.323	0.242	0.406	3	V
1758301	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
1758308	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	V
1701501	●	7/16 - 20 UNF	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
1701508	●	7/16 - 20 UNF	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	V
1758401	●	1/2 - 13 UNC	H3	3.374	0.960	1.354	0.367	0.275	0.438	3	Steam Oxide
1758408	●	1/2 - 13 UNC	H3	3.374	0.960	1.354	0.367	0.275	0.438	3	V
1701601	●	1/2 - 13 UNC	H5	3.374	0.960	1.354	0.367	0.275	0.438	3	Steam Oxide
1701608	●	1/2 - 13 UNC	H5	3.374	0.960	1.354	0.367	0.275	0.438	3	V
1758501	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
1758508	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	V
1701701	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
1701708	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	V
1758601	●	5/8 - 11 UNC	H3	3.811	1.137	1.562	0.480	0.360	0.563	3	Steam Oxide
1758608	●	5/8 - 11 UNC	H3	3.811	1.137	1.562	0.480	0.360	0.563	3	V
1758701	●	5/8 - 18 UNF	H3	3.811	1.118	1.562	0.480	0.360	0.563	3	Steam Oxide
1758708	●	5/8 - 18 UNF	H3	3.811	1.118	1.562	0.480	0.360	0.563	3	V
1701801	●	5/8 - 18 UNF	H5	3.811	1.118	1.562	0.480	0.360	0.563	3	Steam Oxide
1701808	●	5/8 - 18 UNF	H5	3.811	1.118	1.562	0.480	0.360	0.563	3	V
1758801	●	3/4 - 10 UNC	H3	4.252	1.251	1.712	0.590	0.442	0.688	4	Steam Oxide
1758808	●	3/4 - 10 UNC	H3	4.252	1.251	1.712	0.590	0.442	0.688	4	V
1758901	●	3/4 - 16 UNF	H3	4.252	1.232	1.712	0.590	0.442	0.688	4	Steam Oxide
1758908	●	3/4 - 16 UNF	H3	4.252	1.232	1.712	0.590	0.442	0.688	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 344

EXOTAP® VC-10 POT

SPIRAL POINT | VC10 | S/O | V | 3 FLUTE | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1702201	●	M3 x 0.5	D3	49.20	6.00	16.00	3.58	2.79	4.76	3	Steam Oxide
1702208	●	M3 x 0.5	D3	49.20	6.00	16.00	3.58	2.79	4.76	3	V
1702301	●	M4 x 0.7	D4	54.00	8.00	19.10	4.27	3.33	6.35	3	Steam Oxide
1702308	●	M4 x 0.7	D4	54.00	8.00	19.10	4.27	3.33	6.35	3	V
1702401	●	M5 x 0.8	D4	60.30	9.00	22.20	4.93	3.86	6.35	3	Steam Oxide
1702408	●	M5 x 0.8	D4	60.30	9.00	22.20	4.93	3.86	6.35	3	V
1702501	●	M6 x 1	D5	63.50	12.00	25.40	6.48	4.85	7.94	3	Steam Oxide
1702508	●	M6 x 1	D5	63.50	12.00	25.40	6.48	4.85	7.94	3	V
1702601	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	3	Steam Oxide
1702608	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	3	V
1702701	●	M10 x 1.25	D5	74.60	17.00	31.60	9.68	7.26	11.11	3	Steam Oxide
1702708	●	M10 x 1.25	D5	74.60	17.00	31.60	9.68	7.26	11.11	3	V
1702801	●	M10 x 1.5	D6	74.60	17.00	31.70	9.68	7.26	11.11	3	Steam Oxide
1702808	●	M10 x 1.5	D6	74.60	17.00	31.70	9.68	7.26	11.11	3	V
1702901	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	Steam Oxide
1702908	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 316

SPIRAL POINT | VC10 | V | C/5P | 0° | PACKED 1 PIECE

EXOTAP® VC-10 VPO-POT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
31601108	●	1/4 - 20 UNC	H3	3.140	0.598	1.181	0.255	0.191	0.313	3
31601208	●	1/4 - 20 UNC	H5	3.140	0.598	1.181	0.255	0.191	0.313	3
31601308	●	1/4 - 28 UNF	H3	3.140	0.598	1.181	0.255	0.191	0.313	3
31601408	●	1/4 - 28 UNF	H4	3.140	0.598	1.181	0.255	0.191	0.313	3
31601508	●	5/16 - 18 UNC	H3	3.540	0.665	1.378	0.318	0.238	0.375	3
31601608	●	5/16 - 18 UNC	H5	3.540	0.665	1.378	0.318	0.238	0.375	3
31601708	●	5/16 - 24 UNF	H3	3.540	0.665	1.378	0.318	0.238	0.375	3
31601808	●	5/16 - 24 UNF	H4	3.540	0.665	1.378	0.318	0.238	0.375	3
31601908	●	3/8 - 16 UNC	H3	3.930	0.752	1.535	0.381	0.286	0.438	3
31602008	●	3/8 - 16 UNC	H5	3.930	0.752	1.535	0.381	0.286	0.438	3
31602108	●	3/8 - 24 UNF	H3	3.540	0.752	1.535	0.381	0.286	0.438	3
31602208	●	3/8 - 24 UNF	H4	3.540	0.752	1.535	0.381	0.286	0.438	3
31602308	●	7/16 - 14 UNC	H3	3.930	0.858	1.291	0.323	0.242	0.406	3
31602408	●	7/16 - 14 UNC	H5	3.930	0.858	1.291	0.323	0.242	0.406	3
31602508	●	7/16 - 20 UNF	H3	3.930	0.858	1.291	0.323	0.242	0.406	3
31602608	●	7/16 - 20 UNF	H5	3.930	0.858	1.291	0.323	0.242	0.406	3
31602708	●	1/2 - 13 UNC	H3	4.330	0.921	1.354	0.367	0.275	0.438	3
31602808	●	1/2 - 13 UNC	H5	4.330	0.921	1.354	0.367	0.275	0.438	3
31602908	●	1/2 - 20 UNF	H3	3.930	0.921	1.354	0.367	0.275	0.438	3
31603008	●	1/2 - 20 UNF	H5	3.930	0.921	1.354	0.367	0.275	0.438	3
31603108	●	9/16 - 12 UNC	H3	4.330	1.000	1.472	0.429	0.322	0.500	3
31603208	●	9/16 - 12 UNC	H5	4.330	1.000	1.472	0.429	0.322	0.500	3
31603308	●	9/16 - 18 UNF	H3	3.930	1.000	1.472	0.429	0.322	0.500	3
31603408	●	9/16 - 18 UNF	H5	3.930	1.000	1.472	0.429	0.322	0.500	3
31603508	●	5/8 - 11 UNC	H3	4.330	1.091	1.563	0.480	0.360	0.563	3
31603608	●	5/8 - 11 UNC	H5	4.330	1.091	1.563	0.480	0.360	0.563	3
31603708	●	5/8 - 18 UNF	H3	3.930	1.091	1.563	0.480	0.360	0.563	3
31603808	●	5/8 - 18 UNF	H5	3.930	1.091	1.563	0.480	0.360	0.563	3
31603908	●	3/4 - 10 UNC	H3	4.920	1.201	1.713	0.590	0.442	0.688	4
31605008	●	3/4 - 10 UNC	H5	4.920	1.201	1.713	0.590	0.442	0.688	4
31604008	●	3/4 - 16 UNF	H3	4.330	1.201	1.713	0.590	0.442	0.688	4
31604108	●	3/4 - 16 UNF	H5	4.330	1.201	1.713	0.590	0.442	0.688	4
31604208	●	7/8 - 9 UNC	H4	5.510	1.335	1.886	0.697	0.523	0.750	4
31604308	●	7/8 - 9 UNC	H6	5.510	1.335	1.886	0.697	0.523	0.750	4
31604408	●	7/8 - 14 UNF	H4	4.920	1.335	1.886	0.697	0.523	0.750	4
31604508	●	7/8 - 14 UNF	H6	4.920	1.335	1.886	0.697	0.523	0.750	4
31604608	●	1 - 8 UNC	H4	6.290	1.500	2.091	0.800	0.600	0.813	4
31604708	●	1 - 8 UNC	H6	6.290	1.500	2.091	0.800	0.600	0.813	4
31604808	●	1 - 12 UNF	H4	5.510	1.500	2.091	0.800	0.600	0.813	4
31604908	●	1 - 12 UNF	H6	5.510	1.500	2.091	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 350

EXOTAP® VC-10 VPO-POT, DIN Overall Length

SPIRAL POINT | VC10 | V | C/SP | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
35000408	●	M6 x 1	D5	80.00	12.00	30.00	6.48	4.85	7.94	3
35000508	●	M8 x 1	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
35000608	●	M8 x 1.25	D5	90.00	15.00	35.00	8.08	6.05	9.53	3
35000708	●	M10 x 1.25	D5	100.00	18.00	39.00	9.68	7.26	11.11	3
35000808	●	M10 x 1.5	D6	100.00	18.00	39.00	9.68	7.26	11.11	3
35000908	●	M12 x 1.25	D5	100.00	21.00	32.00	9.32	6.99	11.11	3
35001008	●	M12 x 1.5	D6	100.00	21.00	32.00	9.32	6.99	11.11	3
35001108	●	M12 x 1.75	D6	110.00	21.00	32.00	9.32	6.99	11.11	3
35001208	●	M14 x 1.5	D6	100.00	24.00	36.00	10.90	8.18	12.70	3
35001308	●	M14 x 2	D7	110.00	24.00	36.00	10.90	8.18	12.70	3
35001408	●	M16 x 1.5	D6	100.00	24.00	36.00	12.19	9.14	14.29	4
35001508	●	M16 x 2	D7	110.00	24.00	36.00	12.19	9.14	14.29	4
35001608	●	M18 x 1.5	D6	110.00	30.00	43.00	13.77	10.31	15.88	4
35001708	●	M18 x 2.5	D7	125.00	30.00	43.00	13.77	10.31	15.88	4
35001808	●	M20 x 1.5	D6	125.00	30.00	44.00	16.56	12.42	17.46	4
35001908	●	M20 x 2.5	D7	140.00	30.00	44.00	16.56	12.42	17.46	4
35002008	●	M22 x 1.5	D6	125.00	30.00	44.00	17.70	13.28	19.05	4
35002108	●	M22 x 2.5	D7	140.00	30.00	44.00	17.70	13.28	19.05	4
35002208	●	M24 x 1.5	D6	140.00	36.00	51.00	19.30	14.48	19.05	4
35002308	●	M24 x 3	D8	160.00	36.00	51.00	19.30	14.48	19.05	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 300

EXOTAP® VA-3 POT

SPIRAL POINT | HSSE | S/O | TiN | V | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1734601	●	No. 2 - 56 UNC	H2	1.752	0.437	0.476	0.141	0.110	0.188	2	Steam Oxide
1734608	●	No. 2 - 56 UNC	H2	1.752	0.437	0.476	0.141	0.110	0.188	2	V
1734701	●	No. 2 - 56 UNC	H3	1.752	0.437	0.476	0.141	0.110	0.188	2	Steam Oxide
1734708	●	No. 2 - 56 UNC	H3	1.752	0.437	0.476	0.141	0.110	0.188	2	V
1725501	●	No. 2 - 56 UNC	H4	1.752	0.437	0.476	0.141	0.110	0.188	2	Steam Oxide
1725601	●	No. 3 - 48 UNC	H2	1.811	0.496	0.535	0.141	0.110	0.188	2	Steam Oxide
1730001	●	No. 4 - 40 UNC	H2	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1730005	●	No. 4 - 40 UNC	H2	1.874	0.303	0.566	0.141	0.110	0.188	2	TiN
1730008	●	No. 4 - 40 UNC	H2	1.874	0.303	0.566	0.141	0.110	0.188	2	V
1734801	●	No. 4 - 40 UNC	H3	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1734808	●	No. 4 - 40 UNC	H3	1.874	0.303	0.566	0.141	0.110	0.188	2	V
1725801	●	No. 4 - 40 UNC	H4	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1734901	●	No. 4 - 40 UNC	H5	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1734908	●	No. 4 - 40 UNC	H5	1.874	0.303	0.566	0.141	0.110	0.188	2	V
1726801	●	No. 4 - 40 UNC	H6	1.874	0.303	0.566	0.141	0.110	0.188	2	Steam Oxide
1726901	●	No. 4 - 48 UNF	H2	1.874	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
1727001	●	No. 4 - 48 UNF	H4	1.874	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
1730101	●	No. 5 - 40 UNC	H2	1.937	0.307	0.633	0.141	0.110	0.188	2	Steam Oxide
1730108	●	No. 5 - 40 UNC	H2	1.937	0.307	0.633	0.141	0.110	0.188	2	V
1735801	●	No. 6 - 32 UNC	H2	2.000	0.377	0.692	0.141	0.110	0.188	2	Steam Oxide
1735808	●	No. 6 - 32 UNC	H2	2.000	0.377	0.692	0.141	0.110	0.188	2	V
1730201	●	No. 6 - 32 UNC	H3	2.000	0.377	0.692	0.141	0.110	0.188	2	Steam Oxide
1730208	●	No. 6 - 32 UNC	H3	2.000	0.377	0.692	0.141	0.110	0.188	2	V
1739801	●	No. 6 - 32 UNC	H3	2.000	0.377	0.692	0.141	0.110	0.188	3	Steam Oxide
1739805	●	No. 6 - 32 UNC	H3	2.000	0.377	0.692	0.141	0.110	0.188	3	TiN
1739808	●	No. 6 - 32 UNC	H3	2.000	0.377	0.692	0.141	0.110	0.188	3	V
1727101	●	No. 6 - 32 UNC	H4	2.000	0.377	0.692	0.141	0.110	0.188	3	Steam Oxide
1737101	●	No. 6 - 32 UNC	H5	2.000	0.377	0.692	0.141	0.110	0.188	2	Steam Oxide
1737108	●	No. 6 - 32 UNC	H5	2.000	0.377	0.692	0.141	0.110	0.188	2	V
1727201	●	No. 6 - 32 UNC	H7	2.000	0.377	0.692	0.141	0.110	0.188	2	Steam Oxide
1727301	●	No. 6 - 40 UNF	H2	2.000	0.370	0.685	0.141	0.110	0.188	3	Steam Oxide
1727401	●	No. 6 - 40 UNF	H3	2.000	0.370	0.685	0.141	0.110	0.188	3	Steam Oxide
1735901	●	No. 8 - 32 UNC	H2	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1735908	●	No. 8 - 32 UNC	H2	2.126	0.381	0.759	0.168	0.131	0.250	3	V
1730301	●	No. 8 - 32 UNC	H3	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1730305	●	No. 8 - 32 UNC	H3	2.126	0.381	0.759	0.168	0.131	0.250	3	TiN
1730308	●	No. 8 - 32 UNC	H3	2.126	0.381	0.759	0.168	0.131	0.250	3	V
1727501	●	No. 8 - 32 UNC	H4	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1737201	●	No. 8 - 32 UNC	H5	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1737208	●	No. 8 - 32 UNC	H5	2.126	0.381	0.759	0.168	0.131	0.250	3	V
1727601	●	No. 8 - 32 UNC	H7	2.126	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
1727701	●	No. 8 - 36 UNF	H2	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 300 (Continued)

SPIRAL POINT | HSSE | S/O | TiN | V | C/4P | 0° | PACKED 1 PIECE

EXOTAP® VA-3 POT



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1730401	●	No. 10 - 24 UNC	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1730405	●	No. 10 - 24 UNC	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	TiN
1730408	●	No. 10 - 24 UNC	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1727801	●	No. 10 - 24 UNC	H4	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1727901	●	No. 10 - 24 UNC	H5	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1736501	●	No. 10 - 32 UNF	H2	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1736508	●	No. 10 - 32 UNF	H2	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1730501	●	No. 10 - 32 UNF	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1730505	●	No. 10 - 32 UNF	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	TiN
1730508	●	No. 10 - 32 UNF	H3	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1776401	●	No. 10 - 32 UNF	H4	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1776408	●	No. 10 - 32 UNF	H4	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1737301	●	No. 10 - 32 UNF	H5	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1737308	●	No. 10 - 32 UNF	H5	2.374	0.500	0.874	0.194	0.152	0.250	3	V
1728001	●	No. 10 - 32 UNF	H6	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1728101	●	No. 10 - 32 UNF	H7	2.374	0.500	0.874	0.194	0.152	0.250	3	Steam Oxide
1728201	●	No. 12 - 24 UNC	H3	2.374	0.508	0.937	0.220	0.165	0.281	3	Steam Oxide
1728301	●	No. 12 - 28 UNF	H3	2.374	0.503	0.940	0.220	0.165	0.281	3	Steam Oxide
1736601	●	1/4 - 20 UNC	H2	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1736608	●	1/4 - 20 UNC	H2	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1730601	●	1/4 - 20 UNC	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1730605	●	1/4 - 20 UNC	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	TiN
1730608	●	1/4 - 20 UNC	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1737401	●	1/4 - 20 UNC	H5	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1737408	●	1/4 - 20 UNC	H5	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1728401	●	1/4 - 20 UNC	H7	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1736701	●	1/4 - 28 UNF	H2	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1736708	●	1/4 - 28 UNF	H2	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1730701	●	1/4 - 28 UNF	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1730705	●	1/4 - 28 UNF	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	TiN
1730708	●	1/4 - 28 UNF	H3	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1736801	●	1/4 - 28 UNF	H4	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1736808	●	1/4 - 28 UNF	H4	2.500	0.602	1.003	0.255	0.191	0.313	3	V
1728501	●	1/4 - 28 UNF	H5	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1728601	●	1/4 - 28 UNF	H6	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1728701	●	1/4 - 28 UNF	H7	2.500	0.602	1.003	0.255	0.191	0.313	3	Steam Oxide
1730801	●	5/16 - 18 UNC	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1730805	●	5/16 - 18 UNC	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	TiN
1730808	●	5/16 - 18 UNC	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1738301	●	5/16 - 18 UNC	H5	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1738308	●	5/16 - 18 UNC	H5	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1728801	●	5/16 - 18 UNC	H7	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1730901	●	5/16 - 24 UNF	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1730905	●	5/16 - 24 UNF	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	TiN
1730908	●	5/16 - 24 UNF	H3	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1736901	●	5/16 - 24 UNF	H4	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1736908	●	5/16 - 24 UNF	H4	2.720	0.669	1.129	0.318	0.238	0.375	3	V
1728901	●	5/16 - 24 UNF	H5	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1729001	●	5/16 - 24 UNF	H6	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1729101	●	5/16 - 24 UNF	H7	2.720	0.669	1.129	0.318	0.238	0.375	3	Steam Oxide
1731001	●	3/8 - 16 UNC	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1731005	●	3/8 - 16 UNC	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	TiN
1731008	●	3/8 - 16 UNC	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 300 (Continued)

EXOTAP® VA-3 POT

SPIRAL POINT | HSSE | S/O | TiN | V | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1738401	●	3/8 - 16 UNC	H5	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1738408	●	3/8 - 16 UNC	H5	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1729201	●	3/8 - 16 UNC	H7	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1731101	●	3/8 - 24 UNF	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1731105	●	3/8 - 24 UNF	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	TiN
1731108	●	3/8 - 24 UNF	H3	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1737001	●	3/8 - 24 UNF	H4	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1737008	●	3/8 - 24 UNF	H4	2.937	0.759	1.259	0.381	0.286	0.438	3	V
1729301	●	3/8 - 24 UNF	H5	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1729401	●	3/8 - 24 UNF	H7	2.937	0.759	1.259	0.381	0.286	0.438	3	Steam Oxide
1731201	●	7/16 - 14 UNC	H3	3.157	0.893	1.291	0.323	0.242	0.406	3	Steam Oxide
1731205	●	7/16 - 14 UNC	H3	3.157	0.893	1.291	0.323	0.242	0.406	3	TiN
1731208	●	7/16 - 14 UNC	H3	3.157	0.893	1.291	0.323	0.242	0.406	3	V
1738501	●	7/16 - 14 UNC	H5	3.157	0.881	1.291	0.323	0.242	0.406	3	Steam Oxide
1738508	●	7/16 - 14 UNC	H5	3.157	0.881	1.291	0.323	0.242	0.406	3	V
1731301	●	7/16 - 20 UNF	H3	3.157	0.881	1.291	0.323	0.242	0.406	3	Steam Oxide
1731305	●	7/16 - 20 UNF	H3	3.157	0.881	1.291	0.323	0.242	0.406	3	TiN
1731308	●	7/16 - 20 UNF	H3	3.157	0.881	1.291	0.323	0.242	0.406	3	V
1738601	●	7/16 - 20 UNF	H5	3.157	0.881	1.291	0.323	0.242	0.406	3	Steam Oxide
1738608	●	7/16 - 20 UNF	H5	3.157	0.881	1.291	0.323	0.242	0.406	3	V
1731401	●	1/2 - 13 UNC	H3	3.374	0.960	1.354	0.367	0.275	0.438	3	Steam Oxide
1731405	●	1/2 - 13 UNC	H3	3.374	0.960	1.354	0.367	0.275	0.438	3	TiN
1731408	●	1/2 - 13 UNC	H3	3.374	0.960	1.354	0.367	0.275	0.438	3	V
1738701	●	1/2 - 13 UNC	H5	3.374	0.960	1.354	0.367	0.275	0.438	3	Steam Oxide
1738708	●	1/2 - 13 UNC	H5	3.374	0.960	1.354	0.367	0.275	0.438	3	V
1729501	●	1/2 - 13 UNC	H7	3.374	0.960	1.354	0.367	0.275	0.438	3	Steam Oxide
1731501	●	1/2 - 20 UNF	H3	3.374	0.944	1.354	0.367	0.275	0.438	3	Steam Oxide
1731505	●	1/2 - 20 UNF	H3	3.374	0.944	1.354	0.367	0.275	0.438	3	TiN
1731508	●	1/2 - 20 UNF	H3	3.374	0.944	1.354	0.367	0.275	0.438	3	V
1738801	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
1738808	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	V
1725001	●	9/16 - 12 UNC	H3	3.594	1.043	1.472	0.429	0.322	0.500	3	Steam Oxide
1725005	●	9/16 - 12 UNC	H3	3.594	1.043	1.472	0.429	0.322	0.500	3	TiN
1725008	●	9/16 - 12 UNC	H3	3.594	1.043	1.472	0.429	0.322	0.500	3	V
1725101	●	9/16 - 18 UNF	H3	3.594	1.027	1.472	0.429	0.322	0.500	3	Steam Oxide
1725105	●	9/16 - 18 UNF	H3	3.594	1.027	1.472	0.429	0.322	0.500	3	TiN
1725108	●	9/16 - 18 UNF	H3	3.594	1.027	1.472	0.429	0.322	0.500	3	V
1731601	●	5/8 - 11 UNC	H3	3.811	1.137	1.562	0.480	0.360	0.563	3	Steam Oxide
1731605	●	5/8 - 11 UNC	H3	3.811	1.137	1.562	0.480	0.360	0.563	3	TiN
1731608	●	5/8 - 11 UNC	H3	3.811	1.137	1.562	0.480	0.360	0.563	3	V
1738901	●	5/8 - 11 UNC	H5	3.811	1.137	1.562	0.480	0.360	0.563	3	Steam Oxide
1738908	●	5/8 - 11 UNC	H5	3.811	1.137	1.562	0.480	0.360	0.563	3	V
1729601	●	5/8 - 11 UNC	H7	3.811	1.137	1.562	0.480	0.360	0.563	3	Steam Oxide
1731701	●	5/8 - 18 UNF	H3	3.811	1.118	1.562	0.480	0.360	0.563	3	Steam Oxide
1731705	●	5/8 - 18 UNF	H3	3.811	1.118	1.562	0.480	0.360	0.563	3	TiN
1731708	●	5/8 - 18 UNF	H3	3.811	1.118	1.562	0.480	0.360	0.563	3	V
1729701	●	5/8 - 18 UNF	H5	3.811	1.118	1.562	0.480	0.360	0.563	3	Steam Oxide
1729801	●	5/8 - 18 UNF	H7	3.811	1.118	1.562	0.480	0.360	0.563	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 300 (Continued)

EXOTAP® VA-3 POT

SPIRAL POINT | HSSE | S/O | TiN | V | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1731801	●	3/4 - 10 UNC	H3	4.252	1.251	1.712	0.590	0.442	0.688	3	Steam Oxide
1731805	●	3/4 - 10 UNC	H3	4.252	1.251	1.712	0.590	0.442	0.688	3	TiN
1731808	●	3/4 - 10 UNC	H3	4.252	1.251	1.712	0.590	0.442	0.688	3	V
1731901	●	3/4 - 16 UNF	H3	4.252	1.232	1.712	0.590	0.442	0.688	3	Steam Oxide
1731905	●	3/4 - 16 UNF	H3	4.252	1.232	1.712	0.590	0.442	0.688	3	TiN
1731908	●	3/4 - 16 UNF	H3	4.252	1.232	1.712	0.590	0.442	0.688	3	V
1725201	●	7/8 - 9 UNC	H4	4.689	1.389	1.885	0.697	0.523	0.750	3	Steam Oxide
1725205	●	7/8 - 9 UNC	H4	4.689	1.389	1.885	0.697	0.523	0.750	3	TiN
1725208	●	7/8 - 9 UNC	H4	4.689	1.389	1.885	0.697	0.523	0.750	3	V
1725301	●	7/8 - 14 UNF	H4	4.689	1.370	1.885	0.697	0.523	0.750	3	Steam Oxide
1725305	●	7/8 - 14 UNF	H4	4.689	1.370	1.885	0.697	0.523	0.750	3	TiN
1725308	●	7/8 - 14 UNF	H4	4.689	1.370	1.885	0.697	0.523	0.750	3	V
1725401	●	1 - 8 UNC	H4	5.126	1.562	2.090	0.800	0.600	0.813	3	Steam Oxide
1725405	●	1 - 8 UNC	H4	5.126	1.562	2.090	0.800	0.600	0.813	3	TiN
1725408	●	1 - 8 UNC	H4	5.126	1.562	2.090	0.800	0.600	0.813	3	V
1729901	●	1 - 12 UNF	H4	5.126	1.543	2.090	0.800	0.600	0.813	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 342

EXOTAP® VA-3 POT

SPIRAL POINT | HSSE | S/O | TiN | V | 3 FLUTE | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Surface Treatment
1750101	●	M3 x 0.5	D3	49.20	6.00	16.00	3.58	2.79	4.76	Steam Oxide
1750108	●	M3 x 0.5	D3	49.20	6.00	16.00	3.58	2.79	4.76	V
1772901	●	M3.5 x 0.6	D4	50.80	7.00	17.50	3.58	2.79	4.76	Steam Oxide
1750401	●	M4 x 0.7	D4	54.00	8.00	19.10	4.27	3.33	6.35	Steam Oxide
1750405	●	M4 x 0.7	D4	54.00	8.00	19.10	4.27	3.33	6.35	TiN
1750408	●	M4 x 0.7	D4	54.00	8.00	19.10	4.27	3.33	6.35	V
1750701	●	M5 x 0.8	D4	60.30	9.00	22.20	4.93	3.86	6.35	Steam Oxide
1750705	●	M5 x 0.8	D4	60.30	9.00	22.20	4.93	3.86	6.35	TiN
1750708	●	M5 x 0.8	D4	60.30	9.00	22.20	4.93	3.86	6.35	V
1751001	●	M6 x 1	D5	63.50	12.00	25.40	6.48	4.85	7.94	Steam Oxide
1751005	●	M6 x 1	D5	63.50	12.00	25.40	6.48	4.85	7.94	TiN
1751008	●	M6 x 1	D5	63.50	12.00	25.40	6.48	4.85	7.94	V
1773401	●	M7 x 1	D5	69.10	12.00	28.70	8.08	6.05	9.53	Steam Oxide
1773201	●	M8 x 1	D5	69.10	15.00	28.60	8.08	6.05	9.53	Steam Oxide
1751301	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	Steam Oxide
1751305	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	TiN
1751308	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	V
1773101	●	M10 x 1.25	D5	74.60	17.00	31.70	9.68	7.26	11.11	Steam Oxide
1751601	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	Steam Oxide
1751605	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	TiN
1751608	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	V
1772701	●	M12 x 1.25	D5	85.70	21.00	32.00	9.32	6.99	11.11	Steam Oxide
1751901	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	Steam Oxide
1751905	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	TiN
1751908	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	V
1772801	●	M14 x 1.5	D6	91.30	24.00	36.00	10.90	8.18	12.70	Steam Oxide
1772601	●	M14 x 2	D7	91.30	24.00	36.00	10.90	8.18	12.70	Steam Oxide
1773001	●	M16 x 1.5	D6	96.80	24.00	36.00	12.19	9.14	14.29	Steam Oxide
1773501	●	M16 x 2	D7	96.80	24.00	36.00	12.19	9.14	14.29	Steam Oxide
1773301	●	M18 x 1.5	D6	102.40	30.00	43.00	13.77	10.31	15.88	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 306

SPIRAL POINT | HSSE | V | 3 FLUTE | C/4P | 0° | PACKED 1 PIECE

EXOTAP® OIL-V-POT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
30601708	●	1/4 - 20 UNC	H3	3.140	0.598	1.181	0.255	0.191	0.313
30601808	●	1/4 - 20 UNC	H5	3.140	0.598	1.181	0.255	0.191	0.313
30601908	●	1/4 - 28 UNF	H3	3.140	0.598	1.181	0.255	0.191	0.313
30602008	●	1/4 - 28 UNF	H4	3.140	0.598	1.181	0.255	0.191	0.313
30602108	●	5/16 - 18 UNC	H3	3.540	0.665	1.378	0.318	0.238	0.375
30602208	●	5/16 - 18 UNC	H5	3.540	0.665	1.378	0.318	0.238	0.375
30602308	●	5/16 - 24 UNF	H3	3.540	0.665	1.378	0.318	0.238	0.375
30602408	●	5/16 - 24 UNF	H4	3.540	0.665	1.378	0.318	0.238	0.375
30602508	●	3/8 - 16 UNC	H3	3.930	0.752	1.535	0.381	0.286	0.438
30602608	●	3/8 - 16 UNC	H5	3.930	0.752	1.535	0.381	0.286	0.438
30602708	●	3/8 - 24 UNF	H3	3.540	0.752	1.378	0.381	0.286	0.438
30602808	●	3/8 - 24 UNF	H4	3.540	0.752	1.378	0.381	0.286	0.438
30602908	●	7/16 - 14 UNC	H3	3.930	0.858	1.291	0.323	0.242	0.406
30603008	●	7/16 - 14 UNC	H5	3.930	0.858	1.291	0.323	0.242	0.406
30603108	●	7/16 - 20 UNF	H3	3.930	0.858	1.291	0.323	0.242	0.406
30603208	●	7/16 - 20 UNF	H5	3.930	0.858	1.291	0.323	0.242	0.406
30603308	●	1/2 - 13 UNC	H3	4.330	0.921	1.354	0.367	0.275	0.438
30603408	●	1/2 - 13 UNC	H5	4.330	0.921	1.354	0.367	0.275	0.438
30603508	●	1/2 - 20 UNF	H3	3.930	0.921	1.354	0.367	0.275	0.438
30603608	●	1/2 - 20 UNF	H5	3.930	0.921	1.354	0.367	0.275	0.438
30603708	●	9/16 - 12 UNC	H3	4.330	1.000	1.472	0.429	0.322	0.500
30603808	●	9/16 - 12 UNC	H5	4.330	1.000	1.472	0.429	0.322	0.500
30603908	●	9/16 - 18 UNF	H3	3.930	1.000	1.472	0.429	0.322	0.500
30604008	●	9/16 - 18 UNF	H5	3.930	1.000	1.472	0.429	0.322	0.500
30604108	●	5/8 - 11 UNC	H3	4.330	1.091	1.563	0.480	0.360	0.563
30604208	●	5/8 - 11 UNC	H5	4.330	1.091	1.563	0.480	0.360	0.563
30604308	●	5/8 - 18 UNF	H3	3.930	1.091	1.563	0.480	0.360	0.563
30604408	●	5/8 - 18 UNF	H5	3.930	1.091	1.563	0.480	0.360	0.563
30604508	●	3/4 - 10 UNC	H3	4.920	1.201	1.713	0.590	0.442	0.688
30604608	●	3/4 - 10 UNC	H5	4.920	1.201	1.713	0.590	0.442	0.688
30604708	●	3/4 - 16 UNF	H3	4.330	1.201	1.713	0.590	0.442	0.688
30604808	●	3/4 - 16 UNF	H5	4.330	1.201	1.713	0.590	0.442	0.688
30604908	●	7/8 - 9 UNC	H4	5.510	1.335	1.886	0.697	0.523	0.750
30605008	●	7/8 - 9 UNC	H6	5.510	1.335	1.886	0.697	0.523	0.750
30605108	●	7/8 - 14 UNF	H4	4.920	1.335	1.886	0.697	0.523	0.750
30605208	●	7/8 - 14 UNF	H6	4.920	1.335	1.886	0.697	0.523	0.750
30605308	●	1 - 8 UNC	H4	6.290	1.500	2.091	0.800	0.600	0.813
30605408	●	1 - 8 UNC	H6	6.290	1.500	2.091	0.800	0.600	0.813
30605508	●	1 - 12 UNF	H4	5.510	1.500	2.091	0.800	0.600	0.813
30605608	●	1 - 12 UNF	H6	5.510	1.500	2.091	0.800	0.600	0.813

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 346

SPIRAL POINT | HSSE | V | 3 FLUTE | C/4P | 0° | PACKED 1 PIECE

EXOTAP® OIL-V-POT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
34600508	●	M6 x 1	D5	80.00	12.00	30.00	6.48	4.85	7.94
34600608	●	M8 x 1	D5	90.00	15.00	35.00	8.08	6.05	9.53
34600708	●	M8 x 1.25	D5	90.00	15.00	35.00	8.08	6.05	9.53
34600808	●	M10 x 1.25	D5	100.00	18.00	39.00	9.68	7.26	11.11
34600908	●	M10 x 1.5	D6	100.00	18.00	39.00	9.68	7.26	11.11
34601008	●	M12 x 1.25	D5	100.00	21.00	32.00	9.32	6.99	11.11
34601108	●	M12 x 1.5	D6	100.00	21.00	32.00	9.32	6.99	11.11
34601208	●	M12 x 1.75	D6	110.00	21.00	32.00	9.32	6.99	11.11
34601308	●	M14 x 1.5	D6	100.00	24.00	36.00	10.90	8.18	12.70
34601408	●	M14 x 2	D7	110.00	24.00	36.00	10.90	8.18	12.70
34601508	●	M16 x 1.5	D6	100.00	24.00	36.00	12.19	9.14	14.29
34601608	●	M16 x 2	D7	110.00	24.00	36.00	12.19	9.14	14.29
34601708	●	M18 x 1.5	D6	110.00	30.00	43.00	13.77	10.31	15.88
34601808	●	M18 x 2.5	D7	125.00	30.00	43.00	13.77	10.31	15.88
34601908	●	M20 x 1.5	D6	125.00	30.00	44.00	16.56	12.42	17.46
34602008	●	M20 x 2.5	D7	140.00	30.00	44.00	16.56	12.42	17.46
34602108	●	M22 x 1.5	D6	125.00	30.00	44.00	17.70	13.28	19.05
34602208	●	M22 x 2.5	D7	140.00	30.00	44.00	17.70	13.28	19.05
34602308	●	M24 x 1.5	D6	140.00	36.00	51.00	19.30	14.48	19.05
34602408	●	M24 x 3	D8	160.00	36.00	51.00	19.30	14.48	19.05

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

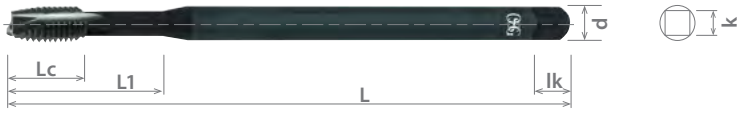
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 397

SPIRAL POINT | HSSE | S/O | C/4P | 0° | PACKED 1 PIECE

EXOTAP VA-3® LS-POT, Long Shank



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1764001	●	No. 4 - 40 UNC	H2	4.000	0.295	0.839	0.141	0.110	0.188	2
1766201	●	No. 4 - 40 UNC	H2	6.000	0.295	0.839	0.141	0.110	0.188	2
1764101	●	No. 6 - 32 UNC	H3	4.000	0.370	1.039	0.141	0.110	0.188	2
1764201	●	No. 6 - 32 UNC	H3	6.000	0.370	1.028	0.141	0.110	0.188	2
1764301	●	No. 8 - 32 UNC	H3	4.000	0.374	1.126	0.168	0.131	0.250	3
1764401	●	No. 8 - 32 UNC	H3	6.000	0.374	1.126	0.168	0.131	0.250	3
1764501	●	No. 10 - 24 UNC	H3	4.000	0.492	1.303	0.194	0.152	0.250	3
1764601	●	No. 10 - 24 UNC	H3	6.000	0.492	1.303	0.194	0.152	0.250	3
1764701	●	No. 10 - 32 UNF	H3	4.000	0.492	1.303	0.194	0.152	0.250	3
1764801	●	No. 10 - 32 UNF	H3	6.000	0.492	1.303	0.194	0.152	0.250	3
1764901	●	1/4 - 20 UNC	H3	4.000	0.594	1.496	0.255	0.191	0.313	3
1765001	●	1/4 - 20 UNC	H3	6.000	0.594	1.496	0.255	0.191	0.313	3
1765101	●	1/4 - 28 UNF	H3	6.000	0.594	1.496	0.255	0.191	0.313	3
1765201	●	5/16 - 18 UNC	H3	6.000	0.665	1.689	0.318	0.238	0.375	3
1765701	●	5/16 - 24 UNF	H3	6.000	0.665	1.689	0.318	0.238	0.375	3
1765301	●	3/8 - 16 UNC	H3	6.000	0.752	1.874	0.381	0.286	0.438	3
1765801	●	3/8 - 24 UNF	H3	6.000	0.752	1.874	0.381	0.286	0.438	3
1765401	●	7/16 - 14 UNC	H3	6.000	0.858	1.291	0.323	0.242	0.406	3
1765901	●	7/16 - 20 UNF	H3	6.000	0.858	1.291	0.323	0.242	0.406	3
1765501	●	1/2 - 13 UNC	H3	6.000	0.921	1.354	0.367	0.275	0.438	3
1766001	●	1/2 - 20 UNF	H3	6.000	0.921	1.354	0.367	0.275	0.438	3
1765601	●	5/8 - 11 UNC	H3	6.000	1.091	1.563	0.480	0.360	0.563	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Neck length is designed for reaching 50% deeper holes than ANSI standard taps.

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 320

EXOTAP® TIN-POT

SPIRAL POINT | HSSE | TiN | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1740005	●	No. 4 - 40 UNC	H2	1.874	0.295	0.559	0.141	0.110	0.188	2
1740105	●	No. 5 - 40 UNC	H2	1.937	0.299	0.626	0.141	0.110	0.188	2
1740205	●	No. 6 - 32 UNC	H3	2.000	0.370	0.685	0.141	0.110	0.188	2
1742005	●	No. 6 - 32 UNC	H5	2.000	0.370	0.685	0.141	0.110	0.188	2
1742105	●	No. 6 - 32 UNC	H7	2.000	0.370	0.685	0.141	0.110	0.188	2
1740305	●	No. 8 - 32 UNC	H3	2.126	0.374	0.752	0.168	0.131	0.250	3
1740405	●	No. 10 - 24 UNC	H3	2.374	0.492	0.866	0.194	0.152	0.250	3
1740505	●	No. 10 - 32 UNF	H3	2.374	0.492	0.866	0.194	0.152	0.250	3
1742205	●	No. 10 - 32 UNF	H5	2.374	0.492	0.866	0.194	0.152	0.250	3
1742305	●	No. 10 - 32 UNF	H7	2.374	0.492	0.866	0.194	0.152	0.250	3
1740605	●	1/4 - 20 UNC	H3	2.500	0.594	0.996	0.255	0.191	0.313	3
1740705	●	1/4 - 28 UNF	H3	2.500	0.594	0.996	0.255	0.191	0.313	3
1742405	●	1/4 - 28 UNF	H5	2.500	0.594	0.996	0.255	0.191	0.313	3
1742505	●	1/4 - 28 UNF	H7	2.500	0.594	0.996	0.255	0.191	0.313	3
1740805	●	5/16 - 18 UNC	H3	2.720	0.665	1.126	0.318	0.238	0.375	3
1740905	●	5/16 - 24 UNF	H3	2.720	0.657	1.118	0.318	0.238	0.375	3
1742605	●	5/16 - 24 UNF	H5	2.720	0.657	1.118	0.318	0.238	0.375	3
1742705	●	5/16 - 24 UNF	H7	2.720	0.657	1.118	0.318	0.238	0.375	3
1741005	●	3/8 - 16 UNC	H3	2.937	0.752	1.252	0.381	0.286	0.438	3
1741105	●	3/8 - 24 UNF	H3	2.937	0.740	1.240	0.381	0.286	0.438	3
1742805	●	3/8 - 24 UNF	H5	2.937	0.740	1.240	0.381	0.286	0.438	3
1742905	●	3/8 - 24 UNF	H7	2.937	0.740	1.240	0.381	0.286	0.438	3
1741205	●	7/16 - 14 UNC	H3	2.937	0.858	1.291	0.323	0.242	0.406	3
1741305	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3
1741405	●	1/2 - 13 UNC	H3	3.157	0.921	1.354	0.367	0.275	0.438	3
1741505	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3
1741605	●	5/8 - 11 UNC	H3	3.374	1.091	1.563	0.480	0.360	0.563	3
1741705	●	5/8 - 18 UNF	H3	3.811	1.091	1.563	0.480	0.360	0.563	3
1741805	●	3/4 - 10 UNC	H3	3.811	1.201	1.713	0.590	0.442	0.688	3
1741905	●	3/4 - 16 UNF	H3	4.252	1.201	1.713	0.590	0.442	0.688	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

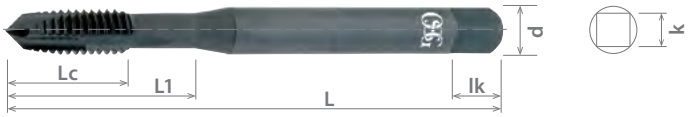
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	◎	○	○	○	○	○	○			○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-20 SFM	20-45 SFM	15-20 SFM	8-20 SFM	25-75 SFM	40-80 SFM	40-65 SFM			15-35 SFM			

○ Good ◎ Best

List 250

HY-PRO® DIN-POT, DIN Overall Length

SPIRAL POINT | HSSE | S/O | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
2511401	●	No. 4 - 40 UNC	2.205	0.295	0.705	0.141	0.110	0.188	2
2512401	●	No. 6 - 32 UNC	2.205	0.370	0.783	0.141	0.110	0.188	2
2517801	●	No. 8 - 32 UNC	2.480	0.374	0.827	0.168	0.131	0.250	3
2513401	●	No. 10 - 24 UNC	2.756	0.492	0.976	0.194	0.152	0.250	3
2518801	●	No. 10 - 32 UNF	2.756	0.492	0.984	0.194	0.152	0.250	3
2530001	●	1/4 - 20 UNC	3.150	0.594	1.177	0.255	0.191	0.313	3
2530401	●	1/4 - 28 UNF	3.150	0.594	1.189	0.255	0.191	0.313	3
2530801	●	5/16 - 18 UNC	3.543	0.665	1.378	0.318	0.238	0.375	3
2531201	●	5/16 - 24 UNF	3.543	0.657	1.378	0.318	0.238	0.375	3
2531601	●	3/8 - 16 UNC	3.937	0.752	1.378	0.381	0.286	0.438	3
2531801	●	3/8 - 24 UNF	3.937	0.740	1.378	0.381	0.286	0.438	3
2532001	●	7/16 - 14 UNC	3.937	0.858	1.291	0.323	0.242	0.406	3
2532201	●	7/16 - 20 UNF	3.937	0.858	1.291	0.323	0.242	0.406	3
2532401	●	1/2 - 13 UNC	4.331	0.921	1.354	0.367	0.275	0.438	3
2532601	●	1/2 - 20 UNF	3.937	0.921	1.354	0.367	0.275	0.438	3
2533201	●	5/8 - 11 UNC	4.331	1.091	1.563	0.480	0.360	0.563	3
2533401	●	5/8 - 18 UNF	3.937	1.091	1.563	0.480	0.360	0.563	3
2533601	●	3/4 - 10 UNC	4.921	1.201	1.713	0.590	0.442	0.688	3
2533801	●	3/4 - 16 UNF	4.331	1.201	1.713	0.590	0.442	0.688	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

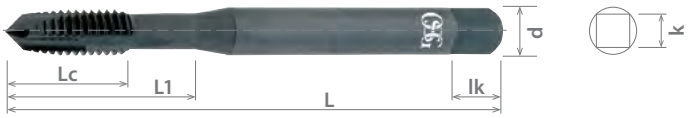
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	○	○	○	○	○					○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-40 SFM	15-20 SFM	25-75 SFM					15-35 SFM			

○ Good ◎ Best

List 259

HY-PRO® DIN-POT, DIN Overall Length

SPIRAL POINT | HSSE | S/O | 3 FLUTE | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
2590401	●	M3 x 0.5	6H	56.00	6.00	18.00	3.58	2.79	4.76
2590601	●	M4 x 0.7	6H	63.00	8.40	21.00	4.27	3.33	6.35
2590801	●	M5 x 0.8	6H	70.00	9.60	25.00	4.93	3.86	6.35
2591001	●	M6 x 1	6H	80.00	12.00	30.00	6.48	4.85	7.94
2591401	●	M8 x 1.25	6H	90.00	15.00	35.00	8.08	6.05	9.53
2591701	●	M10 x 1.25	6H	100.00	18.00	39.00	9.68	7.26	11.11
2591801	●	M10 x 1.5	6H	100.00	18.00	39.00	9.68	7.26	11.11
2592101	●	M12 x 1.25	6H	100.00	21.00	32.00	9.32	6.99	11.11
2592201	●	M12 x 1.5	6H	100.00	21.00	32.00	9.32	6.99	11.11
2592301	●	M12 x 1.75	6H	110.00	21.00	32.00	9.32	6.99	11.11
2592501	●	M14 x 1.5	6H	100.00	24.00	36.00	10.90	8.18	12.70
2592601	●	M14 x 2	6H	110.00	24.00	36.00	10.90	8.18	12.70
2592801	●	M16 x 1.5	6H	100.00	24.00	36.00	12.19	9.14	14.29
2592901	●	M16 x 2	6H	110.00	24.00	36.00	12.19	9.14	14.29
2593001	●	M18 x 1.5	6H	110.00	30.00	43.00	13.77	10.31	15.88
2593201	●	M18 x 2.5	6H	125.00	30.00	43.00	13.77	10.31	15.88
2593401	●	M20 x 1.5	6H	125.00	30.00	44.00	16.56	12.42	17.46
2593601	●	M20 x 2.5	6H	140.00	30.00	44.00	16.56	12.42	17.46

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

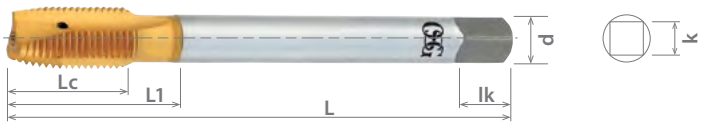
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	○	○	○	○	○					○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-40 SFM	15-20 SFM	25-75 SFM					15-35 SFM			

○ Good ◎ Best

List 260

HY-PRO® OIL-TIN-POT, DIN Overall Length

SPIRAL POINT | HSSE | TiN | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
2630005	●	1/4 - 20 UNC	3.150	0.598	1.181	0.255	0.191	0.313	3
2630405	●	1/4 - 28 UNF	3.150	0.598	1.181	0.255	0.191	0.313	3
2630805	●	5/16 - 18 UNC	3.543	0.665	1.378	0.318	0.238	0.375	3
2631205	●	5/16 - 24 UNF	3.543	0.665	1.378	0.318	0.238	0.375	3
2631605	●	3/8 - 16 UNC	3.937	0.752	1.378	0.381	0.286	0.438	3
2631805	●	3/8 - 24 UNF	3.937	0.752	1.378	0.381	0.286	0.438	3
2632005	●	7/16 - 14 UNC	3.937	0.858	1.291	0.323	0.242	0.406	3
2632205	●	7/16 - 20 UNF	3.937	0.858	1.291	0.323	0.242	0.406	3
2632405	●	1/2 - 13 UNC	4.331	0.921	1.354	0.367	0.275	0.438	3
2632605	●	1/2 - 20 UNF	3.937	0.921	1.354	0.367	0.275	0.438	3
2633005	●	9/16 - 18 UNF	3.937	1.000	1.472	0.429	0.322	0.500	3
2633205	●	5/8 - 11 UNC	4.331	1.091	1.563	0.480	0.360	0.563	3
2633405	●	5/8 - 18 UNF	3.937	1.091	1.563	0.480	0.360	0.563	3
2633605	●	3/4 - 10 UNC	4.921	1.201	1.713	0.590	0.442	0.688	3
2633805	●	3/4 - 16 UNF	4.331	1.201	1.713	0.590	0.442	0.688	3
2634005	●	7/8 - 9 UNC	5.512	1.335	1.886	0.697	0.523	0.750	3
2634205	●	7/8 - 14 UNF	4.921	1.335	1.886	0.697	0.523	0.750	3
2634405	●	1 - 8 UNC	6.299	1.500	2.091	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

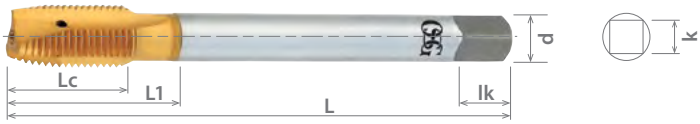
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	◎	○	○	○	○	○	○			○			
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	20-70 SFM	30-50 SFM	20-50 SFM	40-100 SFM	50-125 SFM	50-110 SFM			20-60 SFM			

○ Good ◎ Best

List 269

HY-PRO® OIL-TIN-POT, DIN Overall Length

SPIRAL POINT | HSSE | TiN | 3 FLUTE | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
2691005	●	M6 x 1	6H	80.00	12.00	30.00	6.48	4.85	7.94
2691405	●	M8 x 1.25	6H	90.00	15.00	35.00	8.08	6.05	9.53
2691705	●	M10 x 1.25	6H	100.00	18.00	38.90	9.68	7.26	11.11
2691805	●	M10 x 1.5	6H	100.00	18.00	38.90	9.68	7.26	11.11
2692105	●	M12 x 1.25	6H	100.00	21.00	32.00	9.32	6.99	11.11
2692205	●	M12 x 1.5	6H	100.00	21.00	32.00	9.32	6.99	11.11
2692305	●	M12 x 1.75	6H	110.00	21.00	32.00	9.32	6.99	11.11
2692505	●	M14 x 1.5	6H	100.00	24.00	35.90	10.90	8.18	12.70
2692605	●	M14 x 2	6H	110.00	24.00	35.90	10.90	8.18	12.70
2692805	●	M16 x 1.5	6H	100.00	24.00	35.90	12.19	9.14	14.29
2692905	●	M16 x 2	6H	110.00	24.00	35.90	12.19	9.14	14.29
2693005	●	M18 x 1.5	6H	110.00	30.00	43.00	13.77	10.31	15.88
2693205	●	M18 x 2.5	6H	125.00	30.00	43.00	13.77	10.31	15.88
2693405	●	M20 x 1.5	6H	125.00	30.00	43.90	16.56	12.42	17.46
2693605	●	M20 x 2.5	6H	140.00	30.00	43.90	16.56	12.42	17.46

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

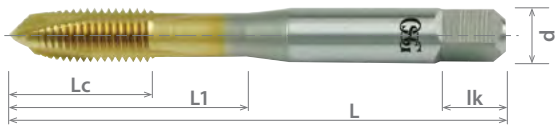
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	◎	◎	◎	○	○	○	○	○	○			○			
50-120 SFM	45-110 SFM	40-100 SFM	45-110 SFM	20-60 SFM	20-70 SFM	30-50 SFM	20-50 SFM	40-100 SFM	50-125 SFM	50-110 SFM			20-60 SFM			

○ Good ◎ Best

List 11015

HY-PRO® AERO-F

SPIRAL POINT | HSS-Co | TiN | C/4.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1101500105	●	No. 4 - 40 UNC	H3	1.875	0.382	0.693	0.141	0.110	0.188	3
1101505605	●	No. 4 - 40 UNC	H4	1.875	0.382	0.693	0.141	0.110	0.188	3
1101500205	●	No. 4 - 40 UNC	H5	1.875	0.382	0.693	0.141	0.110	0.188	3
1101500305	●	No. 4 - 40 UNC	H6	1.875	0.382	0.693	0.141	0.110	0.188	3
1101505705	●	No. 4 - 40 UNC	H7	1.875	0.382	0.693	0.141	0.110	0.188	3
1101515505	●	No. 4 - 40 UNC	H8	1.875	0.382	0.693	0.141	0.110	0.188	3
1101515605	●	No. 4 - 48 UNF	H3	1.875	0.382	0.693	0.141	0.110	0.188	3
1101515705	●	No. 4 - 48 UNF	H4	1.875	0.382	0.693	0.141	0.110	0.188	3
1101515805	●	No. 4 - 48 UNF	H5	1.875	0.382	0.693	0.141	0.110	0.188	3
1101515905	●	No. 4 - 48 UNF	H6	1.875	0.382	0.693	0.141	0.110	0.188	3
1101506505	●	No. 4 - 48 UNF	H7	1.875	0.382	0.693	0.141	0.110	0.188	3
1101506605	●	No. 4 - 48 UNF	H8	1.875	0.382	0.693	0.141	0.110	0.188	3
1101500405	●	No. 6 - 32 UNC	H3	2.000	0.433	0.811	0.141	0.110	0.188	3
1101505805	●	No. 6 - 32 UNC	H4	2.000	0.433	0.811	0.141	0.110	0.188	3
1101500505	●	No. 6 - 32 UNC	H5	2.000	0.433	0.811	0.141	0.110	0.188	3
1101500605	●	No. 6 - 32 UNC	H6	2.000	0.433	0.811	0.141	0.110	0.188	3
1101500705	●	No. 6 - 32 UNC	H7	2.000	0.433	0.811	0.141	0.110	0.188	3
1101500805	●	No. 6 - 32 UNC	H8	2.000	0.433	0.811	0.141	0.110	0.188	3
1101506705	●	No. 6 - 32 UNC	H9	2.000	0.433	0.811	0.141	0.110	0.188	3
1101506805	●	No. 6 - 32 UNC	H10	2.000	0.433	0.811	0.141	0.110	0.188	3
1101506905	●	No. 6 - 32 UNC	H11	2.000	0.433	0.811	0.141	0.110	0.188	3
1101507005	●	No. 6 - 40 UNF	H3	2.000	0.374	0.811	0.141	0.110	0.188	3
1101507105	●	No. 6 - 40 UNF	H4	2.000	0.374	0.811	0.141	0.110	0.188	3
1101507205	●	No. 6 - 40 UNF	H5	2.000	0.374	0.811	0.141	0.110	0.188	3
1101507305	●	No. 6 - 40 UNF	H6	2.000	0.374	0.811	0.141	0.110	0.188	3
1101507405	●	No. 6 - 40 UNF	H7	2.000	0.374	0.811	0.141	0.110	0.188	3
1101507505	●	No. 6 - 40 UNF	H8	2.000	0.374	0.811	0.141	0.110	0.188	3
1101507605	●	No. 6 - 40 UNF	H9	2.000	0.374	0.811	0.141	0.110	0.188	3
1101507705	●	No. 6 - 40 UNF	H10	2.000	0.374	0.811	0.141	0.110	0.188	3
1101507805	●	No. 6 - 40 UNF	H11	2.000	0.374	0.811	0.141	0.110	0.188	3
1101500905	●	No. 8 - 32 UNC	H3	2.125	0.437	0.878	0.168	0.131	0.250	3
1101501005	●	No. 8 - 32 UNC	H4	2.125	0.437	0.878	0.168	0.131	0.250	3
1101501105	●	No. 8 - 32 UNC	H5	2.125	0.437	0.878	0.168	0.131	0.250	3
1101501205	●	No. 8 - 32 UNC	H6	2.125	0.437	0.878	0.168	0.131	0.250	3
1101501305	●	No. 8 - 32 UNC	H7	2.125	0.437	0.878	0.168	0.131	0.250	3
1101501405	●	No. 8 - 32 UNC	H8	2.125	0.437	0.878	0.168	0.131	0.250	3
1101507905	●	No. 8 - 32 UNC	H9	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508005	●	No. 8 - 32 UNC	H10	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508105	●	No. 8 - 32 UNC	H11	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508205	●	No. 8 - 36 UNF	H3	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508305	●	No. 8 - 36 UNF	H4	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508405	●	No. 8 - 36 UNF	H5	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508505	●	No. 8 - 36 UNF	H6	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508605	●	No. 8 - 36 UNF	H7	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508705	●	No. 8 - 36 UNF	H8	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508805	●	No. 8 - 36 UNF	H9	2.125	0.437	0.878	0.168	0.131	0.250	3
1101508905	●	No. 8 - 36 UNF	H10	2.125	0.437	0.878	0.168	0.131	0.250	3
1101509005	●	No. 8 - 36 UNF	H11	2.125	0.437	0.878	0.168	0.131	0.250	3
1101509105	●	No. 10 - 24 UNC	H3	2.374	0.630	1.000	0.194	0.152	0.250	3
1101509205	●	No. 10 - 24 UNC	H4	2.374	0.630	1.000	0.194	0.152	0.250	3
1101509305	●	No. 10 - 24 UNC	H5	2.374	0.630	1.000	0.194	0.152	0.250	3
1101509405	●	No. 10 - 24 UNC	H6	2.374	0.630	1.000	0.194	0.152	0.250	3
1101509505	●	No. 10 - 24 UNC	H7	2.374	0.630	1.000	0.194	0.152	0.250	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

List 11015 (Continued)

HY-PRO® AERO-F

SPIRAL POINT | HSS-Co | TiN | C/4.5P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1101509605	●	No. 10 - 24 UNC	H8	2.374	0.630	1.000	0.194	0.152	0.250	3
1101509705	●	No. 10 - 24 UNC	H9	2.374	0.630	1.000	0.194	0.152	0.250	3
1101509805	●	No. 10 - 24 UNC	H10	2.374	0.630	1.000	0.194	0.152	0.250	3
1101509905	●	No. 10 - 24 UNC	H11	2.374	0.630	1.000	0.194	0.152	0.250	3
1101501505	●	No. 10 - 32 UNF	H3	2.374	0.508	1.000	0.194	0.152	0.250	3
1101501605	●	No. 10 - 32 UNF	H4	2.374	0.508	1.000	0.194	0.152	0.250	3
1101501705	●	No. 10 - 32 UNF	H5	2.374	0.508	1.000	0.194	0.152	0.250	3
1101501805	●	No. 10 - 32 UNF	H6	2.374	0.508	1.000	0.194	0.152	0.250	3
1101501905	●	No. 10 - 32 UNF	H7	2.374	0.508	1.000	0.194	0.152	0.250	3
1101502005	●	No. 10 - 32 UNF	H8	2.374	0.508	1.000	0.194	0.152	0.250	3
1101502105	●	No. 10 - 32 UNF	H9	2.374	0.508	1.000	0.194	0.152	0.250	3
1101506005	●	No. 10 - 32 UNF	H10	2.374	0.508	1.000	0.194	0.152	0.250	3
1101506105	●	No. 10 - 32 UNF	H11	2.374	0.508	1.000	0.194	0.152	0.250	3
1101506205	●	No. 10 - 32 UNF	H12	2.374	0.508	1.000	0.194	0.152	0.250	3
1101516005	●	No. 10 - 32 UNF	H13	2.374	0.508	1.000	0.194	0.152	0.250	3
1101516105	●	No. 12 - 28 UNC	H3	2.374	0.543	1.067	0.220	0.165	0.281	3
1101516205	●	No. 12 - 28 UNC	H4	2.374	0.543	1.067	0.220	0.165	0.281	3
1101516305	●	No. 12 - 28 UNC	H5	2.374	0.543	1.067	0.220	0.165	0.281	3
1101516405	●	No. 12 - 28 UNC	H6	2.374	0.543	1.067	0.220	0.165	0.281	3
1101516505	●	No. 12 - 28 UNC	H7	2.374	0.543	1.067	0.220	0.165	0.281	3
1101516605	●	No. 12 - 28 UNC	H8	2.374	0.543	1.067	0.220	0.165	0.281	3
1101516705	●	No. 12 - 28 UNC	H9	2.374	0.543	1.067	0.220	0.165	0.281	3
1101516805	●	No. 12 - 28 UNC	H10	2.374	0.543	1.067	0.220	0.165	0.281	3
1101516905	●	No. 12 - 28 UNC	H11	2.374	0.543	1.067	0.220	0.165	0.281	3
1101510005	●	1/4 - 20 UNC	H3	2.500	0.752	1.122	0.255	0.191	0.313	3
1101510105	●	1/4 - 20 UNC	H4	2.500	0.752	1.122	0.255	0.191	0.313	3
1101510205	●	1/4 - 20 UNC	H5	2.500	0.752	1.122	0.255	0.191	0.313	3
1101510305	●	1/4 - 20 UNC	H6	2.500	0.752	1.122	0.255	0.191	0.313	3
1101510405	●	1/4 - 20 UNC	H7	2.500	0.752	1.122	0.255	0.191	0.313	3
1101510505	●	1/4 - 20 UNC	H8	2.500	0.752	1.122	0.255	0.191	0.313	3
1101510605	●	1/4 - 20 UNC	H9	2.500	0.752	1.122	0.255	0.191	0.313	3
1101510705	●	1/4 - 20 UNC	H10	2.500	0.752	1.122	0.255	0.191	0.313	3
1101510805	●	1/4 - 20 UNC	H11	2.500	0.752	1.122	0.255	0.191	0.313	3
1101502205	●	1/4 - 28 UNF	H3	2.500	0.563	1.114	0.255	0.191	0.313	3
1101505505	●	1/4 - 28 UNF	H4	2.500	0.563	1.114	0.255	0.191	0.313	3
1101502305	●	1/4 - 28 UNF	H5	2.500	0.563	1.114	0.255	0.191	0.313	3
1101502405	●	1/4 - 28 UNF	H6	2.500	0.563	1.114	0.255	0.191	0.313	3
1101502505	●	1/4 - 28 UNF	H7	2.500	0.563	1.114	0.255	0.191	0.313	3
1101502605	●	1/4 - 28 UNF	H8	2.500	0.563	1.114	0.255	0.191	0.313	3
1101502705	●	1/4 - 28 UNF	H9	2.500	0.563	1.114	0.255	0.191	0.313	3
1101502805	●	1/4 - 28 UNF	H10	2.500	0.563	1.114	0.255	0.191	0.313	3
1101506305	●	1/4 - 28 UNF	H11	2.500	0.563	1.114	0.255	0.191	0.313	3
1101506405	●	1/4 - 28 UNF	H12	2.500	0.563	1.114	0.255	0.191	0.313	3
1101510905	●	5/16 - 18 UNC	H3	2.719	0.874	1.283	0.318	0.238	0.375	3
1101511005	●	5/16 - 18 UNC	H4	2.719	0.874	1.283	0.318	0.238	0.375	3
1101511105	●	5/16 - 18 UNC	H5	2.719	0.874	1.283	0.318	0.238	0.375	3
1101511205	●	5/16 - 18 UNC	H6	2.719	0.874	1.283	0.318	0.238	0.375	3
1101511305	●	5/16 - 18 UNC	H7	2.719	0.874	1.283	0.318	0.238	0.375	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM	40-80 SFM	40-65 SFM	8-15 SFM	8-15 SFM	15-35 SFM			

○ Good ◎ Best

List 11015 (Continued)

HY-PRO® AERO-F

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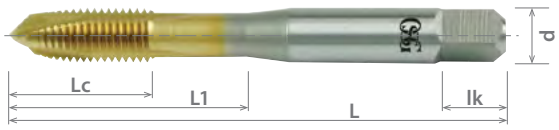

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1101511405	●	5/16 - 18 UNC	H8	2.719	0.874	1.283	0.318	0.238	0.375	3
1101511505	●	5/16 - 18 UNC	H9	2.719	0.874	1.283	0.318	0.238	0.375	3
1101511605	●	5/16 - 18 UNC	H10	2.719	0.874	1.283	0.318	0.238	0.375	3
1101511705	●	5/16 - 18 UNC	H11	2.719	0.874	1.283	0.318	0.238	0.375	3
1101502905	●	5/16 - 24 UNF	H3	2.719	0.689	1.244	0.318	0.238	0.375	3
1101505905	●	5/16 - 24 UNF	H4	2.719	0.689	1.244	0.318	0.238	0.375	3
1101503005	●	5/16 - 24 UNF	H5	2.719	0.689	1.244	0.318	0.238	0.375	3
1101503105	●	5/16 - 24 UNF	H6	2.719	0.689	1.244	0.318	0.238	0.375	3
1101503205	●	5/16 - 24 UNF	H7	2.719	0.689	1.244	0.318	0.238	0.375	3
1101503305	●	5/16 - 24 UNF	H8	2.719	0.689	1.244	0.318	0.238	0.375	3
1101503405	●	5/16 - 24 UNF	H9	2.719	0.689	1.244	0.318	0.238	0.375	3
1101503505	●	5/16 - 24 UNF	H10	2.719	0.689	1.244	0.318	0.238	0.375	3
1101511805	●	5/16 - 24 UNF	H11	2.719	0.689	1.244	0.318	0.238	0.375	3
1101511905	●	3/8 - 16 UNC	H3	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512005	●	3/8 - 16 UNC	H4	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512105	●	3/8 - 16 UNC	H5	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512205	●	3/8 - 16 UNC	H6	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512305	●	3/8 - 16 UNC	H7	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512405	●	3/8 - 16 UNC	H8	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512505	●	3/8 - 16 UNC	H9	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512605	●	3/8 - 16 UNC	H10	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512705	●	3/8 - 16 UNC	H11	2.938	0.976	1.417	0.381	0.286	0.438	3
1101512805	●	3/8 - 16 UNC	H12	2.938	0.976	1.417	0.381	0.286	0.438	3
1101503605	●	3/8 - 24 UNF	H3	2.938	0.831	1.406	0.381	0.286	0.438	3
1101512905	●	3/8 - 24 UNF	H4	2.938	0.831	1.406	0.381	0.286	0.438	3
1101503705	●	3/8 - 24 UNF	H5	2.938	0.831	1.406	0.381	0.286	0.438	3
1101503805	●	3/8 - 24 UNF	H6	2.938	0.831	1.406	0.381	0.286	0.438	3
1101503905	●	3/8 - 24 UNF	H7	2.938	0.831	1.406	0.381	0.286	0.438	3
1101504005	●	3/8 - 24 UNF	H8	2.938	0.831	1.406	0.381	0.286	0.438	3
1101504105	●	3/8 - 24 UNF	H9	2.938	0.831	1.406	0.381	0.286	0.438	3
1101504205	●	3/8 - 24 UNF	H10	2.938	0.831	1.406	0.381	0.286	0.438	3
1101513005	●	3/8 - 24 UNF	H11	2.938	0.831	1.406	0.381	0.286	0.438	3
1101513105	●	7/16 - 14 UNC	H3	3.157	1.098	1.496	0.323	0.242	0.406	3
1101513205	●	7/16 - 14 UNC	H4	3.157	1.098	1.496	0.323	0.242	0.406	3
1101513305	●	7/16 - 14 UNC	H5	3.157	1.098	1.496	0.323	0.242	0.406	3
1101513405	●	7/16 - 14 UNC	H6	3.157	1.098	1.496	0.323	0.242	0.406	3
1101513505	●	7/16 - 14 UNC	H7	3.157	1.098	1.496	0.323	0.242	0.406	3
1101513605	●	7/16 - 14 UNC	H8	3.157	1.098	1.496	0.323	0.242	0.406	3
1101513705	●	7/16 - 14 UNC	H9	3.157	1.098	1.496	0.323	0.242	0.406	3
1101513805	●	7/16 - 14 UNC	H10	3.157	1.098	1.496	0.323	0.242	0.406	3
1101513905	●	7/16 - 14 UNC	H11	3.157	1.098	1.496	0.323	0.242	0.406	3
1101504305	●	7/16 - 20 UNF	H3	3.157	0.799	1.417	0.323	0.242	0.406	3
1101514005	●	7/16 - 20 UNF	H4	3.157	0.799	1.417	0.323	0.242	0.406	3
1101504405	●	7/16 - 20 UNF	H5	3.157	0.799	1.417	0.323	0.242	0.406	3
1101504505	●	7/16 - 20 UNF	H6	3.157	0.799	1.417	0.323	0.242	0.406	3
1101504605	●	7/16 - 20 UNF	H7	3.157	0.799	1.417	0.323	0.242	0.406	3
1101504705	●	7/16 - 20 UNF	H8	3.157	0.799	1.417	0.323	0.242	0.406	3
1101504805	●	7/16 - 20 UNF	H9	3.157	0.799	1.417	0.323	0.242	0.406	3
1101514105	●	7/16 - 20 UNF	H10	3.157	0.799	1.417	0.323	0.242	0.406	3
1101514205	●	7/16 - 20 UNF	H11	3.157	0.799	1.417	0.323	0.242	0.406	3
1101514305	●	1/2 - 13 UNC	H3	3.375	1.197	1.591	0.367	0.275	0.438	3
1101514405	●	1/2 - 13 UNC	H4	3.375	1.197	1.591	0.367	0.275	0.438	3
1101514505	●	1/2 - 13 UNC	H5	3.375	1.197	1.591	0.367	0.275	0.438	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

List 11015 (Continued)

HY-PRO® AERO-F

SPIRAL POINT | HSS-Co | TiN | C/4.5P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1101514605	●	1/2 - 13 UNC	H6	3.375	1.197	1.591	0.367	0.275	0.438	3
1101514705	●	1/2 - 13 UNC	H7	3.375	1.197	1.591	0.367	0.275	0.438	3
1101514805	●	1/2 - 13 UNC	H8	3.375	1.197	1.591	0.367	0.275	0.438	3
1101514905	●	1/2 - 13 UNC	H9	3.375	1.197	1.591	0.367	0.275	0.438	3
1101515005	●	1/2 - 13 UNC	H10	3.375	1.197	1.591	0.367	0.275	0.438	3
1101515105	●	1/2 - 13 UNC	H11	3.375	1.197	1.591	0.367	0.275	0.438	3
1101504905	●	1/2 - 20 UNF	H3	3.375	0.799	1.480	0.367	0.275	0.438	3
1101515205	●	1/2 - 20 UNF	H4	3.375	0.799	1.480	0.367	0.275	0.438	3
1101505005	●	1/2 - 20 UNF	H5	3.375	0.799	1.480	0.367	0.275	0.438	3
1101505105	●	1/2 - 20 UNF	H6	3.375	0.799	1.480	0.367	0.275	0.438	3
1101505205	●	1/2 - 20 UNF	H7	3.375	0.799	1.480	0.367	0.275	0.438	3
1101505305	●	1/2 - 20 UNF	H8	3.375	0.799	1.480	0.367	0.275	0.438	3
1101505405	●	1/2 - 20 UNF	H9	3.375	0.799	1.480	0.367	0.275	0.438	3
1101515305	●	1/2 - 20 UNF	H10	3.375	0.799	1.480	0.367	0.275	0.438	3
1101515405	●	1/2 - 20 UNF	H11	3.375	0.799	1.480	0.367	0.275	0.438	3
1101517005	●	9/16 - 18 UNF	H3	3.594	0.862	1.307	0.429	0.322	0.500	4
1101517105	●	9/16 - 18 UNF	H5	3.594	0.862	1.307	0.429	0.322	0.500	4
1101517205	●	9/16 - 18 UNF	H6	3.594	0.862	1.307	0.429	0.322	0.500	4
1101517305	●	9/16 - 18 UNF	H7	3.594	0.862	1.307	0.429	0.322	0.500	4
1101517405	●	9/16 - 18 UNF	H8	3.594	0.862	1.307	0.429	0.322	0.500	4
1101517505	●	9/16 - 18 UNF	H9	3.594	0.862	1.307	0.429	0.322	0.500	4
1101517605	●	5/8 - 11 UNC	H3	3.813	1.406	1.835	0.480	0.360	0.563	4
1101517705	●	5/8 - 11 UNC	H5	3.813	1.406	1.835	0.480	0.360	0.563	4
1101517805	●	5/8 - 18 UNF	H3	3.813	0.862	1.307	0.480	0.360	0.563	4
1101517905	●	5/8 - 18 UNF	H5	3.813	0.862	1.307	0.480	0.360	0.563	4
1101518005	●	5/8 - 18 UNF	H6	3.813	0.862	1.307	0.480	0.360	0.563	4
1101518105	●	5/8 - 18 UNF	H7	3.813	0.862	1.307	0.480	0.360	0.563	4
1101518205	●	5/8 - 18 UNF	H8	3.813	0.862	1.307	0.480	0.360	0.563	4
1101518305	●	5/8 - 18 UNF	H9	3.813	0.862	1.307	0.480	0.360	0.563	4
1101518405	●	5/8 - 18 UNF	H10	3.813	0.862	1.307	0.480	0.360	0.563	4
1101518505	●	5/8 - 18 UNF	H11	3.813	0.862	1.307	0.480	0.360	0.563	4
1101518605	●	3/4 - 10 UNC	H3	4.250	1.547	2.012	0.590	0.442	0.688	4
1101518705	●	3/4 - 10 UNC	H5	4.250	1.547	2.012	0.590	0.442	0.688	4
1101518805	●	3/4 - 16 UNF	H3	4.250	0.969	1.449	0.590	0.442	0.688	4
1101518905	●	3/4 - 16 UNF	H5	4.250	0.969	1.449	0.590	0.442	0.688	4
1101519005	●	3/4 - 16 UNF	H6	4.250	0.969	1.449	0.590	0.442	0.688	4
1101519105	●	3/4 - 16 UNF	H7	4.250	0.969	1.449	0.590	0.442	0.688	4
1101519205	●	3/4 - 16 UNF	H8	4.250	0.969	1.449	0.590	0.442	0.688	4
1101519305	●	3/4 - 16 UNF	H9	4.250	0.969	1.449	0.590	0.442	0.688	4
1101519405	●	3/4 - 16 UNF	H10	4.250	0.969	1.449	0.590	0.442	0.688	4
1101519505	●	3/4 - 16 UNF	H11	4.250	0.969	1.449	0.590	0.442	0.688	4
1101519605	●	7/8 - 9 UNC	H6	4.688	1.720	2.217	0.697	0.523	0.750	5
1101519705	●	7/8 - 14 UNF	H6	4.688	1.106	1.622	0.697	0.523	0.750	5
1101519805	●	7/8 - 14 UNF	H7	4.688	1.106	1.622	0.697	0.523	0.750	5
1101519905	●	7/8 - 14 UNF	H8	4.688	1.106	1.622	0.697	0.523	0.750	5
1101520005	●	7/8 - 14 UNF	H9	4.688	1.106	1.622	0.697	0.523	0.750	5
1101520105	●	7/8 - 14 UNF	H10	4.688	1.106	1.622	0.697	0.523	0.750	5
1101520205	●	7/8 - 14 UNF	H11	4.688	1.106	1.622	0.697	0.523	0.750	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

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CONTINUED ›

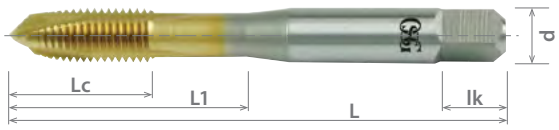
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM	40-80 SFM	40-65 SFM	8-15 SFM	8-15 SFM	15-35 SFM			

○ Good ◎ Best

List 11015 (Continued)

HY-PRO® AERO-F

SPIRAL POINT | HSS-Co | TiN | C/4.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1101520305	●	7/8 - 14 UNF	H12	4.688	1.106	1.622	0.697	0.523	0.750	5
1101520405	●	1 - 12 UNF	H6	5.125	1.291	1.843	0.800	0.600	0.813	5
1101520505	●	1 - 12 UNF	H7	5.125	1.291	1.843	0.800	0.600	0.813	5
1101520605	●	1 - 12 UNF	H8	5.125	1.291	1.843	0.800	0.600	0.813	5
1101520705	●	1 - 12 UNF	H9	5.125	1.291	1.843	0.800	0.600	0.813	5
1101520805	●	1 - 12 UNF	H10	5.125	1.291	1.843	0.800	0.600	0.813	5
1101520905	●	1 - 12 UNF	H11	5.125	1.291	1.843	0.800	0.600	0.813	5
1101521005	●	1 - 12 UNF	H12	5.125	1.291	1.843	0.800	0.600	0.813	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

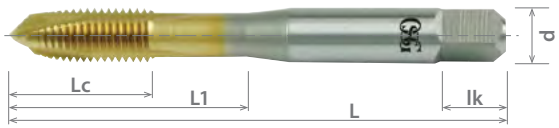
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM	40-80 SFM	40-65 SFM	8-15 SFM	8-15 SFM	15-35 SFM			

○ Good ◎ Best

List 11115

HY-PRO® AERO-F

SPIRAL POINT | HSS-Co | TiN | C/4.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1111500105	●	M3 x 0.5	H3	49.20	9.60	19.20	3.58	2.79	4.76	3
1111500905	●	M3 x 0.5	H4	49.20	9.60	19.20	3.58	2.79	4.76	3
1111500205	●	M3 x 0.5	H5	49.20	9.60	19.20	3.58	2.79	4.76	3
1111501005	●	M3 x 0.5	H6	49.20	9.60	19.20	3.58	2.79	4.76	3
1111501105	●	M3 x 0.5	H7	49.20	9.60	19.20	3.58	2.79	4.76	3
1111501205	●	M3 x 0.5	H8	49.20	9.60	19.20	3.58	2.79	4.76	3
1111501305	●	M3 x 0.5	H9	49.20	9.60	19.20	3.58	2.79	4.76	3
1111501405	●	M3 x 0.5	H10	49.20	9.60	19.20	3.58	2.79	4.76	3
1111501505	●	M3 x 0.5	H11	49.20	9.60	19.20	3.58	2.79	4.76	3
1111500305	●	M4 x 0.7	H4	54.00	11.10	20.60	4.27	3.33	6.35	3
1111500405	●	M4 x 0.7	H5	54.00	11.10	20.60	4.27	3.33	6.35	3
1111501605	●	M4 x 0.7	H6	54.00	11.10	20.60	4.27	3.33	6.35	3
1111501705	●	M4 x 0.7	H7	54.00	11.10	20.60	4.27	3.33	6.35	3
1111501805	●	M4 x 0.7	H8	54.00	11.10	20.60	4.27	3.33	6.35	3
1111501905	●	M4 x 0.7	H9	54.00	11.10	20.60	4.27	3.33	6.35	3
1111502005	●	M4 x 0.7	H10	54.00	11.10	20.60	4.27	3.33	6.35	3
1111502105	●	M4 x 0.7	H11	54.00	11.10	20.60	4.27	3.33	6.35	3
1111500505	●	M5 x 0.8	H4	60.30	12.70	25.40	4.93	3.86	6.35	3
1111500605	●	M5 x 0.8	H5	60.30	12.70	25.40	4.93	3.86	6.35	3
1111502205	●	M5 x 0.8	H6	60.30	12.70	25.40	4.93	3.86	6.35	3
1111502305	●	M5 x 0.8	H7	60.30	12.70	25.40	4.93	3.86	6.35	3
1111502405	●	M5 x 0.8	H8	60.30	12.70	25.40	4.93	3.86	6.35	3
1111502505	●	M5 x 0.8	H9	60.30	12.70	25.40	4.93	3.86	6.35	3
1111502605	●	M5 x 0.8	H10	60.30	12.70	25.40	4.93	3.86	6.35	3
1111502705	●	M5 x 0.8	H11	60.30	12.70	25.40	4.93	3.86	6.35	3
1111500705	●	M6 x 1	H5	63.50	14.30	28.60	6.48	4.85	7.94	3
1111502805	●	M6 x 1	H6	63.50	14.30	28.60	6.48	4.85	7.94	3
1111502905	●	M6 x 1	H7	63.50	14.30	28.60	6.48	4.85	7.94	3
1111503005	●	M6 x 1	H8	63.50	14.30	28.60	6.48	4.85	7.94	3
1111503105	●	M6 x 1	H9	63.50	14.30	28.60	6.48	4.85	7.94	3
1111503205	●	M6 x 1	H10	63.50	14.30	28.60	6.48	4.85	7.94	3
1111503305	●	M6 x 1	H11	63.50	14.30	28.60	6.48	4.85	7.94	3
1111503405	●	M6 x 1	H12	63.50	14.30	28.60	6.48	4.85	7.94	3
1111507005	●	M8 x 1	H5	69.00	15.00	29.50	8.08	6.05	9.53	3
1111507105	●	M8 x 1	H6	69.00	15.00	29.50	8.08	6.05	9.53	3
1111507205	●	M8 x 1	H7	69.00	15.00	29.50	8.08	6.05	9.53	3
1111507305	●	M8 x 1	H8	69.00	15.00	29.50	8.08	6.05	9.53	3
1111507405	●	M8 x 1	H9	69.00	15.00	29.50	8.08	6.05	9.53	3
1111507505	●	M8 x 1	H10	69.00	15.00	29.50	8.08	6.05	9.53	3
1111507605	●	M8 x 1	H11	69.00	15.00	29.50	8.08	6.05	9.53	3
1111500805	●	M8 x 1.25	H5	69.00	17.60	31.90	8.08	6.05	9.53	3
1111503505	●	M8 x 1.25	H6	69.00	17.60	31.90	8.08	6.05	9.53	3
1111503605	●	M8 x 1.25	H7	69.00	17.60	31.90	8.08	6.05	9.53	3
1111503705	●	M8 x 1.25	H8	69.00	17.60	31.90	8.08	6.05	9.53	3
1111503805	●	M8 x 1.25	H9	69.00	17.60	31.90	8.08	6.05	9.53	3
1111503905	●	M8 x 1.25	H10	69.00	17.60	31.90	8.08	6.05	9.53	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: List 11115 metric taps are manufactured to H-limits rather than D-limits.

HYT

CONTINUED ›

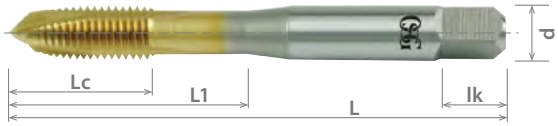
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM	40-80 SFM	40-65 SFM	8-15 SFM	8-15 SFM	15-35 SFM			

○ Good ◎ Best

List 11115 (Continued)

HY-PRO® AERO-F

SPIRAL POINT | HSS-Co | TiN | C/4.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1111504005	●	M8 x 1.25	H11	69.00	17.60	31.90	8.08	6.05	9.53	3
1111504105	●	M8 x 1.25	H12	69.00	17.60	31.90	8.08	6.05	9.53	3
1111504205	●	M10 x 1.25	H5	74.60	19.10	34.80	9.68	7.26	11.11	3
1111504305	●	M10 x 1.25	H6	74.60	19.10	34.80	9.68	7.26	11.11	3
1111504405	●	M10 x 1.25	H7	74.60	19.10	34.80	9.68	7.26	11.11	3
1111504505	●	M10 x 1.25	H8	74.60	19.10	34.80	9.68	7.26	11.11	3
1111504605	●	M10 x 1.25	H9	74.60	19.10	34.80	9.68	7.26	11.11	3
1111504705	●	M10 x 1.25	H10	74.60	19.10	34.80	9.68	7.26	11.11	3
1111504805	●	M10 x 1.25	H11	74.60	19.10	34.80	9.68	7.26	11.11	3
1111504905	●	M10 x 1.5	H5	74.60	22.20	35.00	9.68	7.26	11.11	3
1111505005	●	M10 x 1.5	H6	74.60	22.20	35.00	9.68	7.26	11.11	3
1111505105	●	M10 x 1.5	H7	74.60	22.20	35.00	9.68	7.26	11.11	3
1111505205	●	M10 x 1.5	H8	74.60	22.20	35.00	9.68	7.26	11.11	3
1111505305	●	M10 x 1.5	H9	74.60	22.20	35.00	9.68	7.26	11.11	3
1111505405	●	M10 x 1.5	H10	74.60	22.20	35.00	9.68	7.26	11.11	3
1111505505	●	M10 x 1.5	H11	74.60	22.20	35.00	9.68	7.26	11.11	3
1111505605	●	M10 x 1.5	H12	74.60	22.20	35.00	9.68	7.26	11.11	3
1111505705	●	M12 x 1.25	H5	85.70	19.10	35.00	9.32	6.99	11.11	3
1111505805	●	M12 x 1.25	H6	85.70	19.10	35.00	9.32	6.99	11.11	3
1111505905	●	M12 x 1.25	H7	85.70	19.10	35.00	9.32	6.99	11.11	3
1111506005	●	M12 x 1.25	H8	85.70	19.10	35.00	9.32	6.99	11.11	3
1111506105	●	M12 x 1.25	H9	85.70	19.10	35.00	9.32	6.99	11.11	3
1111506205	●	M12 x 1.25	H10	85.70	19.10	35.00	9.32	6.99	11.11	3
1111506305	●	M12 x 1.25	H11	85.70	19.10	35.00	9.32	6.99	11.11	3
1111506405	●	M12 x 1.5	H6	85.70	22.20	35.00	9.32	6.99	11.11	3
1111506505	●	M12 x 1.5	H7	85.70	22.20	35.00	9.32	6.99	11.11	3
1111506605	●	M12 x 1.5	H8	85.70	22.20	35.00	9.32	6.99	11.11	3
1111506705	●	M12 x 1.5	H9	85.70	22.20	35.00	9.32	6.99	11.11	3
1111506805	●	M12 x 1.5	H10	85.70	22.20	35.00	9.32	6.99	11.11	3
1111506905	●	M12 x 1.5	H11	85.70	22.20	35.00	9.32	6.99	11.11	3
1111507705	●	M12 x 1.75	H6	85.70	26.30	37.30	9.32	6.99	11.11	3
1111507805	●	M12 x 1.75	H7	85.70	26.30	37.30	9.32	6.99	11.11	3
1111507905	●	M12 x 1.75	H8	85.70	26.30	37.30	9.32	6.99	11.11	3
1111508005	●	M12 x 1.75	H9	85.70	26.30	37.30	9.32	6.99	11.11	3
1111508105	●	M12 x 1.75	H10	85.70	26.30	37.30	9.32	6.99	11.11	3
1111508205	●	M12 x 1.75	H11	85.70	26.30	37.30	9.32	6.99	11.11	3
1111508305	●	M14 x 1.5	H6	91.30	22.50	34.50	10.90	8.18	12.70	4
1111508405	●	M14 x 1.5	H7	91.30	22.50	34.50	10.90	8.18	12.70	4
1111508505	●	M14 x 1.5	H8	91.30	22.50	34.50	10.90	8.18	12.70	4
1111508605	●	M14 x 1.5	H9	91.30	22.50	34.50	10.90	8.18	12.70	4
1111508705	●	M14 x 1.5	H10	91.30	22.50	34.50	10.90	8.18	12.70	4
1111508805	●	M14 x 1.5	H11	91.30	22.50	34.50	10.90	8.18	12.70	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: List 11115 metric taps are manufactured to H-limits rather than D-limits.

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○			
25-80 SFM	20-50 SFM	20-45 SFM	20-50 SFM	15-30 SFM	20-45 SFM	20-45 SFM	15-20 SFM	25-75 SFM	40-80 SFM	40-65 SFM	8-15 SFM	8-15 SFM	15-35 SFM			

○ Good ◎ Best

List 11016

HY-PRO® AL-DIN-POT, DIN Overall Length

SPIRAL POINT | HSSE | N | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1101600103	●	No. 2 - 56 UNC	H2	1.772	0.437	0.476	0.141	0.110	0.188	2
1101600203	●	No. 4 - 40 UNC	H2	2.201	0.295	0.705	0.141	0.110	0.188	2
1101600303	●	No. 6 - 32 UNC	H3	2.201	0.370	0.783	0.141	0.110	0.188	3
1101600403	●	No. 8 - 32 UNC	H3	2.480	0.374	0.827	0.168	0.131	0.250	3
1101600503	●	No. 10 - 24 UNC	H3	2.748	0.492	1.059	0.194	0.152	0.250	3
1101600603	●	No. 10 - 32 UNF	H3	2.748	0.492	0.984	0.194	0.152	0.250	3
1101600703	●	1/4 - 20 UNC	H3	3.146	0.594	1.177	0.255	0.191	0.313	3
1101600803	●	1/4 - 20 UNC	H5	3.146	0.594	1.177	0.255	0.191	0.313	3
1101600903	●	1/4 - 28 UNF	H3	3.146	0.594	1.189	0.255	0.191	0.313	3
1101601003	●	5/16 - 18 UNC	H3	3.677	0.799	1.512	0.318	0.238	0.375	3
1101601103	●	5/16 - 18 UNC	H5	3.677	0.799	1.512	0.318	0.238	0.375	3
1101601203	●	5/16 - 24 UNF	H3	3.677	0.799	1.520	0.318	0.238	0.375	3
1101601303	●	3/8 - 16 UNC	H3	4.102	0.917	1.543	0.381	0.286	0.438	3
1101601403	●	3/8 - 16 UNC	H5	4.102	0.917	1.555	0.381	0.286	0.438	3
1101601503	●	3/8 - 24 UNF	H3	4.102	0.917	1.555	0.381	0.286	0.438	3
1101601603	●	7/16 - 14 UNC	H3	3.937	0.858	1.291	0.323	0.242	0.406	3
1101601703	●	7/16 - 14 UNC	H5	3.937	0.858	1.291	0.323	0.242	0.406	3
1101601803	●	7/16 - 20 UNF	H3	3.937	0.858	1.291	0.323	0.242	0.406	3
1101601903	●	1/2 - 13 UNC	H3	4.221	0.921	1.354	0.367	0.275	0.438	3
1101602003	●	1/2 - 13 UNC	H5	4.331	0.921	1.354	0.367	0.275	0.438	3
1101602103	●	1/2 - 20 UNF	H3	3.937	0.921	1.354	0.367	0.275	0.438	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 11116

SPIRAL POINT | HSSE | N | 3 FLUTE | C/4P | 0° | PACKED 1 PIECE

HY-PRO® AL-DIN-POT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1111600103	●	M3 x 0.5	D3	56.00	7.30	19.30	3.58	2.79	4.76
1111600303	●	M4 x 0.7	D4	63.00	10.10	22.70	4.27	3.33	6.35
1111600403	●	M5 x 0.8	D4	70.00	11.80	27.20	4.93	3.86	6.35
1111600503	●	M6 x 1	D5	80.00	14.60	32.60	6.48	4.85	7.94
1111600803	●	M8 x 1.25	D5	90.00	18.50	38.50	8.08	6.05	9.53
1111600903	●	M10 x 1.25	D5	100.00	22.50	43.50	9.68	7.26	11.11
1111601003	●	M10 x 1.5	D6	100.00	22.50	43.50	9.68	7.26	11.11
1111601103	●	M12 x 1.25	D5	100.00	21.00	32.00	9.32	6.99	11.11
1111601203	●	M12 x 1.5	D5	100.00	21.00	32.00	9.32	6.99	11.11
1111601303	●	M12 x 1.75	D6	110.00	21.00	32.00	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 11017

HY-PRO® V-DIN, DIN Overall Length

SPIRAL POINT | HSSE | V | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1101700108	●	No. 4 - 40 UNC	H2	2.205	0.303	0.713	0.141	0.110	0.188	2
1101700208	●	No. 6 - 32 UNC	H3	2.205	0.378	0.791	0.141	0.110	0.188	2
1101700308	●	No. 8 - 32 UNC	H3	2.480	0.382	0.835	0.168	0.131	0.250	3
1101700408	●	No. 10 - 24 UNC	H3	2.756	0.500	0.984	0.194	0.152	0.250	3
1101700508	●	No. 10 - 32 UNF	H3	2.756	0.500	0.992	0.194	0.152	0.250	3
1101700608	●	1/4 - 20 UNC	H3	3.150	0.602	1.185	0.255	0.191	0.313	3
1101700708	●	1/4 - 28 UNF	H3	3.150	0.602	1.197	0.255	0.191	0.313	3
1101700808	●	5/16 - 18 UNC	H3	3.543	0.669	1.382	0.318	0.238	0.375	3
1101700908	●	5/16 - 24 UNF	H3	3.543	0.669	1.390	0.318	0.238	0.375	3
1101701008	●	3/8 - 16 UNC	H3	3.937	0.760	1.386	0.381	0.286	0.438	3
1101701108	●	3/8 - 24 UNF	H3	3.937	0.760	1.398	0.381	0.286	0.438	3
1101701208	●	7/16 - 14 UNC	H3	3.937	0.894	1.291	0.323	0.242	0.406	3
1101701308	●	7/16 - 20 UNF	H3	3.937	0.858	1.291	0.323	0.242	0.406	3
1101701408	●	1/2 - 13 UNC	H3	4.331	0.961	1.354	0.367	0.275	0.438	3
1101701508	●	1/2 - 20 UNF	H3	3.937	0.921	1.354	0.367	0.275	0.438	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	○	◎					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 11117

HY-PRO® V-DIN-POT, DIN Overall Length

SPIRAL POINT | HSSE | V | 3 FLUTE | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)
1111700108	●	M3 x 0.5	D3	56.00	6.30	18.30	3.58	2.79	4.76
1111700308	●	M4 x 0.7	D4	63.00	8.60	21.20	4.27	3.33	6.35
1111700408	●	M5 x 0.8	D4	70.00	9.80	25.20	4.93	3.86	6.35
1111700508	●	M6 x 1	D5	80.00	12.20	30.20	6.48	4.85	7.94
1111700808	●	M8 x 1.25	D5	90.00	15.20	35.20	8.08	6.05	9.53
1111701008	●	M10 x 1.5	D6	100.00	18.20	39.20	9.68	7.26	11.11
1111701308	●	M12 x 1.75	D6	100.00	21.90	32.00	9.32	6.99	11.11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

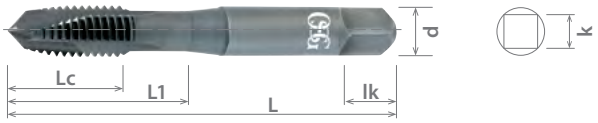
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	○	◎					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 280

HY-PRO® POT

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2805600	●	No. 2 - 56 UNC	H2	1.752	0.437	-	0.141	0.110	0.188	2	Bright
2805601	●	No. 2 - 56 UNC	H2	1.752	0.437	-	0.141	0.110	0.188	2	Steam Oxide
2805608	●	No. 2 - 56 UNC	H2	1.752	0.437	-	0.141	0.110	0.188	2	TiCN
2806000	●	No. 3 - 48 UNC	H2	1.811	0.500	-	0.141	0.110	0.188	2	Bright
2806001	●	No. 3 - 48 UNC	H2	1.811	0.500	-	0.141	0.110	0.188	2	Steam Oxide
2806008	●	No. 3 - 48 UNC	H2	1.811	0.500	-	0.141	0.110	0.188	2	TiCN
2806400	●	No. 4 - 40 UNC	H2	1.874	0.295	0.559	0.141	0.110	0.188	2	Bright
2806401	●	No. 4 - 40 UNC	H2	1.874	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
2806408	●	No. 4 - 40 UNC	H2	1.874	0.295	0.559	0.141	0.110	0.188	2	TiCN
2811400	●	No. 4 - 40 UNC	H3	1.874	0.295	0.559	0.141	0.110	0.188	2	Bright
2811401	●	No. 4 - 40 UNC	H3	1.874	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
2811408	●	No. 4 - 40 UNC	H3	1.874	0.295	0.559	0.141	0.110	0.188	2	TiCN
2816300	●	No. 4 - 40 UNC	H4	1.874	0.295	0.559	0.141	0.110	0.188	2	Bright
2816301	●	No. 4 - 40 UNC	H4	1.874	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
2816308	●	No. 4 - 40 UNC	H4	1.874	0.295	0.559	0.141	0.110	0.188	2	TiCN
2816400	●	No. 4 - 40 UNC	H5	1.874	0.295	0.559	0.141	0.110	0.188	2	Bright
2816401	●	No. 4 - 40 UNC	H5	1.874	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
2816408	●	No. 4 - 40 UNC	H5	1.874	0.295	0.559	0.141	0.110	0.188	2	TiCN
2816500	●	No. 4 - 48 UNF	H2	1.874	0.295	0.559	0.141	0.110	0.188	2	Bright
2816501	●	No. 4 - 48 UNF	H2	1.874	0.295	0.559	0.141	0.110	0.188	2	Steam Oxide
2816508	●	No. 4 - 48 UNF	H2	1.874	0.295	0.559	0.141	0.110	0.188	2	TiCN
2807000	●	No. 5 - 40 UNC	H2	1.937	0.299	0.626	0.141	0.110	0.188	2	Bright
2807001	●	No. 5 - 40 UNC	H2	1.937	0.299	0.626	0.141	0.110	0.188	2	Steam Oxide
2807008	●	No. 5 - 40 UNC	H2	1.937	0.299	0.626	0.141	0.110	0.188	2	TiCN
2807400	●	No. 6 - 32 UNC	H2	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2807401	●	No. 6 - 32 UNC	H2	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2807408	●	No. 6 - 32 UNC	H2	2.000	0.370	0.685	0.141	0.110	0.188	2	TiCN
2812400	●	No. 6 - 32 UNC	H3	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2812401	●	No. 6 - 32 UNC	H3	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2812408	●	No. 6 - 32 UNC	H3	2.000	0.370	0.685	0.141	0.110	0.188	2	TiCN
2812500	●	No. 6 - 32 UNC	H4	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2812501	●	No. 6 - 32 UNC	H4	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2812508	●	No. 6 - 32 UNC	H4	2.000	0.370	0.685	0.141	0.110	0.188	2	TiCN
2817400	●	No. 6 - 32 UNC	H5	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2817401	●	No. 6 - 32 UNC	H5	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2817408	●	No. 6 - 32 UNC	H5	2.000	0.370	0.685	0.141	0.110	0.188	2	TiCN
2817500	●	No. 6 - 32 UNC	H6	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2817501	●	No. 6 - 32 UNC	H6	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2817508	●	No. 6 - 32 UNC	H6	2.000	0.370	0.685	0.141	0.110	0.188	2	TiCN
2817600	●	No. 6 - 32 UNC	H7	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2817601	●	No. 6 - 32 UNC	H7	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2817608	●	No. 6 - 32 UNC	H7	2.000	0.370	0.685	0.141	0.110	0.188	2	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

CONTINUED ›

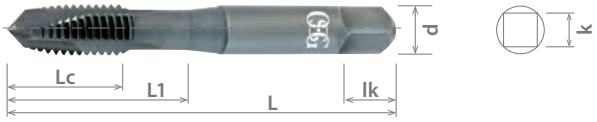
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 280 (Continued)

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE

HY-PRO® POT



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2817700	●	No. 6 - 32 UNC	H11	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2817701	●	No. 6 - 32 UNC	H11	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2817708	●	No. 6 - 32 UNC	H11	2.000	0.370	0.685	0.141	0.110	0.188	2	TiCN
2807600	●	No. 6 - 40 UNF	H2	2.000	0.370	0.685	0.141	0.110	0.188	2	Bright
2807601	●	No. 6 - 40 UNF	H2	2.000	0.370	0.685	0.141	0.110	0.188	2	Steam Oxide
2807608	●	No. 6 - 40 UNF	H2	2.000	0.370	0.685	0.141	0.110	0.188	2	TiCN
2807800	●	No. 8 - 32 UNC	H2	2.126	0.374	0.752	0.168	0.131	0.250	3	Bright
2807801	●	No. 8 - 32 UNC	H2	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide
2807808	●	No. 8 - 32 UNC	H2	2.126	0.374	0.752	0.168	0.131	0.250	3	TiCN
2812800	●	No. 8 - 32 UNC	H3	2.126	0.374	0.752	0.168	0.131	0.250	3	Bright
2812801	●	No. 8 - 32 UNC	H3	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide
2812808	●	No. 8 - 32 UNC	H3	2.126	0.374	0.752	0.168	0.131	0.250	3	TiCN
2812900	●	No. 8 - 32 UNC	H4	2.126	0.374	0.752	0.168	0.131	0.250	3	Bright
2812901	●	No. 8 - 32 UNC	H4	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide
2812908	●	No. 8 - 32 UNC	H4	2.126	0.374	0.752	0.168	0.131	0.250	3	TiCN
2817800	●	No. 8 - 32 UNC	H5	2.126	0.374	0.752	0.168	0.131	0.250	3	Bright
2817801	●	No. 8 - 32 UNC	H5	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide
2817808	●	No. 8 - 32 UNC	H5	2.126	0.374	0.752	0.168	0.131	0.250	3	TiCN
2817900	●	No. 8 - 32 UNC	H6	2.126	0.374	0.752	0.168	0.131	0.250	3	Bright
2817901	●	No. 8 - 32 UNC	H6	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide
2817908	●	No. 8 - 32 UNC	H6	2.126	0.374	0.752	0.168	0.131	0.250	3	TiCN
2818000	●	No. 8 - 32 UNC	H7	2.126	0.374	0.752	0.168	0.131	0.250	3	Bright
2818001	●	No. 8 - 32 UNC	H7	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide
2818008	●	No. 8 - 32 UNC	H7	2.126	0.374	0.752	0.168	0.131	0.250	3	TiCN
2818100	●	No. 8 - 32 UNC	H11	2.126	0.374	0.752	0.168	0.131	0.250	3	Bright
2818101	●	No. 8 - 32 UNC	H11	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide
2818108	●	No. 8 - 32 UNC	H11	2.126	0.374	0.752	0.168	0.131	0.250	3	TiCN
2808000	●	No. 8 - 36 UNF	H2	2.126	0.374	0.752	0.168	0.131	0.250	3	Bright
2808001	●	No. 8 - 36 UNF	H2	2.126	0.374	0.752	0.168	0.131	0.250	3	Steam Oxide
2808008	●	No. 8 - 36 UNF	H2	2.126	0.374	0.752	0.168	0.131	0.250	3	TiCN
2813400	●	No. 10 - 24 UNC	H3	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2813401	●	No. 10 - 24 UNC	H3	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2813408	●	No. 10 - 24 UNC	H3	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2818400	●	No. 10 - 24 UNC	H5	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2818401	●	No. 10 - 24 UNC	H5	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2818408	●	No. 10 - 24 UNC	H5	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2823400	●	No. 10 - 24 UNC	H11	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2823401	●	No. 10 - 24 UNC	H11	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2823408	●	No. 10 - 24 UNC	H11	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2808800	●	No. 10 - 32 UNF	H2	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2808801	●	No. 10 - 32 UNF	H2	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2808808	●	No. 10 - 32 UNF	H2	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2813800	●	No. 10 - 32 UNF	H3	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2813801	●	No. 10 - 32 UNF	H3	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2813808	●	No. 10 - 32 UNF	H3	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2813900	●	No. 10 - 32 UNF	H4	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2813901	●	No. 10 - 32 UNF	H4	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2813908	●	No. 10 - 32 UNF	H4	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2818800	●	No. 10 - 32 UNF	H5	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2818801	●	No. 10 - 32 UNF	H5	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2818808	●	No. 10 - 32 UNF	H5	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2818900	●	No. 10 - 32 UNF	H6	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2818901	●	No. 10 - 32 UNF	H6	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

List 280 (Continued)

HY-PRO® POT

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2818908	●	No. 10 - 32 UNF	H6	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2819000	●	No. 10 - 32 UNF	H7	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2819001	●	No. 10 - 32 UNF	H7	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2819008	●	No. 10 - 32 UNF	H7	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2819100	●	No. 10 - 32 UNF	H11	2.374	0.492	0.866	0.194	0.152	0.250	3	Bright
2819101	●	No. 10 - 32 UNF	H11	2.374	0.492	0.866	0.194	0.152	0.250	3	Steam Oxide
2819108	●	No. 10 - 32 UNF	H11	2.374	0.492	0.866	0.194	0.152	0.250	3	TiCN
2809000	●	No. 12 - 24 UNC	H3	2.374	0.496	0.933	0.220	0.165	0.281	3	Bright
2809001	●	No. 12 - 24 UNC	H3	2.374	0.496	0.933	0.220	0.165	0.281	3	Steam Oxide
2809008	●	No. 12 - 24 UNC	H3	2.374	0.496	0.933	0.220	0.165	0.281	3	TiCN
2809200	●	No. 12 - 28 UNF	H3	2.374	0.496	0.933	0.220	0.165	0.281	3	Bright
2809201	●	No. 12 - 28 UNF	H3	2.374	0.496	0.933	0.220	0.165	0.281	3	Steam Oxide
2809208	●	No. 12 - 28 UNF	H3	2.374	0.496	0.933	0.220	0.165	0.281	3	TiCN
2809400	●	1/4 - 20 UNC	H2	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2809401	●	1/4 - 20 UNC	H2	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2809408	●	1/4 - 20 UNC	H2	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2830000	●	1/4 - 20 UNC	H3	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2830001	●	1/4 - 20 UNC	H3	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2830008	●	1/4 - 20 UNC	H3	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2840000	●	1/4 - 20 UNC	H5	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2840001	●	1/4 - 20 UNC	H5	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2840008	●	1/4 - 20 UNC	H5	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2854800	●	1/4 - 20 UNC	H7	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2854801	●	1/4 - 20 UNC	H7	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2854808	●	1/4 - 20 UNC	H7	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2855000	●	1/4 - 20 UNC	H11	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2855001	●	1/4 - 20 UNC	H11	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2855008	●	1/4 - 20 UNC	H11	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2809600	●	1/4 - 28 UNF	H2	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2809601	●	1/4 - 28 UNF	H2	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2809608	●	1/4 - 28 UNF	H2	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2830400	●	1/4 - 28 UNF	H3	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2830401	●	1/4 - 28 UNF	H3	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2830408	●	1/4 - 28 UNF	H3	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2835400	●	1/4 - 28 UNF	H4	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2835401	●	1/4 - 28 UNF	H4	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2835408	●	1/4 - 28 UNF	H4	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2840400	●	1/4 - 28 UNF	H5	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2840401	●	1/4 - 28 UNF	H5	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2840408	●	1/4 - 28 UNF	H5	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2840500	●	1/4 - 28 UNF	H6	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2840501	●	1/4 - 28 UNF	H6	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2840508	●	1/4 - 28 UNF	H6	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2840600	●	1/4 - 28 UNF	H7	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2840601	●	1/4 - 28 UNF	H7	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide
2840608	●	1/4 - 28 UNF	H7	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2840700	●	1/4 - 28 UNF	H11	2.500	0.594	0.996	0.255	0.191	0.313	3	Bright
2840701	●	1/4 - 28 UNF	H11	2.500	0.594	0.996	0.255	0.191	0.313	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

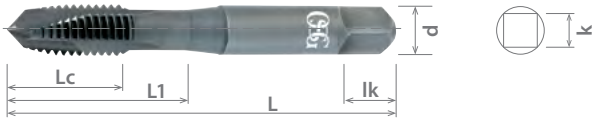
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 280 (Continued)

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE

HY-PRO® POT



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2840708	●	1/4 - 28 UNF	H11	2.500	0.594	0.996	0.255	0.191	0.313	3	TiCN
2830800	●	5/16 - 18 UNC	H3	2.720	0.665	1.126	0.318	0.238	0.375	3	Bright
2830801	●	5/16 - 18 UNC	H3	2.720	0.665	1.126	0.318	0.238	0.375	3	Steam Oxide
2830808	●	5/16 - 18 UNC	H3	2.720	0.665	1.126	0.318	0.238	0.375	3	TiCN
2840800	●	5/16 - 18 UNC	H5	2.720	0.665	1.126	0.318	0.238	0.375	3	Bright
2840801	●	5/16 - 18 UNC	H5	2.720	0.665	1.126	0.318	0.238	0.375	3	Steam Oxide
2840808	●	5/16 - 18 UNC	H5	2.720	0.665	1.126	0.318	0.238	0.375	3	TiCN
2855600	●	5/16 - 18 UNC	H7	2.720	0.665	1.126	0.318	0.238	0.375	3	Bright
2855601	●	5/16 - 18 UNC	H7	2.720	0.665	1.126	0.318	0.238	0.375	3	Steam Oxide
2855608	●	5/16 - 18 UNC	H7	2.720	0.665	1.126	0.318	0.238	0.375	3	TiCN
2855800	●	5/16 - 18 UNC	H11	2.720	0.665	1.126	0.318	0.238	0.375	3	Bright
2855801	●	5/16 - 18 UNC	H11	2.720	0.665	1.126	0.318	0.238	0.375	3	Steam Oxide
2855808	●	5/16 - 18 UNC	H11	2.720	0.665	1.126	0.318	0.238	0.375	3	TiCN
2826400	●	5/16 - 24 UNF	H2	2.720	0.657	1.118	0.318	0.238	0.375	3	Bright
2826401	●	5/16 - 24 UNF	H2	2.720	0.657	1.118	0.318	0.238	0.375	3	Steam Oxide
2826408	●	5/16 - 24 UNF	H2	2.720	0.657	1.118	0.318	0.238	0.375	3	TiCN
2831200	●	5/16 - 24 UNF	H3	2.720	0.657	1.118	0.318	0.238	0.375	3	Bright
2831201	●	5/16 - 24 UNF	H3	2.720	0.657	1.118	0.318	0.238	0.375	3	Steam Oxide
2831208	●	5/16 - 24 UNF	H3	2.720	0.657	1.118	0.318	0.238	0.375	3	TiCN
2836200	●	5/16 - 24 UNF	H4	2.720	0.657	1.118	0.318	0.238	0.375	3	Bright
2836201	●	5/16 - 24 UNF	H4	2.720	0.657	1.118	0.318	0.238	0.375	3	Steam Oxide
2836208	●	5/16 - 24 UNF	H4	2.720	0.657	1.118	0.318	0.238	0.375	3	TiCN
2841200	●	5/16 - 24 UNF	H5	2.720	0.657	1.118	0.318	0.238	0.375	3	Bright
2841201	●	5/16 - 24 UNF	H5	2.720	0.657	1.118	0.318	0.238	0.375	3	Steam Oxide
2841208	●	5/16 - 24 UNF	H5	2.720	0.657	1.118	0.318	0.238	0.375	3	TiCN
2841300	●	5/16 - 24 UNF	H6	2.720	0.657	1.118	0.318	0.238	0.375	3	Bright
2841301	●	5/16 - 24 UNF	H6	2.720	0.657	1.118	0.318	0.238	0.375	3	Steam Oxide
2841308	●	5/16 - 24 UNF	H6	2.720	0.657	1.118	0.318	0.238	0.375	3	TiCN
2841400	●	5/16 - 24 UNF	H7	2.720	0.657	1.118	0.318	0.238	0.375	3	Bright
2841401	●	5/16 - 24 UNF	H7	2.720	0.657	1.118	0.318	0.238	0.375	3	Steam Oxide
2841408	●	5/16 - 24 UNF	H7	2.720	0.657	1.118	0.318	0.238	0.375	3	TiCN
2841500	●	5/16 - 24 UNF	H11	2.720	0.657	1.118	0.318	0.238	0.375	3	Bright
2841501	●	5/16 - 24 UNF	H11	2.720	0.657	1.118	0.318	0.238	0.375	3	Steam Oxide
2841508	●	5/16 - 24 UNF	H11	2.720	0.657	1.118	0.318	0.238	0.375	3	TiCN
2831600	●	3/8 - 16 UNC	H3	2.937	0.752	1.252	0.381	0.286	0.438	3	Bright
2831601	●	3/8 - 16 UNC	H3	2.937	0.752	1.252	0.381	0.286	0.438	3	Steam Oxide
2831608	●	3/8 - 16 UNC	H3	2.937	0.752	1.252	0.381	0.286	0.438	3	TiCN
2841600	●	3/8 - 16 UNC	H5	2.937	0.752	1.252	0.381	0.286	0.438	3	Bright
2841601	●	3/8 - 16 UNC	H5	2.937	0.752	1.252	0.381	0.286	0.438	3	Steam Oxide
2841608	●	3/8 - 16 UNC	H5	2.937	0.752	1.252	0.381	0.286	0.438	3	TiCN
2856400	●	3/8 - 16 UNC	H7	2.937	0.752	1.252	0.381	0.286	0.438	3	Bright
2856401	●	3/8 - 16 UNC	H7	2.937	0.752	1.252	0.381	0.286	0.438	3	Steam Oxide
2856408	●	3/8 - 16 UNC	H7	2.937	0.752	1.252	0.381	0.286	0.438	3	TiCN
2856600	●	3/8 - 16 UNC	H11	2.937	0.752	1.252	0.381	0.286	0.438	3	Bright
2856601	●	3/8 - 16 UNC	H11	2.937	0.752	1.252	0.381	0.286	0.438	3	Steam Oxide
2856608	●	3/8 - 16 UNC	H11	2.937	0.752	1.252	0.381	0.286	0.438	3	TiCN
2826800	●	3/8 - 24 UNF	H2	2.937	0.740	1.240	0.381	0.286	0.438	3	Bright
2826801	●	3/8 - 24 UNF	H2	2.937	0.740	1.240	0.381	0.286	0.438	3	Steam Oxide
2826808	●	3/8 - 24 UNF	H2	2.937	0.740	1.240	0.381	0.286	0.438	3	TiCN
2831800	●	3/8 - 24 UNF	H3	2.937	0.740	1.240	0.381	0.286	0.438	3	Bright
2831801	●	3/8 - 24 UNF	H3	2.937	0.740	1.240	0.381	0.286	0.438	3	Steam Oxide
2831808	●	3/8 - 24 UNF	H3	2.937	0.740	1.240	0.381	0.286	0.438	3	TiCN
2836800	●	3/8 - 24 UNF	H4	2.937	0.740	1.240	0.381	0.286	0.438	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

List 280 (Continued)

HY-PRO® POT

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2836801	●	3/8 - 24 UNF	H4	2.937	0.740	1.240	0.381	0.286	0.438	3	Steam Oxide
2836808	●	3/8 - 24 UNF	H4	2.937	0.740	1.240	0.381	0.286	0.438	3	TiCN
2841800	●	3/8 - 24 UNF	H5	2.937	0.740	1.240	0.381	0.286	0.438	3	Bright
2841801	●	3/8 - 24 UNF	H5	2.937	0.740	1.240	0.381	0.286	0.438	3	Steam Oxide
2841808	●	3/8 - 24 UNF	H5	2.937	0.740	1.240	0.381	0.286	0.438	3	TiCN
2841900	●	3/8 - 24 UNF	H6	2.937	0.740	1.240	0.381	0.286	0.438	3	Bright
2841901	●	3/8 - 24 UNF	H6	2.937	0.740	1.240	0.381	0.286	0.438	3	Steam Oxide
2841908	●	3/8 - 24 UNF	H6	2.937	0.740	1.240	0.381	0.286	0.438	3	TiCN
2841700	●	3/8 - 24 UNF	H7	2.937	0.740	1.240	0.381	0.286	0.438	3	Bright
2841701	●	3/8 - 24 UNF	H7	2.937	0.740	1.240	0.381	0.286	0.438	3	Steam Oxide
2841708	●	3/8 - 24 UNF	H7	2.937	0.740	1.240	0.381	0.286	0.438	3	TiCN
2856800	●	3/8 - 24 UNF	H11	2.937	0.740	1.240	0.381	0.286	0.438	3	Bright
2856801	●	3/8 - 24 UNF	H11	2.937	0.740	1.240	0.381	0.286	0.438	3	Steam Oxide
2856808	●	3/8 - 24 UNF	H11	2.937	0.740	1.240	0.381	0.286	0.438	3	TiCN
2832000	●	7/16 - 14 UNC	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	Bright
2832001	●	7/16 - 14 UNC	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
2832008	●	7/16 - 14 UNC	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	TiCN
2842000	●	7/16 - 14 UNC	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	Bright
2842001	●	7/16 - 14 UNC	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
2842008	●	7/16 - 14 UNC	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	TiCN
2842100	●	7/16 - 14 UNC	H7	3.157	0.858	1.291	0.323	0.242	0.406	3	Bright
2842101	●	7/16 - 14 UNC	H7	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
2842108	●	7/16 - 14 UNC	H7	3.157	0.858	1.291	0.323	0.242	0.406	3	TiCN
2842300	●	7/16 - 14 UNC	H11	3.157	0.858	1.291	0.323	0.242	0.406	3	Bright
2842301	●	7/16 - 14 UNC	H11	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
2842308	●	7/16 - 14 UNC	H11	3.157	0.858	1.291	0.323	0.242	0.406	3	TiCN
2832200	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	Bright
2832201	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
2832208	●	7/16 - 20 UNF	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	TiCN
2842200	●	7/16 - 20 UNF	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	Bright
2842201	●	7/16 - 20 UNF	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
2842208	●	7/16 - 20 UNF	H5	3.157	0.858	1.291	0.323	0.242	0.406	3	TiCN
2842500	●	7/16 - 20 UNF	H7	3.157	0.858	1.291	0.323	0.242	0.406	3	Bright
2842501	●	7/16 - 20 UNF	H7	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
2842508	●	7/16 - 20 UNF	H7	3.157	0.858	1.291	0.323	0.242	0.406	3	TiCN
2843000	●	7/16 - 20 UNF	H11	3.157	0.858	1.291	0.323	0.242	0.406	3	Bright
2843001	●	7/16 - 20 UNF	H11	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
2843008	●	7/16 - 20 UNF	H11	3.157	0.858	1.291	0.323	0.242	0.406	3	TiCN
2832400	●	1/2 - 13 UNC	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright
2832401	●	1/2 - 13 UNC	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2832408	●	1/2 - 13 UNC	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2842400	●	1/2 - 13 UNC	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright
2842401	●	1/2 - 13 UNC	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2842408	●	1/2 - 13 UNC	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2842800	●	1/2 - 13 UNC	H7	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright
2842801	●	1/2 - 13 UNC	H7	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2842808	●	1/2 - 13 UNC	H7	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2857400	●	1/2 - 13 UNC	H11	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 280 (Continued)

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE

HY-PRO® POT



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2857401	●	1/2 - 13 UNC	H11	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2857408	●	1/2 - 13 UNC	H11	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2827600	●	1/2 - 20 UNF	H2	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright
2827601	●	1/2 - 20 UNF	H2	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2827608	●	1/2 - 20 UNF	H2	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2832600	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright
2832601	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2832608	●	1/2 - 20 UNF	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2842600	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright
2842601	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2842608	●	1/2 - 20 UNF	H5	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2842700	●	1/2 - 20 UNF	H7	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright
2842701	●	1/2 - 20 UNF	H7	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2842708	●	1/2 - 20 UNF	H7	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2842900	●	1/2 - 20 UNF	H11	3.374	0.921	1.354	0.367	0.275	0.438	3	Bright
2842901	●	1/2 - 20 UNF	H11	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
2842908	●	1/2 - 20 UNF	H11	3.374	0.921	1.354	0.367	0.275	0.438	3	TiCN
2857600	●	9/16 - 12 UNC	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	Bright
2857601	●	9/16 - 12 UNC	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide
2857608	●	9/16 - 12 UNC	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	TiCN
2857800	●	9/16 - 18 UNF	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	Bright
2857801	●	9/16 - 18 UNF	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide
2857808	●	9/16 - 18 UNF	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	TiCN
2833200	●	5/8 - 11 UNC	H3	3.811	1.091	1.563	0.480	0.360	0.563	3	Bright
2833201	●	5/8 - 11 UNC	H3	3.811	1.091	1.563	0.480	0.360	0.563	3	Steam Oxide
2833208	●	5/8 - 11 UNC	H3	3.811	1.091	1.563	0.480	0.360	0.563	3	TiCN
2843200	●	5/8 - 11 UNC	H5	3.811	1.091	1.563	0.480	0.360	0.563	3	Bright
2843201	●	5/8 - 11 UNC	H5	3.811	1.091	1.563	0.480	0.360	0.563	3	Steam Oxide
2843208	●	5/8 - 11 UNC	H5	3.811	1.091	1.563	0.480	0.360	0.563	3	TiCN
2833400	●	5/8 - 18 UNF	H3	3.811	1.091	1.563	0.480	0.360	0.563	3	Bright
2833401	●	5/8 - 18 UNF	H3	3.811	1.091	1.563	0.480	0.360	0.563	3	Steam Oxide
2833408	●	5/8 - 18 UNF	H3	3.811	1.091	1.563	0.480	0.360	0.563	3	TiCN
2843400	●	5/8 - 18 UNF	H5	3.811	1.091	1.563	0.480	0.360	0.563	3	Bright
2843401	●	5/8 - 18 UNF	H5	3.811	1.091	1.563	0.480	0.360	0.563	3	Steam Oxide
2843408	●	5/8 - 18 UNF	H5	3.811	1.091	1.563	0.480	0.360	0.563	3	TiCN
2858000	●	5/8 - 18 UNF	H7	3.811	1.091	1.563	0.480	0.360	0.563	3	Bright
2858001	●	5/8 - 18 UNF	H7	3.811	1.091	1.563	0.480	0.360	0.563	3	Steam Oxide
2858008	●	5/8 - 18 UNF	H7	3.811	1.091	1.563	0.480	0.360	0.563	3	TiCN
2833600	●	3/4 - 10 UNC	H3	4.252	1.201	1.713	0.590	0.442	0.688	3	Bright
2833601	●	3/4 - 10 UNC	H3	4.252	1.201	1.713	0.590	0.442	0.688	3	Steam Oxide
2833608	●	3/4 - 10 UNC	H3	4.252	1.201	1.713	0.590	0.442	0.688	3	TiCN
2843600	●	3/4 - 10 UNC	H5	4.252	1.201	1.713	0.590	0.442	0.688	3	Bright
2843601	●	3/4 - 10 UNC	H5	4.252	1.201	1.713	0.590	0.442	0.688	3	Steam Oxide
2843608	●	3/4 - 10 UNC	H5	4.252	1.201	1.713	0.590	0.442	0.688	3	TiCN
2833800	●	3/4 - 16 UNF	H3	4.252	1.201	1.713	0.590	0.442	0.688	3	Bright
2833801	●	3/4 - 16 UNF	H3	4.252	1.201	1.713	0.590	0.442	0.688	3	Steam Oxide
2833808	●	3/4 - 16 UNF	H3	4.252	1.201	1.713	0.590	0.442	0.688	3	TiCN
2843800	●	3/4 - 16 UNF	H5	4.252	1.201	1.713	0.590	0.442	0.688	3	Bright
2843801	●	3/4 - 16 UNF	H5	4.252	1.201	1.713	0.590	0.442	0.688	3	Steam Oxide
2843808	●	3/4 - 16 UNF	H5	4.252	1.201	1.713	0.590	0.442	0.688	3	TiCN
2844000	●	7/8 - 9 UNC	H5	4.689	1.335	1.886	0.697	0.523	0.750	3	Bright
2844001	●	7/8 - 9 UNC	H5	4.689	1.335	1.886	0.697	0.523	0.750	3	Steam Oxide
2844008	●	7/8 - 9 UNC	H5	4.689	1.335	1.886	0.697	0.523	0.750	3	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

List 280 (Continued)

HY-PRO® POT

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2839200	●	7/8 - 14 UNF	H4	4.689	1.335	1.886	0.697	0.523	0.750	3	Bright
2839201	●	7/8 - 14 UNF	H4	4.689	1.335	1.886	0.697	0.523	0.750	3	Steam Oxide
2839208	●	7/8 - 14 UNF	H4	4.689	1.335	1.886	0.697	0.523	0.750	3	TiCN
2844400	●	1 - 8 UNC	H5	5.126	1.500	2.091	0.800	0.600	0.813	4	Bright
2844401	●	1 - 8 UNC	H5	5.126	1.500	2.091	0.800	0.600	0.813	4	Steam Oxide
2844408	●	1 - 8 UNC	H5	5.126	1.500	2.091	0.800	0.600	0.813	4	TiCN
2839600	●	1 - 12 UNF	H4	5.126	1.500	2.091	0.800	0.600	0.813	4	Bright
2839601	●	1 - 12 UNF	H4	5.126	1.500	2.091	0.800	0.600	0.813	4	Steam Oxide
2839608	●	1 - 12 UNF	H4	5.126	1.500	2.091	0.800	0.600	0.813	4	TiCN
2849801	●	1- 1/8 - 7 UNC	H6	5.437	1.713	2.303	0.896	0.672	0.875	4	Steam Oxide
2850201	●	1- 1/8 - 8 UN	H6	5.437	1.713	2.303	0.896	0.672	0.875	4	Steam Oxide
2845001	●	1- 1/8 - 12 UNF	H5	5.437	1.713	2.303	0.896	0.672	0.875	4	Steam Oxide
2850401	●	1- 1/4 - 7 UNC	H6	5.752	1.713	2.382	1.021	0.766	1.000	4	Steam Oxide
2850801	●	1- 1/4 - 8 UN	H6	5.752	1.713	2.382	1.021	0.766	1.000	4	Steam Oxide
2845601	●	1- 1/4 - 12 UNF	H5	5.752	1.713	2.382	1.021	0.766	1.000	4	Steam Oxide
2851001	●	1- 3/8 - 6 UNC	H6	6.063	2.000	2.748	1.108	0.831	1.063	4	Steam Oxide
2851401	●	1- 3/8 - 8 UN	H6	6.063	2.000	2.748	1.108	0.831	1.063	4	Steam Oxide
2846201	●	1- 3/8 - 12 UNF	H5	6.063	2.000	2.748	1.108	0.831	1.063	4	Steam Oxide
2851601	●	1- 1/2 - 6 UNC	H6	6.374	2.000	2.787	1.233	0.925	1.125	4	Steam Oxide
2852001	●	1- 1/2 - 8 UN	H6	6.374	2.000	2.787	1.233	0.925	1.125	4	Steam Oxide
2846801	●	1- 1/2 - 12 UNF	H5	6.374	2.000	2.787	1.233	0.925	1.125	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

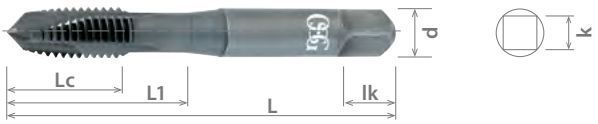
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 289

HY-PRO® POT

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
2890400	●	M3 x 0.5	D3	49.20	6.00	15.90	3.58	2.79	4.76	3	Bright
2890401	●	M3 x 0.5	D3	49.20	6.00	15.90	3.58	2.79	4.76	3	Steam Oxide
2890408	●	M3 x 0.5	D3	49.20	6.00	15.90	3.58	2.79	4.76	3	TiCN
2893101	●	M3 x 0.5	D11	49.20	6.00	15.90	3.58	2.79	4.76	3	Steam Oxide
2893108	●	M3 x 0.5	D11	49.20	6.00	15.90	3.58	2.79	4.76	3	TiCN
2890500	●	M3.5 x 0.6	D4	50.80	7.20	17.50	3.58	2.79	4.76	3	Bright
2890501	●	M3.5 x 0.6	D4	50.80	7.20	17.50	3.58	2.79	4.76	3	Steam Oxide
2890508	●	M3.5 x 0.6	D4	50.80	7.20	17.50	3.58	2.79	4.76	3	TiCN
2893301	●	M3.5 x 0.6	D11	50.80	7.20	17.50	3.58	2.79	4.76	3	Steam Oxide
2893308	●	M3.5 x 0.6	D11	50.80	7.20	17.50	3.58	2.79	4.76	3	TiCN
2890600	●	M4 x 0.7	D4	54.00	8.30	19.00	4.27	3.33	6.35	3	Bright
2890601	●	M4 x 0.7	D4	54.00	8.30	19.00	4.27	3.33	6.35	3	Steam Oxide
2890608	●	M4 x 0.7	D4	54.00	8.30	19.00	4.27	3.33	6.35	3	TiCN
2893501	●	M4 x 0.7	D11	54.00	8.30	19.00	4.27	3.33	6.35	3	Steam Oxide
2893508	●	M4 x 0.7	D11	54.00	8.30	19.00	4.27	3.33	6.35	3	TiCN
2890800	●	M5 x 0.8	D4	60.30	9.70	22.30	4.93	3.86	6.35	3	Bright
2890801	●	M5 x 0.8	D4	60.30	9.70	22.30	4.93	3.86	6.35	3	Steam Oxide
2890808	●	M5 x 0.8	D4	60.30	9.70	22.30	4.93	3.86	6.35	3	TiCN
2893701	●	M5 x 0.8	D11	60.30	9.70	22.30	4.93	3.86	6.35	3	Steam Oxide
2893708	●	M5 x 0.8	D11	60.30	9.70	22.30	4.93	3.86	6.35	3	TiCN
2891000	●	M6 x 1	D5	63.50	11.90	25.30	6.48	4.85	7.94	3	Bright
2891001	●	M6 x 1	D5	63.50	11.90	25.30	6.48	4.85	7.94	3	Steam Oxide
2891008	●	M6 x 1	D5	63.50	11.90	25.30	6.48	4.85	7.94	3	TiCN
2893901	●	M6 x 1	D11	63.50	11.90	25.30	6.48	4.85	7.94	3	Steam Oxide
2893908	●	M6 x 1	D11	63.50	11.90	25.30	6.48	4.85	7.94	3	TiCN
2891100	●	M7 x 1	D5	69.10	12.10	28.60	8.08	6.05	9.53	3	Bright
2891101	●	M7 x 1	D5	69.10	12.10	28.60	8.08	6.05	9.53	3	Steam Oxide
2891108	●	M7 x 1	D5	69.10	12.10	28.60	8.08	6.05	9.53	3	TiCN
2894101	●	M7 x 1	D11	69.10	12.10	28.60	8.08	6.05	9.53	3	Steam Oxide
2894108	●	M7 x 1	D11	69.10	12.10	28.60	8.08	6.05	9.53	3	TiCN
2891300	●	M8 x 1	D5	69.10	15.00	28.60	8.08	6.05	9.53	3	Bright
2891301	●	M8 x 1	D5	69.10	15.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2891308	●	M8 x 1	D5	69.10	15.00	28.60	8.08	6.05	9.53	3	TiCN
2894301	●	M8 x 1	D11	69.10	15.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2894308	●	M8 x 1	D11	69.10	15.00	28.60	8.08	6.05	9.53	3	TiCN
2891400	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	3	Bright
2891401	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2891408	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	3	TiCN
2894501	●	M8 x 1.25	D11	69.10	15.00	28.60	8.08	6.05	9.53	3	Steam Oxide
2894508	●	M8 x 1.25	D11	69.10	15.00	28.60	8.08	6.05	9.53	3	TiCN
2891600	●	M10 x 1	D5	74.60	18.00	31.80	9.68	7.26	11.11	3	Bright
2891601	●	M10 x 1	D5	74.60	18.00	31.80	9.68	7.26	11.11	3	Steam Oxide
2891608	●	M10 x 1	D5	74.60	18.00	31.80	9.68	7.26	11.11	3	TiCN
2894701	●	M10 x 1	D11	74.60	18.00	31.80	9.68	7.26	11.11	3	Steam Oxide
2894708	●	M10 x 1	D11	74.60	18.00	31.80	9.68	7.26	11.11	3	TiCN
2891700	●	M10 x 1.25	D5	74.60	18.00	31.80	9.68	7.26	11.11	3	Bright
2891701	●	M10 x 1.25	D5	74.60	18.00	31.80	9.68	7.26	11.11	3	Steam Oxide
2891708	●	M10 x 1.25	D5	74.60	18.00	31.80	9.68	7.26	11.11	3	TiCN
2894901	●	M10 x 1.25	D11	74.60	18.00	31.80	9.68	7.26	11.11	3	Steam Oxide
2894908	●	M10 x 1.25	D11	74.60	18.00	31.80	9.68	7.26	11.11	3	TiCN
2891800	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	3	Bright
2891801	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	3	Steam Oxide
2891808	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	3	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

List 289 (Continued)

HY-PRO® POT

SPIRAL POINT | HSSE | BR | S/O | TiCN | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
2895101	●	M10 x 1.5	D11	74.60	18.00	31.80	9.68	7.26	11.11	3	Steam Oxide
2895108	●	M10 x 1.5	D11	74.60	18.00	31.80	9.68	7.26	11.11	3	TiCN
2892100	●	M12 x 1.25	D5	85.70	21.00	32.00	9.32	6.99	11.11	3	Bright
2892101	●	M12 x 1.25	D5	85.70	21.00	32.00	9.32	6.99	11.11	3	Steam Oxide
2892108	●	M12 x 1.25	D5	85.70	21.00	32.00	9.32	6.99	11.11	3	TiCN
2895201	●	M12 x 1.25	D11	85.70	21.00	32.00	9.32	6.99	11.11	3	Steam Oxide
2895208	●	M12 x 1.25	D11	85.70	21.00	32.00	9.32	6.99	11.11	3	TiCN
2892200	●	M12 x 1.5	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	Bright
2892201	●	M12 x 1.5	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	Steam Oxide
2892208	●	M12 x 1.5	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	TiCN
2895501	●	M12 x 1.5	D11	85.70	21.00	32.00	9.32	6.99	11.11	3	Steam Oxide
2895508	●	M12 x 1.5	D11	85.70	21.00	32.00	9.32	6.99	11.11	3	TiCN
2892300	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	Bright
2892301	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	Steam Oxide
2892308	●	M12 x 1.75	D6	85.70	21.00	32.00	9.32	6.99	11.11	3	TiCN
2895701	●	M12 x 1.75	D11	85.70	21.00	32.00	9.32	6.99	11.11	3	Steam Oxide
2895708	●	M12 x 1.75	D11	85.70	21.00	32.00	9.32	6.99	11.11	3	TiCN
2892501	●	M14 x 1.5	D6	91.30	24.00	36.00	10.90	8.18	12.70	3	Steam Oxide
2892508	●	M14 x 1.5	D6	91.30	24.00	36.00	10.90	8.18	12.70	3	TiCN
2892601	●	M14 x 2	D7	91.30	24.00	36.00	10.90	8.18	12.70	3	Steam Oxide
2892608	●	M14 x 2	D7	91.30	24.00	36.00	10.90	8.18	12.70	3	TiCN
2892801	●	M16 x 1.5	D6	96.80	24.00	36.00	12.19	9.14	14.29	3	Steam Oxide
2892808	●	M16 x 1.5	D6	96.80	24.00	36.00	12.19	9.14	14.29	3	TiCN
2892901	●	M16 x 2	D7	96.80	24.00	36.00	12.19	9.14	14.29	3	Steam Oxide
2892908	●	M16 x 2	D7	96.80	24.00	36.00	12.19	9.14	14.29	3	TiCN
2893001	●	M18 x 1.5	D6	102.40	30.00	43.00	13.77	10.31	15.88	3	Steam Oxide
2893008	●	M18 x 1.5	D6	102.40	30.00	43.00	13.77	10.31	15.88	3	TiCN
2893201	●	M18 x 2.5	D7	102.40	30.00	43.00	13.77	10.31	15.88	3	Steam Oxide
2893208	●	M18 x 2.5	D7	102.40	30.00	43.00	13.77	10.31	15.88	3	TiCN
2893401	●	M20 x 1.5	D6	113.50	30.00	44.00	16.56	12.42	17.46	3	Steam Oxide
2893408	●	M20 x 1.5	D6	113.50	30.00	44.00	16.56	12.42	17.46	3	TiCN
2893601	●	M20 x 2.5	D8	113.50	30.00	44.00	16.56	12.42	17.46	3	Steam Oxide
2893608	●	M20 x 2.5	D8	113.50	30.00	44.00	16.56	12.42	17.46	3	TiCN
2893801	●	M22 x 1.5	D6	119.10	30.00	44.00	17.70	13.28	19.05	3	Steam Oxide
2894001	●	M22 x 2.5	D8	119.10	30.00	44.00	17.70	13.28	19.05	3	Steam Oxide
2894201	●	M24 x 1.5	D6	124.60	36.00	51.00	19.30	14.48	19.05	4	Steam Oxide
2894401	●	M24 x 3	D8	124.60	36.00	51.00	19.30	14.48	19.05	4	Steam Oxide
2894601	●	M27 x 1.5	D6	130.20	36.00	51.00	22.76	17.07	22.23	4	Steam Oxide
2894801	●	M27 x 3	D8	130.20	36.00	51.00	22.76	17.07	22.23	4	Steam Oxide
2895001	●	M30 x 1.5	D6	138.10	38.10	54.10	25.93	19.46	25.40	4	Steam Oxide
2895301	●	M30 x 3.5	D9	138.10	42.00	58.00	25.93	19.46	25.40	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

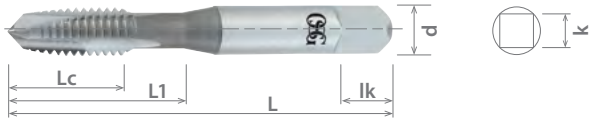
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	○	○	○	○	○					○			
50-90 SFM	40-80 SFM	40-60 SFM	40-80 SFM	20-60 SFM	40-80 SFM	40-80 SFM	30-50 SFM	30-80 SFM					20-60 SFM			

○ Good ◎ Best

List 287

HY-PRO® SEVEN POT

SPIRAL POINT | HSS | BR | S/O | TiN | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
2884100	●	No. 0 - 80 UNF	2B	1.625	0.311	-	0.141	0.110	0.188	2	Bright
2884101	●	No. 0 - 80 UNF	2B	1.625	0.311	-	0.141	0.110	0.188	2	Steam Oxide
2884105	●	No. 0 - 80 UNF	2B	1.625	0.311	-	0.141	0.110	0.188	2	TiN
2884200	●	No. 1 - 64 UNC	2B	1.688	0.374	-	0.141	0.110	0.188	2	Bright
2884201	●	No. 1 - 64 UNC	2B	1.688	0.374	-	0.141	0.110	0.188	2	Steam Oxide
2884205	●	No. 1 - 64 UNC	2B	1.688	0.374	-	0.141	0.110	0.188	2	TiN
2884300	●	No. 1 - 72 UNF	2B	1.688	0.374	-	0.141	0.110	0.188	2	Bright
2884301	●	No. 1 - 72 UNF	2B	1.688	0.374	-	0.141	0.110	0.188	2	Steam Oxide
2884305	●	No. 1 - 72 UNF	2B	1.688	0.374	-	0.141	0.110	0.188	2	TiN
2884400	●	No. 2 - 56 UNC	2B	1.750	0.437	-	0.141	0.110	0.188	2	Bright
2884401	●	No. 2 - 56 UNC	2B	1.750	0.437	-	0.141	0.110	0.188	2	Steam Oxide
2884405	●	No. 2 - 56 UNC	2B	1.750	0.437	-	0.141	0.110	0.188	2	TiN
2884500	●	No. 3 - 48 UNC	2B	1.813	0.496	-	0.141	0.110	0.188	2	Bright
2884501	●	No. 3 - 48 UNC	2B	1.813	0.496	-	0.141	0.110	0.188	2	Steam Oxide
2884505	●	No. 3 - 48 UNC	2B	1.813	0.496	-	0.141	0.110	0.188	2	TiN
2884600	●	No. 3 - 56 UNF	2B	1.813	0.496	-	0.141	0.110	0.188	2	Bright
2884601	●	No. 3 - 56 UNF	2B	1.813	0.496	-	0.141	0.110	0.188	2	Steam Oxide
2884605	●	No. 3 - 56 UNF	2B	1.813	0.496	-	0.141	0.110	0.188	2	TiN
2880000	●	No. 4 - 40 UNC	3B	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
2885000	●	No. 4 - 40 UNC	2B	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
2880001	●	No. 4 - 40 UNC	3B	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
2885001	●	No. 4 - 40 UNC	2B	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
2880005	●	No. 4 - 40 UNC	3B	1.875	0.319	0.559	0.141	0.110	0.188	2	TiN
2885005	●	No. 4 - 40 UNC	2B	1.875	0.319	0.559	0.141	0.110	0.188	2	TiN
2886400	●	No. 4 - 48 UNF	2B	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
2886401	●	No. 4 - 48 UNF	2B	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
2886405	●	No. 4 - 48 UNF	2B	1.875	0.319	0.559	0.141	0.110	0.188	2	TiN
2886500	●	No. 5 - 40 UNC	2B	1.938	0.323	0.618	0.141	0.110	0.188	2	Bright
2886501	●	No. 5 - 40 UNC	2B	1.938	0.323	0.618	0.141	0.110	0.188	2	Steam Oxide
2886505	●	No. 5 - 40 UNC	2B	1.938	0.323	0.618	0.141	0.110	0.188	2	TiN
2880200	●	No. 6 - 32 UNC	3B	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
2885200	●	No. 6 - 32 UNC	2B	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
2880201	●	No. 6 - 32 UNC	3B	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
2885201	●	No. 6 - 32 UNC	2B	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
2880205	●	No. 6 - 32 UNC	3B	2.000	0.390	0.685	0.141	0.110	0.188	2	TiN
2885205	●	No. 6 - 32 UNC	2B	2.000	0.390	0.685	0.141	0.110	0.188	2	TiN
2886600	●	No. 6 - 40 UNF	2B	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
2886601	●	No. 6 - 40 UNF	2B	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
2886605	●	No. 6 - 40 UNF	2B	2.000	0.390	0.685	0.141	0.110	0.188	2	TiN
2880300	●	No. 8 - 32 UNC	3B	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
2885300	●	No. 8 - 32 UNC	2B	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
2880301	●	No. 8 - 32 UNC	3B	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
2885301	●	No. 8 - 32 UNC	2B	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
2880305	●	No. 8 - 32 UNC	3B	2.125	0.390	0.756	0.168	0.131	0.250	2	TiN
2885305	●	No. 8 - 32 UNC	2B	2.125	0.390	0.756	0.168	0.131	0.250	2	TiN
2886700	●	No. 8 - 36 UNF	2B	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
2886701	●	No. 8 - 36 UNF	2B	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
2886705	●	No. 8 - 36 UNF	2B	2.125	0.390	0.756	0.168	0.131	0.250	2	TiN
2880400	●	No. 10 - 24 UNC	3B	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
2885400	●	No. 10 - 24 UNC	2B	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
2880401	●	No. 10 - 24 UNC	3B	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
2885401	●	No. 10 - 24 UNC	2B	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
2880405	●	No. 10 - 24 UNC	3B	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 287 (Continued)

HY-PRO® SEVEN POT

SPIRAL POINT | HSS | BR | S/O | TiN | C/5P | 0° | PACKED 1 PIECE

EDP		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
2885405	●	No. 10 - 24 UNC	2B	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN
2880500	●	No. 10 - 32 UNF	3B	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
2885500	●	No. 10 - 32 UNF	2B	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
2880501	●	No. 10 - 32 UNF	3B	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
2885501	●	No. 10 - 32 UNF	2B	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
2880505	●	No. 10 - 32 UNF	3B	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN
2885505	●	No. 10 - 32 UNF	2B	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN
2886800	●	No. 12 - 24 UNC	2B	2.375	0.508	0.937	0.220	0.165	0.281	2	Bright
2886801	●	No. 12 - 24 UNC	2B	2.375	0.508	0.937	0.220	0.165	0.281	2	Steam Oxide
2886805	●	No. 12 - 24 UNC	2B	2.375	0.508	0.937	0.220	0.165	0.281	2	TiN
2880600	●	1/4 - 20 UNC	3B	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
2885600	●	1/4 - 20 UNC	2B	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
2880601	●	1/4 - 20 UNC	3B	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
2885601	●	1/4 - 20 UNC	2B	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
2880605	●	1/4 - 20 UNC	3B	2.500	0.638	1.008	0.255	0.191	0.313	2	TiN
2885605	●	1/4 - 20 UNC	2B	2.500	0.638	1.008	0.255	0.191	0.313	2	TiN
2880700	●	1/4 - 28 UNC	3B	2.500	0.638	1.008	0.255	0.191	0.313	3	Bright
2885700	●	1/4 - 28 UNC	2B	2.500	0.638	1.008	0.255	0.191	0.313	3	Bright
2880701	●	1/4 - 28 UNC	3B	2.500	0.638	1.008	0.255	0.191	0.313	3	Steam Oxide
2885701	●	1/4 - 28 UNC	2B	2.500	0.638	1.008	0.255	0.191	0.313	3	Steam Oxide
2880705	●	1/4 - 28 UNC	3B	2.500	0.638	1.008	0.255	0.191	0.313	3	TiN
2885705	●	1/4 - 28 UNC	2B	2.500	0.638	1.008	0.255	0.191	0.313	3	TiN
2880800	●	5/16 - 18 UNC	3B	2.719	0.720	1.150	0.318	0.238	0.375	2	Bright
2885800	●	5/16 - 18 UNC	2B	2.719	0.720	1.150	0.318	0.238	0.375	2	Bright
2880801	●	5/16 - 18 UNC	3B	2.719	0.720	1.150	0.318	0.238	0.375	2	Steam Oxide
2885801	●	5/16 - 18 UNC	2B	2.719	0.720	1.150	0.318	0.238	0.375	2	Steam Oxide
2880805	●	5/16 - 18 UNC	3B	2.719	0.720	1.150	0.318	0.238	0.375	2	TiN
2885805	●	5/16 - 18 UNC	2B	2.719	0.720	1.150	0.318	0.238	0.375	2	TiN
2880900	●	5/16 - 24 UNF	3B	2.719	0.717	1.146	0.318	0.238	0.375	3	Bright
2885900	●	5/16 - 24 UNF	2B	2.719	0.717	1.146	0.318	0.238	0.375	3	Bright
2880901	●	5/16 - 24 UNF	3B	2.719	0.717	1.146	0.318	0.238	0.375	3	Steam Oxide
2885901	●	5/16 - 24 UNF	2B	2.719	0.717	1.146	0.318	0.238	0.375	3	Steam Oxide
2880905	●	5/16 - 24 UNF	3B	2.719	0.717	1.146	0.318	0.238	0.375	3	TiN
2885905	●	5/16 - 24 UNF	2B	2.719	0.717	1.146	0.318	0.238	0.375	3	TiN
2881000	●	3/8 - 16 UNC	3B	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
2886000	●	3/8 - 16 UNC	2B	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
2881001	●	3/8 - 16 UNC	3B	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
2886001	●	3/8 - 16 UNC	2B	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
2881005	●	3/8 - 16 UNC	3B	2.938	0.787	1.276	0.381	0.286	0.438	3	TiN
2886005	●	3/8 - 16 UNC	2B	2.938	0.787	1.276	0.381	0.286	0.438	3	TiN
2881100	●	3/8 - 24 UNF	3B	2.938	0.776	1.264	0.381	0.286	0.438	3	Bright
2886100	●	3/8 - 24 UNF	2B	2.938	0.776	1.264	0.381	0.286	0.438	3	Bright
2881101	●	3/8 - 24 UNF	3B	2.938	0.776	1.264	0.381	0.286	0.438	3	Steam Oxide
2886101	●	3/8 - 24 UNF	2B	2.938	0.776	1.264	0.381	0.286	0.438	3	Steam Oxide
2881105	●	3/8 - 24 UNF	3B	2.938	0.776	1.264	0.381	0.286	0.438	3	TiN
2886105	●	3/8 - 24 UNF	2B	2.938	0.776	1.264	0.381	0.286	0.438	3	TiN
2886900	●	7/16 - 14 UNC	2B	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
2886901	●	7/16 - 14 UNC	2B	3.156	0.882	1.315	0.323	0.242	0.406	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

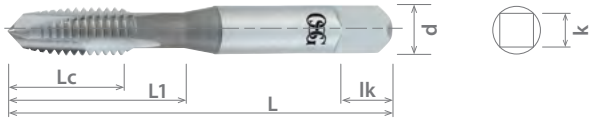
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎								○	○						
50-90 SFM	40-80 SFM								30-80 SFM	30-80 SFM						

○ Good ◎ Best

List 287 (Continued)

HY-PRO® SEVEN POT

SPIRAL POINT | HSS | BR | S/O | TiN | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
2886905	●	7/16 - 14 UNC	2B	3.156	0.882	1.315	0.323	0.242	0.406	3	TiN
2887000	●	7/16 - 20 UNF	2B	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
2887001	●	7/16 - 20 UNF	2B	3.156	0.882	1.315	0.323	0.242	0.406	3	Steam Oxide
2887005	●	7/16 - 20 UNF	2B	3.156	0.882	1.315	0.323	0.242	0.406	3	TiN
2881200	●	1/2 - 13 UNC	3B	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
2886200	●	1/2 - 13 UNC	2B	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
2881201	●	1/2 - 13 UNC	3B	3.375	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
2886201	●	1/2 - 13 UNC	2B	3.375	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
2881205	●	1/2 - 13 UNC	3B	3.375	0.941	1.374	0.367	0.275	0.438	3	TiN
2886205	●	1/2 - 13 UNC	2B	3.375	0.941	1.374	0.367	0.275	0.438	3	TiN
2881300	●	1/2 - 20 UNF	3B	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
2886300	●	1/2 - 20 UNF	2B	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
2881301	●	1/2 - 20 UNF	3B	3.375	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
2886301	●	1/2 - 20 UNF	2B	3.375	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
2881305	●	1/2 - 20 UNF	3B	3.375	0.941	1.374	0.367	0.275	0.438	3	TiN
2886305	●	1/2 - 20 UNF	2B	3.375	0.941	1.374	0.367	0.275	0.438	3	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

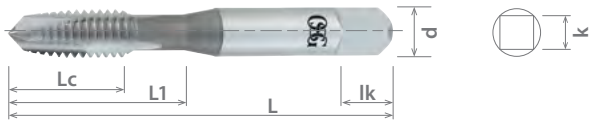
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎								○	○						
50-90 SFM	40-80 SFM								30-80 SFM	30-80 SFM						

○ Good ◎ Best

List 288

HY-PRO® SEVEN POT

SPIRAL POINT | HSS | BR | S/O | TiN | 2 FLUTE | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Surface Treatment
2888000	●	M3 x 0.5	6H	49.20	8.30	15.80	3.58	2.79	4.76	Bright
2888001	●	M3 x 0.5	6H	49.20	8.30	15.80	3.58	2.79	4.76	Steam Oxide
2888005	●	M3 x 0.5	6H	49.20	8.30	15.80	3.58	2.79	4.76	TiN
2888100	●	M4 x 0.7	6H	54.00	10.00	19.30	4.27	3.33	6.35	Bright
2888101	●	M4 x 0.7	6H	54.00	10.00	19.30	4.27	3.33	6.35	Steam Oxide
2888105	●	M4 x 0.7	6H	54.00	10.00	19.30	4.27	3.33	6.35	TiN
2888200	●	M5 x 0.8	6H	60.30	13.00	22.40	4.93	3.86	6.35	Bright
2888201	●	M5 x 0.8	6H	60.30	13.00	22.40	4.93	3.86	6.35	Steam Oxide
2888205	●	M5 x 0.8	6H	60.30	13.00	22.40	4.93	3.86	6.35	TiN
2888300	●	M6 x 1	6H	63.50	16.50	25.90	6.48	4.85	7.94	Bright
2888301	●	M6 x 1	6H	63.50	16.50	25.90	6.48	4.85	7.94	Steam Oxide
2888305	●	M6 x 1	6H	63.50	16.50	25.90	6.48	4.85	7.94	TiN
2888400	●	M8 x 1.25	6H	69.10	18.00	28.80	8.08	6.05	9.53	Bright
2888401	●	M8 x 1.25	6H	69.10	18.00	28.80	8.08	6.05	9.53	Steam Oxide
2888405	●	M8 x 1.25	6H	69.10	18.00	28.80	8.08	6.05	9.53	TiN
2888500	●	M10 x 1.5	6H	74.60	20.10	32.50	9.68	7.26	11.11	Bright
2888501	●	M10 x 1.5	6H	74.60	20.10	32.50	9.68	7.26	11.11	Steam Oxide
2888505	●	M10 x 1.5	6H	74.60	20.10	32.50	9.68	7.26	11.11	TiN
2888600	●	M12 x 1.75	6H	85.70	23.90	34.90	9.32	6.99	11.11	Bright
2888601	●	M12 x 1.75	6H	85.70	23.90	34.90	9.32	6.99	11.11	Steam Oxide
2888605	●	M12 x 1.75	6H	85.70	23.90	34.90	9.32	6.99	11.11	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

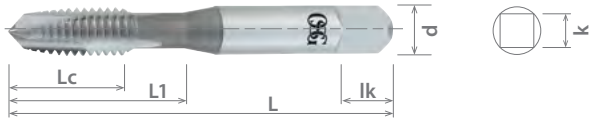
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎								○	○						
50-90 SFM	40-80 SFM								30-80 SFM	30-80 SFM						

○ Good ◎ Best

List 105

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1200000	●	No. 0 - 80 UNF	H1	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	Bright
1200001	●	No. 0 - 80 UNF	H1	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	Steam Oxide
1200008	●	No. 0 - 80 UNF	H1	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	TiCN
1205000	●	No. 0 - 80 UNF	H2	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	Bright
1205001	●	No. 0 - 80 UNF	H2	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	Steam Oxide
1205008	●	No. 0 - 80 UNF	H2	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	TiCN
1205005	●	No. 0 - 80 UNF	H2	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	TiN
1210000	●	No. 0 - 80 UNF	H3	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	Bright
1210001	●	No. 0 - 80 UNF	H3	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	Steam Oxide
1210008	●	No. 0 - 80 UNF	H3	Plug (5P)	1.625	0.350	-	0.141	0.110	0.188	2	TiCN
1200200	●	No. 1 - 64 UNC	H1	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	Bright
1200201	●	No. 1 - 64 UNC	H1	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1200208	●	No. 1 - 64 UNC	H1	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	TiCN
1205200	●	No. 1 - 64 UNC	H2	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	Bright
1205201	●	No. 1 - 64 UNC	H2	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1205208	●	No. 1 - 64 UNC	H2	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	TiCN
1200400	●	No. 1 - 72 UNF	H1	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	Bright
1200401	●	No. 1 - 72 UNF	H1	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1200408	●	No. 1 - 72 UNF	H1	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	TiCN
1205400	●	No. 1 - 72 UNF	H2	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	Bright
1205401	●	No. 1 - 72 UNF	H2	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1205408	●	No. 1 - 72 UNF	H2	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	TiCN
1205405	●	No. 1 - 72 UNF	H2	Plug (5P)	1.688	0.370	-	0.141	0.110	0.188	2	TiN
1200600	●	No. 2 - 56 UNC	H1	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	Bright
1200608	●	No. 2 - 56 UNC	H1	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	TiCN
1200605	●	No. 2 - 56 UNC	H1	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	TiN
1205600	●	No. 2 - 56 UNC	H2	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	Bright
1205601	●	No. 2 - 56 UNC	H2	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	Steam Oxide
1205608	●	No. 2 - 56 UNC	H2	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	TiCN
1205605	●	No. 2 - 56 UNC	H2	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	TiN
1210600	●	No. 2 - 56 UNC	H3	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	Bright
1210601	●	No. 2 - 56 UNC	H3	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	Steam Oxide
1210608	●	No. 2 - 56 UNC	H3	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	TiCN
1215600	●	No. 2 - 56 UNC	H5	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	Bright
1215601	●	No. 2 - 56 UNC	H5	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	Steam Oxide
1215608	●	No. 2 - 56 UNC	H5	Plug (5P)	1.750	0.441	-	0.141	0.110	0.188	2	TiCN
1200800	●	No. 2 - 64 UNF	H1	Plug (5P)	1.750	0.429	-	0.141	0.110	0.188	2	Bright
1200808	●	No. 2 - 64 UNF	H1	Plug (5P)	1.750	0.429	-	0.141	0.110	0.188	2	TiCN
1205800	●	No. 2 - 64 UNF	H2	Plug (5P)	1.750	0.429	-	0.141	0.110	0.188	2	Bright
1205801	●	No. 2 - 64 UNF	H2	Plug (5P)	1.750	0.429	-	0.141	0.110	0.188	2	Steam Oxide
1205808	●	No. 2 - 64 UNF	H2	Plug (5P)	1.750	0.429	-	0.141	0.110	0.188	2	TiCN
1205805	●	No. 2 - 64 UNF	H2	Plug (5P)	1.750	0.429	-	0.141	0.110	0.188	2	TiN
1201000	●	No. 3 - 48 UNC	H1	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Bright
1201008	●	No. 3 - 48 UNC	H1	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	TiCN
1206000	●	No. 3 - 48 UNC	H2	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Bright
1206001	●	No. 3 - 48 UNC	H2	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Steam Oxide
1206008	●	No. 3 - 48 UNC	H2	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	TiCN
1206005	●	No. 3 - 48 UNC	H2	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	TiN
1211000	●	No. 3 - 48 UNC	H3	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Bright
1211001	●	No. 3 - 48 UNC	H3	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Steam Oxide
1211008	●	No. 3 - 48 UNC	H3	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	TiCN
2002100	●	No. 3 - 48 UNC	H5	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Bright
2002108	●	No. 3 - 48 UNC	H5	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	TiCN
1201200	●	No. 3 - 56 UNF	H1	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Bright
1201208	●	No. 3 - 56 UNF	H1	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 105 (Continued)

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | C/5P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1206200	●	No. 3 - 56 UNF	H2	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Bright
1206201	●	No. 3 - 56 UNF	H2	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	Steam Oxide
1206208	●	No. 3 - 56 UNF	H2	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	TiCN
1206205	●	No. 3 - 56 UNF	H2	Plug (5P)	1.813	0.496	-	0.141	0.110	0.188	2	TiN
1206800	●	No. 4 - 36 NS	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1206801	●	No. 4 - 36 NS	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
1201400	●	No. 4 - 40 UNC	H1	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1201408	●	No. 4 - 40 UNC	H1	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	TiCN
1201405	●	No. 4 - 40 UNC	H1	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	TiN
1206400	●	No. 4 - 40 UNC	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1206401	●	No. 4 - 40 UNC	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
1206408	●	No. 4 - 40 UNC	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	TiCN
1206405	●	No. 4 - 40 UNC	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	TiN
1211400	●	No. 4 - 40 UNC	H3	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1211401	●	No. 4 - 40 UNC	H3	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
1211408	●	No. 4 - 40 UNC	H3	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	TiCN
1216400	●	No. 4 - 40 UNC	H5	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1216401	●	No. 4 - 40 UNC	H5	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
1216408	●	No. 4 - 40 UNC	H5	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	TiCN
1201600	●	No. 4 - 48 UNF	H1	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1206600	●	No. 4 - 48 UNF	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1206601	●	No. 4 - 48 UNF	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
1206608	●	No. 4 - 48 UNF	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	TiCN
1206605	●	No. 4 - 48 UNF	H2	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	2	TiN
1202000	●	No. 5 - 40 UNC	H1	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	Bright
1202008	●	No. 5 - 40 UNC	H1	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	TiCN
1207000	●	No. 5 - 40 UNC	H2	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	Bright
1207001	●	No. 5 - 40 UNC	H2	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	Steam Oxide
1207008	●	No. 5 - 40 UNC	H2	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	TiCN
1207005	●	No. 5 - 40 UNC	H2	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	TiN
2003300	●	No. 5 - 40 UNC	H5	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	Bright
2003308	●	No. 5 - 40 UNC	H5	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	TiCN
1207200	●	No. 5 - 44 UNF	H2	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	Bright
1207201	●	No. 5 - 44 UNF	H2	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	Steam Oxide
1207208	●	No. 5 - 44 UNF	H2	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	TiCN
1207205	●	No. 5 - 44 UNF	H2	Plug (5P)	1.938	0.323	0.618	0.141	0.110	0.188	2	TiN
1202400	●	No. 6 - 32 UNC	H1	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1202408	●	No. 6 - 32 UNC	H1	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiCN
1202405	●	No. 6 - 32 UNC	H1	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiN
1207400	●	No. 6 - 32 UNC	H2	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1207401	●	No. 6 - 32 UNC	H2	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
1207408	●	No. 6 - 32 UNC	H2	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiCN
1207405	●	No. 6 - 32 UNC	H2	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiN
1212400	●	No. 6 - 32 UNC	H3	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1212401	●	No. 6 - 32 UNC	H3	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
1212408	●	No. 6 - 32 UNC	H3	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiCN
1212405	●	No. 6 - 32 UNC	H3	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiN
1212608	●	No. 6 - 32 UNC	H3	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	3	TiCN
2003900	●	No. 6 - 32 UNC	H4	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
2003908	●	No. 6 - 32 UNC	H4	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

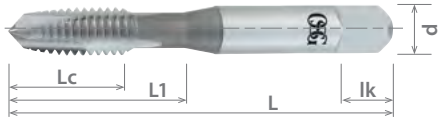
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105 (Continued)

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2003905	●	No. 6 - 32 UNC	H4	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiN
1217400	●	No. 6 - 32 UNC	H5	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1217401	●	No. 6 - 32 UNC	H5	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
1217408	●	No. 6 - 32 UNC	H5	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiCN
1202600	●	No. 6 - 40 UNF	H1	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1207600	●	No. 6 - 40 UNF	H2	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1207601	●	No. 6 - 40 UNF	H2	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
1207608	●	No. 6 - 40 UNF	H2	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiCN
1207605	●	No. 6 - 40 UNF	H2	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiN
2004200	●	No. 6 - 40 UNF	H5	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
2004208	●	No. 6 - 40 UNF	H5	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	2	TiCN
1202800	●	No. 8 - 32 UNC	H1	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1202808	●	No. 8 - 32 UNC	H1	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiCN
1202805	●	No. 8 - 32 UNC	H1	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiN
1207800	●	No. 8 - 32 UNC	H2	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1207801	●	No. 8 - 32 UNC	H2	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1207808	●	No. 8 - 32 UNC	H2	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiCN
1207805	●	No. 8 - 32 UNC	H2	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiN
1212800	●	No. 8 - 32 UNC	H3	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1212801	●	No. 8 - 32 UNC	H3	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1212808	●	No. 8 - 32 UNC	H3	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiCN
1212805	●	No. 8 - 32 UNC	H3	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiN
2005000	●	No. 8 - 32 UNC	H4	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
2005008	●	No. 8 - 32 UNC	H4	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiCN
2005005	●	No. 8 - 32 UNC	H4	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiN
1213201	●	No. 8 - 32 UNC	H4	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	3	Steam Oxide
1217800	●	No. 8 - 32 UNC	H5	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1217801	●	No. 8 - 32 UNC	H5	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1217808	●	No. 8 - 32 UNC	H5	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiCN
1203200	●	No. 8 - 36 UNF	H1	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1203208	●	No. 8 - 36 UNF	H1	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiCN
1208200	●	No. 8 - 36 UNF	H2	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1208201	●	No. 8 - 36 UNF	H2	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1208208	●	No. 8 - 36 UNF	H2	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiCN
1208205	●	No. 8 - 36 UNF	H2	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	2	TiN
1203400	●	No. 10 - 24 UNC	H1	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1203408	●	No. 10 - 24 UNC	H1	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1203405	●	No. 10 - 24 UNC	H1	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN
1213601	●	No. 10 - 24 UNC	H1	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	3	Steam Oxide
1208400	●	No. 10 - 24 UNC	H2	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1208401	●	No. 10 - 24 UNC	H2	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1208408	●	No. 10 - 24 UNC	H2	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1208405	●	No. 10 - 24 UNC	H2	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN
1213400	●	No. 10 - 24 UNC	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1213401	●	No. 10 - 24 UNC	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1213408	●	No. 10 - 24 UNC	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1213405	●	No. 10 - 24 UNC	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN
2006500	●	No. 10 - 24 UNC	H4	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
2006508	●	No. 10 - 24 UNC	H4	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
2006600	●	No. 10 - 24 UNC	H5	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
2006608	●	No. 10 - 24 UNC	H5	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
2006605	●	No. 10 - 24 UNC	H5	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN
1203800	●	No. 10 - 32 UNF	H1	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1203808	●	No. 10 - 32 UNF	H1	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1203805	●	No. 10 - 32 UNF	H1	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 105 (Continued)

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | C/5P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1208800	●	No. 10 - 32 UNF	H2	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1208801	●	No. 10 - 32 UNF	H2	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1208808	●	No. 10 - 32 UNF	H2	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1213800	●	No. 10 - 32 UNF	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1213801	●	No. 10 - 32 UNF	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1213808	●	No. 10 - 32 UNF	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1213805	●	No. 10 - 32 UNF	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiN
1214001	●	No. 10 - 32 UNF	H3	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	3	Steam Oxide
2006000	●	No. 10 - 32 UNF	H4	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
2006008	●	No. 10 - 32 UNF	H4	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1218800	●	No. 10 - 32 UNF	H5	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1218801	●	No. 10 - 32 UNF	H5	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1218808	●	No. 10 - 32 UNF	H5	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1204200	●	No. 12 - 24 UNC	H1	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	Bright
1214200	●	No. 12 - 24 UNC	H3	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	Bright
1214201	●	No. 12 - 24 UNC	H3	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	Steam Oxide
1214208	●	No. 12 - 24 UNC	H3	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	TiCN
1214205	●	No. 12 - 24 UNC	H3	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	TiN
1214400	●	No. 12 - 28 UNF	H3	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	Bright
1214401	●	No. 12 - 28 UNF	H3	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	Steam Oxide
1214408	●	No. 12 - 28 UNF	H3	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	TiCN
1214405	●	No. 12 - 28 UNF	H3	Plug (4P)	2.375	0.520	0.949	0.220	0.165	0.281	2	TiN
1220000	●	1/4 - 20 UNC	H1	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1220001	●	1/4 - 20 UNC	H1	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1220008	●	1/4 - 20 UNC	H1	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1220005	●	1/4 - 20 UNC	H1	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiN
1225000	●	1/4 - 20 UNC	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1225001	●	1/4 - 20 UNC	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1225008	●	1/4 - 20 UNC	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1225005	●	1/4 - 20 UNC	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiN
1230000	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1230001	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1230008	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1230005	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiN
1230200	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	Bright
1230201	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	Steam Oxide
1230208	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	TiCN
1230205	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	TiN
1240000	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1240001	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1240008	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1240005	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiN
1240200	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	Bright
1240208	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	TiCN
1220400	●	1/4 - 28 UNF	H1	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1220408	●	1/4 - 28 UNF	H1	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1225400	●	1/4 - 28 UNF	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1225408	●	1/4 - 28 UNF	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1225405	●	1/4 - 28 UNF	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiN
1225600	●	1/4 - 28 UNF	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ❯

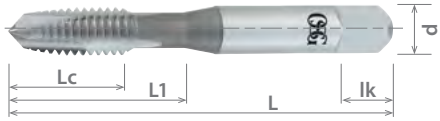
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105 (Continued)

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1225608	●	1/4 - 28 UNF	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	TiCN
1225605	●	1/4 - 28 UNF	H2	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	TiN
1230400	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1230401	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1230408	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1230405	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiN
1235400	●	1/4 - 28 UNF	H4	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1235408	●	1/4 - 28 UNF	H4	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1235600	●	1/4 - 28 UNF	H4	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	Bright
1235608	●	1/4 - 28 UNF	H4	Plug (4P)	2.500	0.638	1.008	0.255	0.191	0.313	3	TiCN
1220800	●	5/16 - 18 UNC	H1	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1220808	●	5/16 - 18 UNC	H1	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1220805	●	5/16 - 18 UNC	H1	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiN
1225800	●	5/16 - 18 UNC	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1225808	●	5/16 - 18 UNC	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1225805	●	5/16 - 18 UNC	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiN
1230800	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1230801	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Steam Oxide
1230808	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1230805	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiN
1231000	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	Bright
1231001	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	Steam Oxide
1231008	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	TiCN
1231005	●	5/16 - 18 UNC	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	TiN
1240800	●	5/16 - 18 UNC	H5	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1240808	●	5/16 - 18 UNC	H5	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1240805	●	5/16 - 18 UNC	H5	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiN
1241000	●	5/16 - 18 UNC	H5	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	Bright
1241001	●	5/16 - 18 UNC	H5	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	Steam Oxide
1241008	●	5/16 - 18 UNC	H5	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	TiCN
1241005	●	5/16 - 18 UNC	H5	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	TiN
1221200	●	5/16 - 24 UNF	H1	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1221208	●	5/16 - 24 UNF	H1	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1226200	●	5/16 - 24 UNF	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1226208	●	5/16 - 24 UNF	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1226205	●	5/16 - 24 UNF	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiN
1226400	●	5/16 - 24 UNF	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	Bright
1226408	●	5/16 - 24 UNF	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	TiCN
1226405	●	5/16 - 24 UNF	H2	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	TiN
1231200	●	5/16 - 24 UNF	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1231201	●	5/16 - 24 UNF	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Steam Oxide
1231208	●	5/16 - 24 UNF	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1231205	●	5/16 - 24 UNF	H3	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiN
1236200	●	5/16 - 24 UNF	H4	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1236208	●	5/16 - 24 UNF	H4	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1236400	●	5/16 - 24 UNF	H4	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	Bright
1236408	●	5/16 - 24 UNF	H4	Plug (4P)	2.719	0.724	1.154	0.318	0.238	0.375	3	TiCN
1221600	●	3/8 - 16 UNC	H1	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1221608	●	3/8 - 16 UNC	H1	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1226600	●	3/8 - 16 UNC	H2	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1226601	●	3/8 - 16 UNC	H2	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
1226608	●	3/8 - 16 UNC	H2	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1226605	●	3/8 - 16 UNC	H2	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiN
1231600	●	3/8 - 16 UNC	H3	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1231601	●	3/8 - 16 UNC	H3	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 105 (Continued)

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | C/5P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1231608	●	3/8 - 16 UNC	H3	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1231605	●	3/8 - 16 UNC	H3	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiN
1241600	●	3/8 - 16 UNC	H5	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1241601	●	3/8 - 16 UNC	H5	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
1241608	●	3/8 - 16 UNC	H5	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1241605	●	3/8 - 16 UNC	H5	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiN
1221800	●	3/8 - 24 UNF	H1	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1221808	●	3/8 - 24 UNF	H1	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1226800	●	3/8 - 24 UNF	H2	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1226808	●	3/8 - 24 UNF	H2	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1226805	●	3/8 - 24 UNF	H2	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiN
1231800	●	3/8 - 24 UNF	H3	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1231801	●	3/8 - 24 UNF	H3	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
1231808	●	3/8 - 24 UNF	H3	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1231805	●	3/8 - 24 UNF	H3	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiN
1236800	●	3/8 - 24 UNF	H4	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1236808	●	3/8 - 24 UNF	H4	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1236805	●	3/8 - 24 UNF	H4	Plug (4P)	2.938	0.787	1.276	0.381	0.286	0.438	3	TiN
1227000	●	7/16 - 14 UNC	H2	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
1227008	●	7/16 - 14 UNC	H2	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiCN
1232000	●	7/16 - 14 UNC	H3	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
1232001	●	7/16 - 14 UNC	H3	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	Steam Oxide
1232008	●	7/16 - 14 UNC	H3	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiCN
1232005	●	7/16 - 14 UNC	H3	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiN
1242000	●	7/16 - 14 UNC	H5	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
1242008	●	7/16 - 14 UNC	H5	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiCN
1242005	●	7/16 - 14 UNC	H5	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiN
1227200	●	7/16 - 20 UNF	H2	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
1227208	●	7/16 - 20 UNF	H2	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiCN
1232200	●	7/16 - 20 UNF	H3	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
1232201	●	7/16 - 20 UNF	H3	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	Steam Oxide
1232208	●	7/16 - 20 UNF	H3	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiCN
1232205	●	7/16 - 20 UNF	H3	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiN
1242200	●	7/16 - 20 UNF	H5	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
1242208	●	7/16 - 20 UNF	H5	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiCN
1242205	●	7/16 - 20 UNF	H5	Plug (4P)	3.156	0.882	1.315	0.323	0.242	0.406	3	TiN
1222400	●	1/2 - 13 UNC	H1	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1222408	●	1/2 - 13 UNC	H1	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1227400	●	1/2 - 13 UNC	H2	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1227408	●	1/2 - 13 UNC	H2	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1227405	●	1/2 - 13 UNC	H2	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiN
1232400	●	1/2 - 13 UNC	H3	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1232401	●	1/2 - 13 UNC	H3	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
1232408	●	1/2 - 13 UNC	H3	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1232405	●	1/2 - 13 UNC	H3	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiN
1242400	●	1/2 - 13 UNC	H5	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1242408	●	1/2 - 13 UNC	H5	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1242405	●	1/2 - 13 UNC	H5	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiN
1222600	●	1/2 - 20 UNF	H1	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1222608	●	1/2 - 20 UNF	H1	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

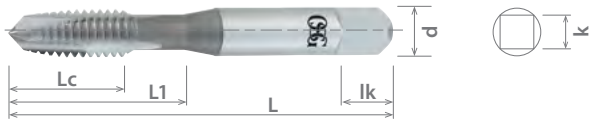
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105 (Continued)

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1227600	●	1/2 - 20 UNF	H2	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1227608	●	1/2 - 20 UNF	H2	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1232600	●	1/2 - 20 UNF	H3	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1232601	●	1/2 - 20 UNF	H3	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
1232608	●	1/2 - 20 UNF	H3	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1232605	●	1/2 - 20 UNF	H3	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiN
1242600	●	1/2 - 20 UNF	H5	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1242608	●	1/2 - 20 UNF	H5	Plug (4P)	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1233200	●	5/8 - 11 UNC	H3	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	Bright
1233201	●	5/8 - 11 UNC	H3	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	Steam Oxide
1233208	●	5/8 - 11 UNC	H3	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	TiCN
1233205	●	5/8 - 11 UNC	H3	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	TiN
1243200	●	5/8 - 11 UNC	H5	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	Bright
1243208	●	5/8 - 11 UNC	H5	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	TiCN
1243205	●	5/8 - 11 UNC	H5	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	TiN
1233400	●	5/8 - 18 UNF	H3	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	Bright
1233401	●	5/8 - 18 UNF	H3	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	Steam Oxide
1233408	●	5/8 - 18 UNF	H3	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	TiCN
1233405	●	5/8 - 18 UNF	H3	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	TiN
2013000	●	5/8 - 18 UNF	H5	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	Bright
2013008	●	5/8 - 18 UNF	H5	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	TiCN
2013005	●	5/8 - 18 UNF	H5	Plug (4P)	3.813	1.091	1.563	0.480	0.360	0.563	3	TiN
1233600	●	3/4 - 10 UNC	H3	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	Bright
1233601	●	3/4 - 10 UNC	H3	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	Steam Oxide
1233608	●	3/4 - 10 UNC	H3	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	TiCN
1233605	●	3/4 - 10 UNC	H3	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	TiN
1243600	●	3/4 - 10 UNC	H5	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	Bright
1243608	●	3/4 - 10 UNC	H5	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	TiCN
1243605	●	3/4 - 10 UNC	H5	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	TiN
1233800	●	3/4 - 16 UNF	H3	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	Bright
1233801	●	3/4 - 16 UNF	H3	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	Steam Oxide
1233808	●	3/4 - 16 UNF	H3	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	TiCN
2013400	●	3/4 - 16 UNF	H5	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	Bright
2013408	●	3/4 - 16 UNF	H5	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	TiCN
2013405	●	3/4 - 16 UNF	H5	Plug (4P)	4.250	1.220	1.713	0.590	0.442	0.688	3	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

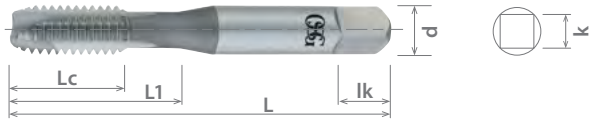
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105B

OSG GENERAL PURPOSE-POT

SPIRAL POINT	HSS	BR	S/O	C/1.5P	0°	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1200100	●	No. 0 - 80 UNF	H1	1.625	0.311	-	0.141	0.110	0.188	2	Bright
3000100	●	No. 0 - 80 UNF	H2	1.625	0.311	-	0.141	0.110	0.188	2	Bright
1205300	●	No. 1 - 64 UNC	H2	1.680	0.370	-	0.141	0.110	0.188	2	Bright
1200500	●	No. 1 - 72 UNC	H1	1.680	0.370	-	0.141	0.110	0.188	2	Bright
1205500	●	No. 1 - 72 UNC	H2	1.680	0.370	-	0.141	0.110	0.188	2	Bright
1200700	●	No. 2 - 56 UNC	H1	1.750	0.441	-	0.141	0.110	0.188	2	Bright
1205700	●	No. 2 - 56 UNC	H2	1.750	0.441	-	0.141	0.110	0.188	2	Bright
1205701	●	No. 2 - 56 UNC	H2	1.750	0.441	-	0.141	0.110	0.188	2	Steam Oxide
1206100	●	No. 3 - 48 UNC	H2	1.813	0.496	-	0.141	0.110	0.188	2	Bright
1206101	●	No. 3 - 48 UNC	H2	1.813	0.496	-	0.141	0.110	0.188	2	Steam Oxide
1206300	●	No. 3 - 56 UNF	H2	1.813	0.496	-	0.141	0.110	0.188	2	Bright
1206500	●	No. 4 - 40 UNC	H2	1.875	0.319	-	0.141	0.110	0.188	2	Bright
1206501	●	No. 4 - 40 UNC	H2	1.875	0.319	-	0.141	0.110	0.188	2	Steam Oxide
1206700	●	No. 4 - 48 UNF	H2	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1207100	●	No. 5 - 40 UNC	H2	1.938	0.323	0.618	0.141	0.110	0.188	2	Bright
1207101	●	No. 5 - 40 UNC	H2	1.938	0.323	0.618	0.141	0.110	0.188	2	Steam Oxide
1207300	●	No. 5 - 44 UNF	H2	1.938	0.323	0.618	0.141	0.110	0.188	2	Bright
1207500	●	No. 6 - 32 UNC	H2	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1212500	●	No. 6 - 32 UNC	H3	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1212501	●	No. 6 - 32 UNC	H3	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
3003100	●	No. 6 - 32 UNC	H7	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1207700	●	No. 6 - 40 UNF	H2	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1207701	●	No. 6 - 40 UNF	H2	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
1207900	●	No. 8 - 32 UNC	H2	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1212900	●	No. 8 - 32 UNC	H3	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1212901	●	No. 8 - 32 UNC	H3	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1214700	●	No. 8 - 32 UNC	H7	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1208300	●	No. 8 - 36 UNF	H2	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1208500	●	No. 10 - 24 UNC	H2	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1213500	●	No. 10 - 24 UNC	H3	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1213501	●	No. 10 - 24 UNC	H3	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1200900	●	No. 10 - 32 UNF	H1	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1208900	●	No. 10 - 32 UNF	H2	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1213900	●	No. 10 - 32 UNF	H3	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1213901	●	No. 10 - 32 UNF	H3	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1214300	●	No. 12 - 24 UNC	H3	2.375	0.508	0.937	0.220	0.165	0.281	2	Bright
1214301	●	No. 12 - 24 UNC	H3	2.375	0.508	0.937	0.220	0.165	0.281	2	Steam Oxide
1214500	●	No. 12 - 28 UNF	H3	2.375	0.508	0.937	0.220	0.165	0.281	2	Bright
1214501	●	No. 12 - 28 UNF	H3	2.375	0.508	0.937	0.220	0.165	0.281	2	Steam Oxide
1230100	●	1/4 - 20 UNC	H3	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1230101	●	1/4 - 20 UNC	H3	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1225500	●	1/4 - 28 UNF	H2	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

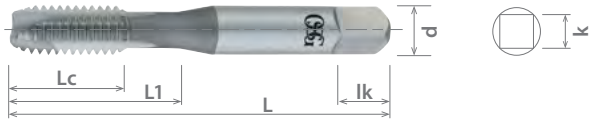
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105B (Continued)

SPIRAL POINT | HSS | BR | S/O | C/1.5P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-POT



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1230500	●	1/4 - 28 UNF	H3	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1230501	●	1/4 - 28 UNF	H3	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1230900	●	5/16 - 18 UNC	H3	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1230901	●	5/16 - 18 UNC	H3	2.719	0.724	1.154	0.318	0.238	0.375	2	Steam Oxide
1231300	●	5/16 - 24 UNF	H3	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1231301	●	5/16 - 24 UNF	H3	2.719	0.724	1.154	0.318	0.238	0.375	2	Steam Oxide
1236500	●	5/16 - 24 UNF	H4	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1231700	●	3/8 - 16 UNC	H3	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1231701	●	3/8 - 16 UNC	H3	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
1232100	●	7/16 - 14 UNC	H3	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

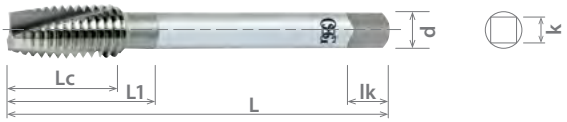
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105A

OSG GENERAL PURPOSE-POT ASSEMBLY, Assembly Type Tap

SPIRAL POINT	HSS	BR	S/O	C/4.5P	0°	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1605400	●	No. 4 - 40 UNC	H2	1.875	0.319	0.559	0.141	0.110	0.188	2	Bright
1605401	●	No. 4 - 40 UNC	H2	1.875	0.319	0.559	0.141	0.110	0.188	2	Steam Oxide
1606000	●	No. 5 - 40 UNC	H2	1.938	0.323	0.618	0.141	0.110	0.188	2	Bright
1611400	●	No. 6 - 32 UNC	H3	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1611401	●	No. 6 - 32 UNC	H3	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
1611800	●	No. 8 - 32 UNC	H3	2.125	0.390	0.756	0.168	0.131	0.250	2	Bright
1611801	●	No. 8 - 32 UNC	H3	2.125	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1612200	●	No. 10 - 24 UNC	H3	2.375	0.500	0.874	0.194	0.152	0.250	2	Bright
1612201	●	No. 10 - 24 UNC	H3	2.375	0.500	0.874	0.194	0.152	0.250	2	Steam Oxide
1612400	●	No. 10 - 32 UNF	H3	2.375	0.500	0.874	0.194	0.152	0.250	2	Bright
1612401	●	No. 10 - 32 UNF	H3	2.375	0.500	0.874	0.194	0.152	0.250	2	Steam Oxide
1612600	●	No. 12 - 24 UNC	H3	2.375	0.508	0.937	0.220	0.165	0.281	2	Bright
1612601	●	No. 12 - 24 UNC	H3	2.375	0.508	0.937	0.220	0.165	0.281	2	Steam Oxide
1630000	●	1/4 - 20 UNC	H3	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1630001	●	1/4 - 20 UNC	H3	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1630400	●	5/16 - 18 UNC	H3	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1630800	●	3/8 - 16 UNC	H3	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1631600	●	1/2 - 13 UNC	H3	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

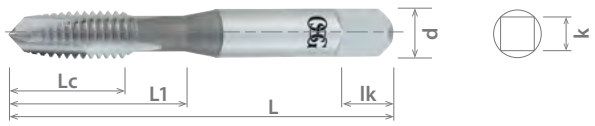
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105+

SPIRAL POINT | HSS | BR | TiN | 2 FLUTE | C/4P | C/5P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-POT H7



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Surface Treatment
2003100	●	No. 4 - 40 UNC	H7	Plug (5P)	1.875	0.319	0.559	0.141	0.110	0.188	Bright
1720800	●	No. 6 - 32 UNC	H7	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	Bright
1720805	●	No. 6 - 32 UNC	H7	Plug (5P)	2.000	0.390	0.685	0.141	0.110	0.188	TiN
1721200	●	No. 8 - 32 UNC	H7	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	Bright
1721205	●	No. 8 - 32 UNC	H7	Plug (4P)	2.125	0.390	0.756	0.168	0.131	0.250	TiN
1721600	●	No. 10 - 24 UNC	H7	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	Bright
1721800	●	No. 10 - 32 UNF	H7	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	Bright
1721805	●	No. 10 - 32 UNF	H7	Plug (4P)	2.375	0.504	0.874	0.194	0.152	0.250	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

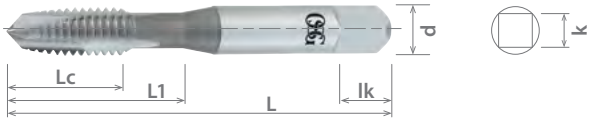
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105H

OSG GENERAL PURPOSE-POT +.005 OVERSIZE

SPIRAL POINT | HSS | BR | S/O | TiCN | C/4.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1592000	●	No. 6 - 32 UNC	2B +0.005"	2.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1592001	●	No. 6 - 32 UNC	2B +0.005"	2.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
1592008	●	No. 6 - 32 UNC	2B +0.005"	2.000	0.390	0.685	0.141	0.110	0.188	2	TiCN
1592800	●	No. 8 - 32 UNC	2B +0.005"	2.000	0.390	0.756	0.168	0.131	0.250	2	Bright
1592801	●	No. 8 - 32 UNC	2B +0.005"	2.000	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1592808	●	No. 8 - 32 UNC	2B +0.005"	2.000	0.390	0.756	0.168	0.131	0.250	2	TiCN
1593400	●	No. 10 - 24 UNC	2B +0.005"	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1593401	●	No. 10 - 24 UNC	2B +0.005"	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1593408	●	No. 10 - 24 UNC	2B +0.005"	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1593600	●	No. 10 - 32 UNF	2B +0.005"	2.375	0.504	0.874	0.194	0.152	0.250	2	Bright
1593601	●	No. 10 - 32 UNF	2B +0.005"	2.375	0.504	0.874	0.194	0.152	0.250	2	Steam Oxide
1593608	●	No. 10 - 32 UNF	2B +0.005"	2.375	0.504	0.874	0.194	0.152	0.250	2	TiCN
1590000	●	1/4 - 20 UNC	2B +0.005"	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1590001	●	1/4 - 20 UNC	2B +0.005"	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1590008	●	1/4 - 20 UNC	2B +0.005"	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1590200	●	1/4 - 28 UNF	2B +0.005"	2.500	0.638	1.008	0.255	0.191	0.313	2	Bright
1590201	●	1/4 - 28 UNF	2B +0.005"	2.500	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1590208	●	1/4 - 28 UNF	2B +0.005"	2.500	0.638	1.008	0.255	0.191	0.313	2	TiCN
1590800	●	5/16 - 18 UNC	2B +0.005"	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1590801	●	5/16 - 18 UNC	2B +0.005"	2.719	0.724	1.154	0.318	0.238	0.375	2	Steam Oxide
1590808	●	5/16 - 18 UNC	2B +0.005"	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1591200	●	5/16 - 24 UNF	2B +0.005"	2.719	0.724	1.154	0.318	0.238	0.375	2	Bright
1591208	●	5/16 - 24 UNF	2B +0.005"	2.719	0.724	1.154	0.318	0.238	0.375	2	TiCN
1591600	●	3/8 - 16 UNC	2B +0.005"	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1591601	●	3/8 - 16 UNC	2B +0.005"	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
1591608	●	3/8 - 16 UNC	2B +0.005"	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1591800	●	3/8 - 24 UNF	2B +0.005"	2.938	0.787	1.276	0.381	0.286	0.438	3	Bright
1591801	●	3/8 - 24 UNF	2B +0.005"	2.938	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
1591808	●	3/8 - 24 UNF	2B +0.005"	2.938	0.787	1.276	0.381	0.286	0.438	3	TiCN
1594000	●	7/16 - 14 UNC	2B +0.005"	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
1594001	●	7/16 - 14 UNC	2B +0.005"	3.156	0.882	1.315	0.323	0.242	0.406	3	Steam Oxide
1594008	●	7/16 - 14 UNC	2B +0.005"	3.156	0.882	1.315	0.323	0.242	0.406	3	TiCN
1594200	●	7/16 - 20 UNF	2B +0.005"	3.156	0.882	1.315	0.323	0.242	0.406	3	Bright
1594201	●	7/16 - 20 UNF	2B +0.005"	3.156	0.882	1.315	0.323	0.242	0.406	3	Steam Oxide
1594208	●	7/16 - 20 UNF	2B +0.005"	3.156	0.882	1.315	0.323	0.242	0.406	3	TiCN
1592400	●	1/2 - 13 UNC	2B +0.005"	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1592401	●	1/2 - 13 UNC	2B +0.005"	3.375	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
1592408	●	1/2 - 13 UNC	2B +0.005"	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1592600	●	1/2 - 20 UNF	2B +0.005"	3.375	0.941	1.374	0.367	0.275	0.438	3	Bright
1592601	●	1/2 - 20 UNF	2B +0.005"	3.375	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
1592608	●	1/2 - 20 UNF	2B +0.005"	3.375	0.941	1.374	0.367	0.275	0.438	3	TiCN
1593200	●	5/8 - 11 UNC	2B +0.005"	3.813	1.091	1.563	0.480	0.360	0.563	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

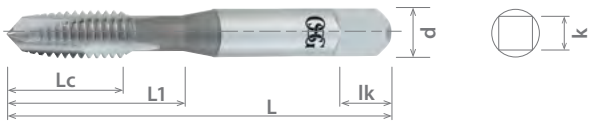
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 105H (Continued)

OSG GENERAL PURPOSE-POT, +0.005" Oversize

SPIRAL POINT | HSS | BR | S/O | TiCN | C/4.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1593201	●	5/8 - 11 UNC	2B +0.005"	3.813	1.091	1.563	0.480	0.360	0.563	3	Steam Oxide
1593208	●	5/8 - 11 UNC	2B +0.005"	3.813	1.091	1.563	0.480	0.360	0.563	3	TiCN
1593800	●	3/4 - 10 UNF	2B +0.005"	4.250	1.220	1.713	0.590	0.442	0.688	3	Bright
1593801	●	3/4 - 10 UNF	2B +0.005"	4.250	1.220	1.713	0.590	0.442	0.688	3	Steam Oxide
1593808	●	3/4 - 10 UNF	2B +0.005"	4.250	1.220	1.713	0.590	0.442	0.688	3	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

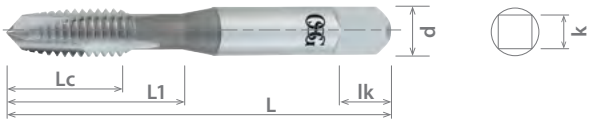
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 142H

SPIRAL POINT | HSS | BR | C/4P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-POT, +0.005" Oversize



EDP		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1101200100	●	M4 x 0.7	6H +0.005"	54.00	10.20	19.30	4.27	3.33	6.35	2
1101200300	●	M5 x 0.8	6H +0.005"	60.30	13.20	22.40	4.93	3.86	6.35	2
1101200500	●	M6 x 1	6H +0.005"	63.50	16.50	25.70	6.48	4.85	7.94	2
1101200700	●	M8 x 1.25	6H +0.005"	69.10	18.00	28.70	8.08	6.05	9.53	3
1101200900	●	M10 x 1.5	6H +0.005"	74.60	20.40	32.60	9.68	7.26	11.11	3
1101201100	●	M12 x 1.75	6H +0.005"	85.70	24.40	34.80	9.32	6.99	11.11	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

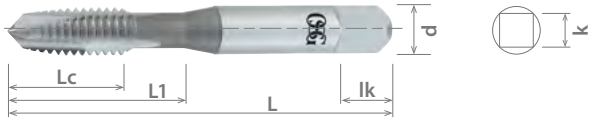
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 142

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1981500	●	M1.6 x 0.35	D3	41.30	7.90	-	3.58	2.79	4.76	2	Bright
1982000	●	M2 x 0.4	D3	44.50	11.10	-	3.58	2.79	4.76	2	Bright
1982001	●	M2 x 0.4	D3	44.50	11.10	-	3.58	2.79	4.76	2	Steam Oxide
1982100	●	M2.5 x 0.45	D3	46.00	12.80	-	3.58	2.79	4.76	2	Bright
1982101	●	M2.5 x 0.45	D3	46.00	12.80	-	3.58	2.79	4.76	2	Steam Oxide
1980100	●	M3 x 0.5	D3	49.20	8.30	15.80	3.58	2.79	4.76	2	Bright
1980101	●	M3 x 0.5	D3	49.20	8.30	15.80	3.58	2.79	4.76	2	Steam Oxide
1980108	●	M3 x 0.5	D3	49.20	8.30	15.80	3.58	2.79	4.76	2	TiCN
1980105	●	M3 x 0.5	D3	49.20	8.30	15.80	3.58	2.79	4.76	2	TiN
1982200	●	M3.5 x 0.6	D4	50.80	10.00	17.50	3.58	2.79	4.76	2	Bright
1982201	●	M3.5 x 0.6	D4	50.80	10.00	17.50	3.58	2.79	4.76	2	Steam Oxide
1980400	●	M4 x 0.7	D4	54.00	10.00	19.30	4.27	3.33	6.35	2	Bright
1980401	●	M4 x 0.7	D4	54.00	10.00	19.30	4.27	3.33	6.35	2	Steam Oxide
1980408	●	M4 x 0.7	D4	54.00	10.00	19.30	4.27	3.33	6.35	2	TiCN
1980405	●	M4 x 0.7	D4	54.00	10.00	19.30	4.27	3.33	6.35	2	TiN
1982300	●	M4.5 x 0.75	D4	60.30	12.80	22.20	4.93	3.86	6.35	2	Bright
1982301	●	M4.5 x 0.75	D4	60.30	12.80	22.20	4.93	3.86	6.35	2	Steam Oxide
1980700	●	M5 x 0.8	D4	60.30	13.00	22.40	4.93	3.86	6.35	2	Bright
1980701	●	M5 x 0.8	D4	60.30	13.00	22.40	4.93	3.86	6.35	2	Steam Oxide
1980705	●	M5 x 0.8	D4	60.30	13.00	22.40	4.93	3.86	6.35	2	TiN
1981000	●	M6 x 1	D5	63.50	16.30	25.70	6.48	4.85	7.94	2	Bright
1981001	●	M6 x 1	D5	63.50	16.30	25.70	6.48	4.85	7.94	2	Steam Oxide
1981008	●	M6 x 1	D5	63.50	16.30	25.70	6.48	4.85	7.94	2	TiCN
1981005	●	M6 x 1	D5	63.50	16.30	25.70	6.48	4.85	7.94	2	TiN
1982400	●	M7 x 1	D5	69.10	17.90	28.70	8.08	6.05	9.53	2	Bright
1982401	●	M7 x 1	D5	69.10	17.90	28.70	8.08	6.05	9.53	2	Steam Oxide
1982500	●	M8 x 1	D5	69.10	18.00	28.80	8.08	6.05	9.53	3	Bright
1982501	●	M8 x 1	D5	69.10	18.00	28.80	8.08	6.05	9.53	3	Steam Oxide
1981300	●	M8 x 1.25	D5	69.10	18.00	28.80	8.08	6.05	9.53	2	Bright
1981301	●	M8 x 1.25	D5	69.10	18.00	28.80	8.08	6.05	9.53	2	Steam Oxide
1981308	●	M8 x 1.25	D5	69.10	18.00	28.80	8.08	6.05	9.53	2	TiCN
1981305	●	M8 x 1.25	D5	69.10	18.00	28.80	8.08	6.05	9.53	2	TiN
1981400	●	M8 x 1.25	D5	69.10	18.00	28.80	8.08	6.05	9.53	3	Bright
1981401	●	M8 x 1.25	D5	69.10	18.00	28.80	8.08	6.05	9.53	3	Steam Oxide
1982600	●	M10 x 1	D5	74.60	19.80	32.20	9.68	7.26	11.11	3	Bright
1982601	●	M10 x 1	D5	74.60	19.80	32.20	9.68	7.26	11.11	3	Steam Oxide
1982700	●	M10 x 1.25	D5	74.60	19.80	32.20	9.68	7.26	11.11	3	Bright
1982701	●	M10 x 1.25	D5	74.60	19.80	32.20	9.68	7.26	11.11	3	Steam Oxide
1981600	●	M10 x 1.5	D6	74.60	19.80	32.20	9.68	7.26	11.11	3	Bright
1981601	●	M10 x 1.5	D6	74.60	19.80	32.20	9.68	7.26	11.11	3	Steam Oxide
1981608	●	M10 x 1.5	D6	74.60	19.80	32.20	9.68	7.26	11.11	3	TiCN
1981605	●	M10 x 1.5	D6	74.60	19.80	32.20	9.68	7.26	11.11	3	TiN
1982800	●	M12 x 1.25	D5	85.70	23.90	34.90	9.32	6.99	11.11	3	Bright
1982801	●	M12 x 1.25	D5	85.70	23.90	34.90	9.32	6.99	11.11	3	Steam Oxide
1982900	●	M12 x 1.5	D6	85.70	23.90	34.90	9.32	6.99	11.11	3	Bright
1981900	●	M12 x 1.75	D6	85.70	23.90	34.90	9.32	6.99	11.11	3	Bright
1981901	●	M12 x 1.75	D6	85.70	23.90	34.90	9.32	6.99	11.11	3	Steam Oxide
1981908	●	M12 x 1.75	D6	85.70	23.90	34.90	9.32	6.99	11.11	3	TiCN
1981905	●	M12 x 1.75	D6	85.70	23.90	34.90	9.32	6.99	11.11	3	TiN
1983000	●	M14 x 1.25	D5	91.30	25.40	37.40	10.90	8.18	12.70	3	Bright
1983001	●	M14 x 1.25	D5	91.30	25.40	37.40	10.90	8.18	12.70	3	Steam Oxide
1983800	●	M14 x 1.5	D6	91.30	25.40	37.40	10.90	8.18	12.70	3	Bright
1983100	●	M14 x 2	D7	91.30	25.40	37.40	10.90	8.18	12.70	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 142 (Continued)

OSG GENERAL PURPOSE-POT

SPIRAL POINT | HSS | BR | S/O | TiCN | TiN | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1983101	●	M14 x 2	D7	91.30	25.40	37.40	10.90	8.18	12.70	3	Steam Oxide
1983200	●	M16 x 1.5	D6	96.80	27.70	39.70	12.19	9.14	14.29	3	Bright
1983201	●	M16 x 1.5	D6	96.80	27.70	39.70	12.19	9.14	14.29	3	Steam Oxide
1983300	●	M16 x 2	D7	96.80	27.70	39.70	12.19	9.14	14.29	3	Bright
1983400	●	M18 x 1.5	D6	102.40	27.70	40.70	13.77	10.31	15.88	3	Bright
1983401	●	M18 x 1.5	D6	102.40	27.70	40.70	13.77	10.31	15.88	3	Steam Oxide
1983500	●	M18 x 2.5	D7	102.40	27.70	40.70	13.77	10.31	15.88	3	Bright
1983600	●	M20 x 1.5	D6	113.50	31.00	45.00	16.56	12.42	17.46	3	Bright
1983700	●	M20 x 2.5	D7	113.50	31.00	45.00	16.56	12.42	17.46	3	Bright
1983900	●	M20 x 2.5	D7	113.50	31.00	45.00	16.56	12.42	17.46	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

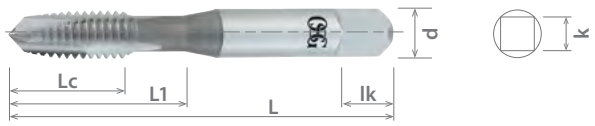
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 122

OSG EX-POT, JIS

SPIRAL POINT | HSSE | BR | S/O | 3 FLUTE | C/5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Surface Treatment
15368	●	M3 x 0.5	OH2	46.00	11.00	19.00	4.00	3.20	6.00	Bright
16710	●	M3 x 0.5	OH2	46.00	11.00	19.00	4.00	3.20	6.00	Steam Oxide
15386	●	M4 x 0.7	OH2	52.00	13.00	21.00	5.00	4.00	7.00	Bright
16714	●	M4 x 0.7	OH2	52.00	13.00	21.00	5.00	4.00	7.00	Steam Oxide
15401	●	M5 x 0.8	OH2	60.00	15.90	23.90	5.50	4.50	7.00	Bright
15413	●	M6 x 1	OH2	62.00	19.00	29.00	6.00	4.50	7.00	Bright
16722	●	M6 x 1	OH2	62.00	19.00	29.00	6.00	4.50	7.00	Steam Oxide
15431	●	M8 x 1.25	OH2	70.00	22.00	37.00	6.20	5.00	8.00	Bright
16728	●	M8 x 1.25	OH2	70.00	22.00	37.00	6.20	5.00	8.00	Steam Oxide
15460	●	M10 x 1.25	OH2	75.00	24.00	41.00	7.00	5.50	8.00	Bright
15456	●	M10 x 1.5	OH2	75.00	24.00	41.00	7.00	5.50	8.00	Bright
16734	●	M10 x 1.5	OH2	75.00	24.00	41.00	7.00	5.50	8.00	Steam Oxide
15483	●	M12 x 1.5	OH2	82.00	29.00	48.00	8.50	6.50	9.00	Bright
15480	●	M12 x 1.75	OH2	82.00	29.00	48.00	8.50	6.50	9.00	Bright
15512	●	M14 x 1.5	OH2	88.00	30.00	48.00	10.50	8.00	11.00	Bright
15509	●	M14 x 2	OH2	88.00	30.00	48.00	10.50	8.00	11.00	Bright
15560	●	M16 x 1.5	OH2	95.00	32.00	52.00	12.50	10.00	13.00	Bright
15557	●	M16 x 2	OH2	95.00	32.00	52.00	12.50	10.00	13.00	Bright
15601	●	M18 x 1.5	OH2	100.00	37.00	55.00	14.00	11.00	14.00	Bright
15593	●	M18 x 2.5	OH2	100.00	37.00	55.00	14.00	11.00	14.00	Bright
15637	●	M20 x 1.5	OH2	105.00	37.00	58.00	15.00	12.00	15.00	Bright
15629	●	M20 x 2.5	OH2	105.00	37.00	58.00	15.00	12.00	15.00	Bright
15645	●	M22 x 2.5	OH2	115.00	38.00	63.00	17.00	13.00	16.00	Bright
15673	●	M24 x 3	OH2	120.00	45.00	66.00	19.00	15.00	18.00	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

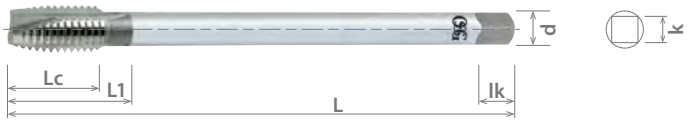
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 917

OSG GENERAL PURPOSE-LS-POT, Long Shank

SPIRAL POINT | HSS | BR | S/O | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1294000	●	No. 4 - 40 UNC	H2	4.000	0.319	0.559	0.141	0.110	0.188	2	Bright
1294100	●	No. 6 - 32 UNC	H3	4.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1294200	●	No. 6 - 32 UNC	H3	6.000	0.390	0.685	0.141	0.110	0.188	2	Bright
1294201	●	No. 6 - 32 UNC	H3	6.000	0.390	0.685	0.141	0.110	0.188	2	Steam Oxide
1294300	●	No. 8 - 32 UNC	H3	4.000	0.390	0.756	0.168	0.131	0.250	2	Bright
1294400	●	No. 8 - 32 UNC	H3	6.000	0.390	0.756	0.168	0.131	0.250	2	Bright
1294301	●	No. 8 - 32 UNC	H3	4.000	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1294401	●	No. 8 - 32 UNC	H3	6.000	0.390	0.756	0.168	0.131	0.250	2	Steam Oxide
1294500	●	No. 10 - 24 UNC	H3	4.000	0.516	0.886	0.194	0.152	0.250	2	Bright
1294600	●	No. 10 - 24 UNC	H3	6.000	0.516	0.886	0.194	0.152	0.250	2	Bright
1294501	●	No. 10 - 24 UNC	H3	4.000	0.516	0.886	0.194	0.152	0.250	2	Steam Oxide
1294601	●	No. 10 - 24 UNC	H3	6.000	0.516	0.886	0.194	0.152	0.250	2	Steam Oxide
1294700	●	No. 10 - 32 UNF	H3	4.000	0.516	0.886	0.194	0.152	0.250	2	Bright
1294800	●	No. 10 - 32 UNF	H3	6.000	0.516	0.886	0.194	0.152	0.250	2	Bright
1294701	●	No. 10 - 32 UNF	H3	4.000	0.516	0.886	0.194	0.152	0.250	2	Steam Oxide
1294801	●	No. 10 - 32 UNF	H3	6.000	0.516	0.886	0.194	0.152	0.250	2	Steam Oxide
1294900	●	1/4 - 20 UNC	H3	4.000	0.638	1.008	0.255	0.191	0.313	2	Bright
1295000	●	1/4 - 20 UNC	H3	6.000	0.638	1.008	0.255	0.191	0.313	2	Bright
1294901	●	1/4 - 20 UNC	H3	4.000	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1295001	●	1/4 - 20 UNC	H3	6.000	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1295100	●	1/4 - 28 UNF	H3	6.000	0.638	1.008	0.255	0.191	0.313	2	Bright
1293901	●	1/4 - 28 UNF	H3	4.000	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1295101	●	1/4 - 28 UNF	H3	6.000	0.638	1.008	0.255	0.191	0.313	2	Steam Oxide
1295200	●	5/16 - 18 UNC	H3	6.000	0.724	1.154	0.318	0.238	0.375	2	Bright
2103000	●	5/16 - 18 UNC	H3	4.000	0.724	1.154	0.318	0.238	0.375	2	Bright
1293501	●	5/16 - 18 UNC	H3	4.000	0.724	1.154	0.318	0.238	0.375	3	Steam Oxide
1293701	●	5/16 - 18 UNC	H3	6.000	0.724	1.154	0.318	0.238	0.375	3	Steam Oxide
2103600	●	5/16 - 24 UNF	H3	6.000	0.724	1.154	0.318	0.238	0.375	2	Bright
1293301	●	5/16 - 24 UNF	H3	6.000	0.724	1.154	0.318	0.238	0.375	3	Steam Oxide
1295701	●	5/16 - 24 UNF	H3	4.000	0.724	1.154	0.318	0.238	0.375	3	Steam Oxide
1295300	●	3/8 - 16 UNC	H3	6.000	0.787	1.276	0.381	0.286	0.438	3	Bright
2103800	●	3/8 - 16 UNC	H3	4.000	0.787	1.276	0.381	0.286	0.438	3	Bright
1295301	●	3/8 - 16 UNC	H3	6.000	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
2103801	●	3/8 - 16 UNC	H3	4.000	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
2104400	●	3/8 - 24 UNF	H3	6.000	0.787	1.276	0.381	0.286	0.438	3	Bright
1295801	●	3/8 - 24 UNF	H3	4.000	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
2104401	●	3/8 - 24 UNF	H3	6.000	0.787	1.276	0.381	0.286	0.438	3	Steam Oxide
1295400	●	7/16 - 14 UNC	H3	6.000	0.882	1.315	0.323	0.242	0.406	3	Bright
1295401	●	7/16 - 14 UNC	H3	6.000	0.882	1.315	0.323	0.242	0.406	3	Steam Oxide
2105200	●	7/16 - 20 UNF	H3	6.000	0.882	1.315	0.323	0.242	0.406	3	Bright
1295500	●	1/2 - 13 UNC	H3	6.000	0.941	1.374	0.367	0.275	0.438	3	Bright
1295501	●	1/2 - 13 UNC	H3	6.000	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
1299401	●	1/2 - 13 UNC	H3	4.000	0.941	1.374	0.367	0.275	0.438	3	Steam Oxide
2106000	●	1/2 - 20 UNF	H3	6.000	0.941	1.374	0.367	0.275	0.438	3	Bright
1295600	●	5/8 - 11 UNC	H3	6.000	1.091	1.563	0.480	0.360	0.563	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 11118

SPIRAL POINT | HSS | S/O | C/4P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-LS-POT, Extended Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1111800201	●	M4 x 0.7	D4	101.60	10.00	19.30	4.27	3.33	6.35	2
1111800301	●	M4 x 0.7	D4	152.40	10.00	19.30	4.27	3.33	6.35	2
1111800401	●	M5 x 0.8	D4	101.60	13.00	22.40	4.93	3.86	6.35	2
1111800501	●	M5 x 0.8	D4	152.40	13.00	22.40	4.93	3.86	6.35	2
1111800601	●	M6 x 1	D5	101.60	16.30	26.00	6.48	4.85	7.94	2
1111800701	●	M6 x 1	D5	152.40	16.30	26.00	6.48	4.85	7.94	2
1111800801	●	M8 x 1.25	D5	101.60	18.00	29.80	8.08	6.05	9.53	3
1111800901	●	M8 x 1.25	D5	152.40	18.00	29.80	8.08	6.05	9.53	3
1111801001	●	M10 x 1.5	D6	101.60	20.10	32.50	9.68	7.26	11.11	3
1111801101	●	M10 x 1.5	D6	152.40	20.10	32.50	9.68	7.26	11.11	3
1111801201	●	M12 x 1.75	D6	101.60	23.90	34.90	9.32	6.99	11.11	3
1111801301	●	M12 x 1.75	D6	152.40	23.90	34.90	9.32	6.99	11.11	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

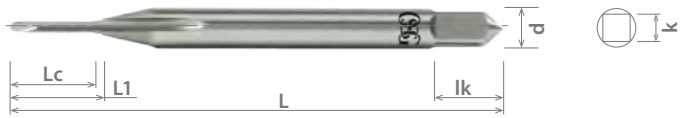
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List S111

Plug (3.5P-4.5P)

SPIRAL POINT	HSS	BR	2 FLUTE	C/4P	0°	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1050000	●	No. 00 - 90 NS	H1	1.728	0.280	0.339	0.141	0.110	0.188
1320000	●	No. 00 - 90 NS	H2	1.728	0.280	0.339	0.141	0.110	0.188
1080000	●	No. 00 - 96 NS	H1	1.728	0.280	0.339	0.141	0.110	0.188
2056000	●	No. 00 - 96 NS	H2	1.728	0.280	0.339	0.141	0.110	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

STT

Suggested Hole Size Limits for Different Lengths of Engagement

Tap Size	Basic O.D.	Basic P.D.	Depth of Thread Hole					
			Up to 1/3D		1/3 to 1/2D		1/2 to 3D	
			Min.	Max.	Min.	Max.	Min.	Max.
00-90	0.047	0.0398	0.0373	0.0385	0.0380	0.0392	0.0388	0.0400
00-96	0.047	0.0402	0.0379	0.0393	0.0388	0.0406	0.0397	0.0415

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 16615

A BRAND A-CHT, DIN Overall Length

STRAIGHT FLUTE | CARBIDE | BR | C/1.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1661500200	●	No. 12 - 24 UNC	H3	3.150	0.500	0.945	0.220	0.165	0.281	3
1661500300	●	No. 12 - 28 UNF	H3	3.150	0.500	0.945	0.220	0.165	0.281	3
1661500400	●	1/4 - 20 UNC	H5	3.150	0.598	1.181	0.255	0.191	0.313	3
1661500500	●	1/4 - 28 UNF	H4	3.150	0.598	1.181	0.255	0.191	0.313	3
1661500600	●	5/16 - 18 UNC	H5	3.543	0.665	1.378	0.318	0.238	0.375	4
1661500700	●	5/16 - 24 UNF	H4	3.543	0.665	1.378	0.318	0.238	0.375	4
1661500800	●	3/8 - 16 UNC	H5	3.937	0.752	1.378	0.381	0.286	0.438	4
1661500900	●	3/8 - 24 UNF	H4	3.543	0.752	1.378	0.381	0.286	0.438	4
1661501000	●	7/16 - 14 UNC	H5	3.937	0.858	-	0.323	0.242	0.406	4
1661501100	●	7/16 - 20 UNF	H5	3.937	0.858	-	0.323	0.242	0.406	4
1661501200	●	1/2 - 13 UNC	H5	4.331	0.921	-	0.367	0.275	0.438	4
1661501300	●	1/2 - 20 UNF	H5	3.937	0.921	-	0.367	0.275	0.438	4
1661501400	●	5/8 - 11 UNC	H5	4.331	1.091	-	0.480	0.360	0.563	4
1661501500	●	5/8 - 18 UNF	H5	3.937	1.091	-	0.480	0.360	0.563	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request. Reduce SFM 50% - 70% while using external coolant.

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								15-50 SFM		30-330 SFM						

○ Good ◎ Best

List 16610

A BRAND A-CHT, DIN Overall Length

A | STRAIGHT FLUTE | CARBIDE | BR | C/1.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1661000000	●	M5 x 0.8	D4	70.00	10.00	25.00	4.93	3.86	6.35	3
1661000100	●	M6 x 1	D5	80.00	12.00	31.00	6.48	4.85	7.94	3
1661000200	●	M8 x 1.25	D5	90.00	15.00	35.00	8.08	6.05	9.53	4
1661000400	●	M10 x 1.25	D5	100.00	18.00	39.00	9.68	7.26	11.11	4
1661000300	●	M10 x 1.5	D6	100.00	18.00	39.00	9.68	7.26	11.11	4
1661000700	●	M12 x 1.25	D6	100.00	21.00	-	9.32	6.99	11.11	4
1661000600	●	M12 x 1.5	D6	100.00	21.00	-	9.32	6.99	11.11	4
1661000500	●	M12 x 1.75	D6	110.00	21.00	-	9.32	6.99	11.11	4
1661000900	●	M14 x 1.5	D7	100.00	24.00	-	10.90	8.18	12.70	4
1661000800	●	M14 x 2	D7	110.00	24.00	-	10.90	8.18	12.70	4
1661001100	●	M16 x 1.5	D7	100.00	24.00	-	12.19	9.14	14.29	4
1661001000	●	M16 x 2	D7	110.00	24.00	-	12.19	9.14	14.29	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request. Reduce SFM 50% - 70% while using external coolant.

ATP

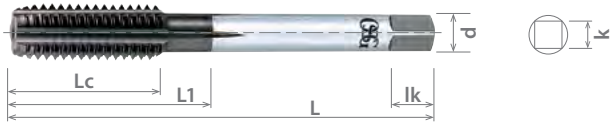
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								15-50 SFM		30-330 SFM						

○ Good ◎ Best

List 311

STRAIGHT FLUTE | CARBIDE | V | C/3P | 0° | PACKED 1 PIECE

EXOCARB® VX-OT, DIN Overall Length



EDP		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
3110108	●	No. 4 - 40 UNC	2B	2.205	0.295	0.705	0.141	0.110	0.188	4
3110208	●	No. 6 - 32 UNC	2B	2.205	0.370	0.783	0.141	0.110	0.188	4
3110308	●	No. 8 - 32 UNC	2B	2.480	0.374	0.827	0.168	0.131	0.250	4
3110408	●	No. 10 - 24 UNC	2B	2.756	0.492	0.976	0.194	0.152	0.250	4
3110508	●	No. 10 - 32 UNF	2B	2.756	0.500	0.984	0.194	0.152	0.250	4
3110608	●	1/4 - 20 UNC	2B	3.150	0.594	1.177	0.255	0.191	0.313	5
3110708	●	1/4 - 28 UNF	2B	3.150	0.606	1.189	0.255	0.191	0.313	5
3110808	●	5/16 - 18 UNC	2B	3.543	0.665	1.378	0.318	0.238	0.375	5
3110908	●	5/16 - 24 UNF	2B	3.543	0.665	1.378	0.318	0.238	0.375	5
3111008	●	3/8 - 16 UNC	2B	3.937	0.752	1.378	0.381	0.286	0.438	5
3111108	●	3/8 - 24 UNF	2B	3.937	0.752	1.378	0.381	0.286	0.438	5
3111208	●	7/16 - 14 UNC	2B	3.937	0.858	-	0.323	0.242	0.406	5
3111308	●	7/16 - 20 UNF	2B	3.937	0.858	-	0.323	0.242	0.406	5
3111408	●	1/2 - 13 UNC	2B	4.331	0.921	-	0.367	0.275	0.438	5
3111508	●	1/2 - 20 UNF	2B	4.331	0.921	-	0.367	0.275	0.438	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Tapping Guidelines

1. Set tapping speed between 3 ~ 10 SFM.
2. Choose largest hole-size possible, within the recommended tolerance range.
3. Use a non-water soluble cutting fluid.
4. Use highly rigid machine and tool holders.
5. Tapping by hand is NOT recommended.
6. For tapping length over 1.5D, step feed is recommended.

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340												○	◎
															3-10 SFM	3-10 SFM

○ Good ◎ Best

List 341

EXOCARB® VX-OT, JIS

STRAIGHT FLUTE | CARBIDE | V | C/3P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
8330049	●	M2.6 x 0.45	OH3	44.00	14.00	-	3.00	2.50	5.00	4
8330055	●	M3 x 0.5	OH3	45.90	11.00	19.00	4.00	3.20	6.00	4
8330061	●	M4 x 0.7	OH3	51.90	13.00	21.00	5.00	4.00	7.00	4
8330067	●	M5 x 0.8	OH3	59.90	15.90	23.90	5.50	4.50	7.00	4
8330073	●	M6 x 1	OH3	61.80	19.00	29.00	6.00	4.50	7.00	5
8330087	●	M8 x 1	OH3	70.00	22.00	-	6.20	5.00	8.00	5
8330085	●	M8 x 1.25	OH3	70.00	22.00	-	6.20	5.00	8.00	5
8330101	●	M10 x 1	OH3	75.00	24.00	-	7.00	5.50	8.00	5
8330099	●	M10 x 1.25	OH3	75.00	24.00	-	7.00	5.50	8.00	5
8330097	●	M10 x 1.5	OH3	75.00	24.00	-	7.00	5.50	8.00	5
8330121	●	M12 x 1	OH3	82.00	29.00	-	8.50	6.50	9.00	5
8330119	●	M12 x 1.25	OH4	82.00	29.00	-	8.50	6.50	9.00	5
8330117	●	M12 x 1.5	OH3	82.00	29.00	-	8.50	6.50	9.00	5
8330115	●	M12 x 1.75	OH3	82.00	29.00	-	8.50	6.50	9.00	5
8330125	●	M14 x 1.5	OH3	88.00	30.00	-	10.50	8.00	11.00	6
8330123	●	M14 x 2	OH4	88.00	30.00	-	10.50	8.00	11.00	6
8330133	●	M16 x 1.5	OH3	95.00	32.00	-	12.50	10.00	13.00	6
8330131	●	M16 x 2	OH4	95.00	32.00	-	12.50	10.00	13.00	6
8330141	●	M18 x 1.5	OH4	100.00	37.00	-	14.00	11.00	14.00	6
8330139	●	M18 x 2.5	OH4	100.00	37.00	-	14.00	11.00	14.00	6
8330149	●	M20 x 1.5	OH4	105.00	37.00	-	15.00	12.00	15.00	6
8330147	●	M20 x 2.5	OH4	105.00	37.00	-	15.00	12.00	15.00	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Tapping Guidelines

1. Set tapping speed between 3 ~ 10 SFM.
2. Choose largest hole-size possible, within the recommended tolerance range.
3. Use a non-water soluble cutting fluid.
4. Use highly rigid machine and tool holders.
5. Tapping by hand is NOT recommended.
6. For tapping length over 1.5D, step feed is recommended.

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
															○	◎
															3-10 SFM	3-10 SFM

○ Good ◎ Best

EXOCARB® Diamond

OSG Patented Diamond Coated Taps for High SiC Aluminum, MMC, and Carbon Fiber

List 329

STRAIGHT FLUTE | CARBIDE | DIA | C/1.5P | C/2.5P | 0° | PACKED 1 PIECE

EXOCARB® DIA-OTT, UNJF, DIN Overall Length



EDP		Thread Size	Class of Fit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
3291216	●	No. 4 - 40 UNC	3B	Bottom (1.5P)	2.205	0.295	0.705	0.141	0.110	0.188	3
3297016	●	No. 4 - 40 UNC	2B	Modified Bottom (2.5P)	2.205	0.295	0.705	0.141	0.110	0.188	3
3291316	●	No. 6 - 32 UNC	3B	Bottom (1.5P)	2.205	0.370	0.783	0.141	0.110	0.188	3
3297116	●	No. 6 - 32 UNC	2B	Modified Bottom (2.5P)	2.205	0.370	0.783	0.141	0.110	0.188	3
3291416	●	No. 8 - 32 UNC	3B	Bottom (1.5P)	2.480	0.374	0.827	0.168	0.131	0.250	3
3297216	●	No. 8 - 32 UNC	2B	Modified Bottom (2.5P)	2.480	0.374	0.827	0.168	0.131	0.250	3
3291516	●	No. 10 - 24 UNC	3B	Bottom (1.5P)	2.756	0.500	0.984	0.194	0.152	0.250	4
3297316	●	No. 10 - 24 UNC	2B	Modified Bottom (2.5P)	2.756	0.500	0.984	0.194	0.152	0.250	4
3291616	●	No. 10 - 32 UNF	3B	Bottom (1.5P)	2.756	0.500	0.984	0.194	0.152	0.250	4
3297416	●	No. 10 - 32 UNF	2B	Modified Bottom (2.5P)	2.756	0.500	0.984	0.194	0.152	0.250	4
3291716	●	1/4 - 20 UNC	3B	Bottom (1.5P)	3.150	0.606	1.189	0.255	0.191	0.313	4
3297516	●	1/4 - 20 UNC	2B	Modified Bottom (2.5P)	3.150	0.606	1.189	0.255	0.191	0.313	4
3291816	●	1/4 - 28 UNF	3B	Bottom (1.5P)	3.150	0.606	1.189	0.255	0.191	0.313	4
3297616	●	1/4 - 28 UNF	2B	Modified Bottom (2.5P)	3.150	0.606	1.189	0.255	0.191	0.313	4
3298516	●	5/16 - 18 UNC	3B	Bottom (1.5P)	3.543	0.665	1.378	0.318	0.238	0.375	4
3297716	●	5/16 - 18 UNC	2B	Modified Bottom (2.5P)	3.543	0.665	1.378	0.318	0.238	0.375	4
3298616	●	5/16 - 24 UNF	3B	Bottom (1.5P)	3.543	0.665	1.378	0.318	0.238	0.375	4
3297816	●	5/16 - 24 UNF	2B	Modified Bottom (2.5P)	3.543	0.665	1.378	0.318	0.238	0.375	4
3298716	●	3/8 - 16 UNC	3B	Bottom (1.5P)	3.937	0.752	1.378	0.381	0.286	0.438	4
3297916	●	3/8 - 16 UNC	2B	Modified Bottom (2.5P)	3.937	0.752	1.378	0.381	0.286	0.438	4
3298816	●	3/8 - 24 UNF	3B	Bottom (1.5P)	3.937	0.752	1.378	0.381	0.286	0.438	4
3298016	●	3/8 - 24 UNF	2B	Modified Bottom (2.5P)	3.937	0.752	1.378	0.381	0.286	0.438	4
3298916	●	7/16 - 14 UNC	3B	Bottom (1.5P)	3.937	0.858	-	0.323	0.242	0.406	5
3298116	●	7/16 - 14 UNC	2B	Modified Bottom (2.5P)	3.937	0.858	-	0.323	0.242	0.406	5
3299016	●	7/16 - 20 UNF	3B	Bottom (1.5P)	3.937	0.858	-	0.323	0.242	0.406	5
3298216	●	7/16 - 20 UNF	2B	Modified Bottom (2.5P)	3.937	0.858	-	0.323	0.242	0.406	5
3299116	●	1/2 - 13 UNC	3B	Bottom (1.5P)	4.331	0.921	-	0.367	0.275	0.438	5
3298316	●	1/2 - 13 UNC	2B	Modified Bottom (2.5P)	4.331	0.921	-	0.367	0.275	0.438	5
3299216	●	1/2 - 20 UNF	3B	Bottom (1.5P)	4.331	0.921	-	0.367	0.275	0.438	5
3298416	●	1/2 - 20 UNF	2B	Modified Bottom (2.5P)	4.331	0.921	-	0.367	0.275	0.438	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: 3B fit taps conform to UNJ Aerospace internal threading applications.

HTE

P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA					
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Composites)	Copper Alloys	Nickel Alloy	Titanium	Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Low	Medium	High																
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)				
									◎	◎	◎	○			◎			
									60-160 SFM	55-120 SFM	30-60 SFM	40-80 SFM			30-60 SFM			

○ Good ◎ Best

List 359

EXOCARB® DIA-OTT, JIS

STRAIGHT FLUTE | CARBIDE | DIA | C/2.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
3590116	●	M3 x 0.5	6H	46.00	11.00	19.00	4.00	3.20	6.00	3
3590216	●	M4 x 0.7	6H	52.00	13.00	21.00	5.00	4.00	7.00	4
3590316	●	M5 x 0.8	6H	60.00	16.00	24.00	5.50	4.50	7.00	4
3590416	●	M6 x 1	6H	62.00	19.00	29.00	6.00	4.50	7.00	4
3590516	●	M8 x 1.25	6H	70.00	22.00	-	6.20	5.00	8.00	4
3590616	●	M10 x 1.5	6H	75.00	24.00	-	7.00	5.50	8.00	5
3590716	●	M12 x 1.75	6H	82.00	29.00	-	8.50	6.50	9.00	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Compo-sites)	Copper Alloys	Nickel Alloy	Titan-ium				
Low	Medium	High																
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)				
									◎	◎	◎	○			◎			
									60-160 SFM	55-120 SFM	30-60 SFM	40-80 SFM			30-60 SFM			

○ Good ◎ Best

List 319

STRAIGHT FLUTE | CARBIDE | BR | C/1.5P | 0° | PACKED 1 PIECE

EXOCARB® CHT, DIN Overall Length



EDP		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
3190000	●	No. 4 - 40 UNC	2B	2.205	0.295	0.704	0.141	0.110	0.188	3
3190100	●	No. 6 - 32 UNC	2B	2.205	0.370	0.783	0.141	0.110	0.188	3
3190200	●	No. 8 - 32 UNC	2B	2.480	0.374	0.826	0.168	0.131	0.250	3
3190300	●	No. 10 - 24 UNC	2B	2.756	0.492	0.976	0.194	0.152	0.250	3
3190400	●	No. 10 - 32 UNF	2B	2.756	0.500	0.984	0.194	0.152	0.250	3
3190500	●	1/4 - 20 UNC	2B	3.150	0.594	1.177	0.255	0.191	0.313	3
3190600	●	1/4 - 28 UNF	2B	3.150	0.606	1.188	0.255	0.191	0.313	3
3190700	●	5/16 - 18 UNC	2B	3.543	0.665	1.377	0.318	0.238	0.375	4
3191500	●	5/16 - 24 UNF	2B	3.543	0.665	1.377	0.318	0.238	0.375	4
3190900	●	3/8 - 16 UNC	2B	3.937	0.751	1.377	0.381	0.286	0.438	4
3191000	●	3/8 - 24 UNF	2B	3.543	0.751	1.377	0.381	0.286	0.438	4
3191100	●	7/16 - 14 UNC	2B	3.937	0.858	-	0.323	0.242	0.406	4
3191200	●	7/16 - 20 UNF	2B	3.937	0.858	-	0.323	0.242	0.406	4
3191300	●	1/2 - 13 UNC	2B	4.331	0.921	-	0.367	0.275	0.438	4
3191400	●	1/2 - 20 UNF	2B	3.937	0.921	-	0.367	0.275	0.438	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HTE

P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA					
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Compo-sites)	Copper Alloys	Nickel Alloy	Titan-ium	Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Low	Medium	High																
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6AI4V (30 HRC)				
								◎	◎	◎		◎			○	◎		
								40-90 SFM	60-160 SFM	55-120 SFM		40-80 SFM			30-60 SFM	15-40 SFM		

○ Good ◎ Best

List 10059

EXOCARB® CHT

STRAIGHT FLUTE | CARBIDE | BR | 4 FLUTE | C/1.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1005910100	●	No. 10 - 24 UNC	2B	2.375	0.492	0.866	0.194	0.152	0.250
1005910200	●	No. 10 - 32 UNF	2B	2.375	0.500	0.874	0.194	0.152	0.250
1005910300	●	No. 12 - 24 UNC	2B	2.375	0.496	0.933	0.220	0.165	0.281
1005910400	●	1/4 - 20 UNC	2B	2.500	0.594	0.996	0.255	0.191	0.313
1005910500	●	1/4 - 28 UNF	2B	2.500	0.606	1.007	0.255	0.191	0.313
1005910600	●	5/16 - 18 UNC	2B	2.719	0.665	1.125	0.318	0.238	0.375
1005910700	●	5/16 - 24 UNF	2B	2.719	0.665	1.125	0.318	0.238	0.375
1005910800	●	3/8 - 16 UNC	2B	2.938	0.751	1.251	0.381	0.286	0.438
1005910900	●	3/8 - 24 UNF	2B	2.938	0.751	1.251	0.381	0.286	0.438

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HTE

P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA					
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Compo-sites)	Copper Alloys	Nickel Alloy	Titan-ium	Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Low	Medium	High																
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)				
								◎	◎	◎		◎			○	◎		
								40-90 SFM	60-160 SFM	55-120 SFM		40-80 SFM			30-60 SFM	15-40 SFM		

○ Good ◎ Best

List 10061

EXOCARB® CHT, DIN Overall Length

STRAIGHT FLUTE | CARBIDE | BR | C/1.5P | C/4.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1006101100	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	6.20	16.00	3.58	2.79	4.76	3
1006100100	●	M3 x 0.5	D3	Plug (4.5P)	49.20	6.20	16.00	3.58	2.79	4.76	3
1006101300	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	8.40	19.10	4.27	3.33	6.35	4
1006100300	●	M4 x 0.7	D4	Plug (4.5P)	54.00	8.40	19.10	4.27	3.33	6.35	4
1006101400	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	9.60	22.20	4.93	3.86	6.35	4
1006100400	●	M5 x 0.8	D4	Plug (4.5P)	60.30	9.60	22.20	4.93	3.86	6.35	4
1006101500	●	M6 x 1	D5	Bottom (1.5P)	63.50	12.00	25.80	6.48	4.85	7.94	4
1006100500	●	M6 x 1	D5	Plug (4.5P)	63.50	12.00	25.80	6.48	4.85	7.94	4
1006101700	●	M8 x 1	D5	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	4
1006100700	●	M8 x 1	D5	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	4
1006101800	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	4
1006100800	●	M8 x 1.25	D5	Plug (4.5P)	69.10	15.00	28.60	8.08	6.05	9.53	4
1006101900	●	M10 x 1.25	D5	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	4
1006100900	●	M10 x 1.25	D5	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	4
1006102000	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	4
1006101000	●	M10 x 1.5	D6	Plug (4.5P)	74.60	18.00	31.80	9.68	7.26	11.11	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HTE

P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA					
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Compo-sites)	Copper Alloys	Nickel Alloy	Titan-ium	Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Low	Medium	High																
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)				
								◎	◎	◎		◎			○	◎		
								40-90 SFM	60-160 SFM	55-120 SFM		40-80 SFM			30-60 SFM	15-40 SFM		

○ Good ◎ Best

List 349

EXOCARB® CHT, JIS

STRAIGHT FLUTE | CARBIDE | BR | C/1.5P | C/3P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
22800	●	M1.4 x 0.3	OH2	Bottom (1.5P)	34.00	9.00	11.50	3.00	2.50	5.00	3
24000	●	M1.4 x 0.3	OH2	Modified Bottom (3P)	34.00	9.00	11.50	3.00	2.50	5.00	3
22801	●	M1.6 x 0.35	OH3	Bottom (1.5P)	36.00	10.00	13.50	3.00	2.50	5.00	3
24001	●	M1.6 x 0.35	OH3	Modified Bottom (3P)	36.00	10.00	13.50	3.00	2.50	5.00	3
22802	●	M1.7 x 0.35	OH3	Bottom (1.5P)	36.00	11.00	13.50	3.00	2.50	5.00	3
24002	●	M1.7 x 0.35	OH3	Modified Bottom (3P)	36.00	11.00	13.50	3.00	2.50	5.00	3
22803	●	M1.8 x 0.35	OH3	Bottom (1.5P)	36.00	11.00	13.50	3.00	2.50	5.00	3
24003	●	M1.8 x 0.35	OH3	Modified Bottom (3P)	36.00	11.00	13.50	3.00	2.50	5.00	3
22804	●	M2 x 0.4	OH3	Bottom (1.5P)	40.00	12.00	16.00	3.00	2.50	5.00	3
24004	●	M2 x 0.4	OH3	Modified Bottom (3P)	40.00	12.00	16.00	3.00	2.50	5.00	3
22806	●	M2.3 x 0.4	OH3	Bottom (1.5P)	42.00	13.00	16.00	3.00	2.50	5.00	3
24006	●	M2.3 x 0.4	OH3	Modified Bottom (3P)	42.00	13.00	16.00	3.00	2.50	5.00	3
22807	●	M2.5 x 0.45	OH3	Bottom (1.5P)	44.00	14.00	17.00	3.00	2.50	5.00	3
24007	●	M2.5 x 0.45	OH3	Modified Bottom (3P)	44.00	14.00	17.00	3.00	2.50	5.00	3
22808	●	M2.6 x 0.45	OH3	Bottom (1.5P)	44.00	14.00	17.00	3.00	2.50	5.00	3
24008	●	M2.6 x 0.45	OH3	Modified Bottom (3P)	44.00	14.00	17.00	3.00	2.50	5.00	3
22810	●	M3 x 0.5	OH3	Bottom (1.5P)	46.00	11.00	13.00	4.00	3.20	6.00	3
24010	●	M3 x 0.5	OH3	Modified Bottom (3P)	46.00	11.00	13.00	4.00	3.20	6.00	3
22814	●	M4 x 0.7	OH3	Bottom (1.5P)	52.00	13.00	14.30	5.00	4.00	7.00	3
24014	●	M4 x 0.7	OH3	Modified Bottom (3P)	52.00	13.00	14.30	5.00	4.00	7.00	3
22817	●	M5 x 0.8	OH3	Bottom (1.5P)	60.00	16.00	17.80	5.50	4.50	7.00	3
24017	●	M5 x 0.8	OH3	Modified Bottom (3P)	60.00	16.00	17.80	5.50	4.50	7.00	3
22820	●	M6 x 1	OH3	Bottom (1.5P)	62.00	19.00	-	6.00	4.50	7.00	3
24020	●	M6 x 1	OH3	Modified Bottom (3P)	62.00	19.00	-	6.00	4.50	7.00	3
22831	●	M8 x 1	OH3	Bottom (1.5P)	70.00	22.00	-	6.20	5.00	8.00	4
24031	●	M8 x 1	OH3	Modified Bottom (3P)	70.00	22.00	-	6.20	5.00	8.00	4
22830	●	M8 x 1.25	OH4	Bottom (1.5P)	70.00	22.00	-	6.20	5.00	8.00	4
24030	●	M8 x 1.25	OH4	Modified Bottom (3P)	70.00	22.00	-	6.20	5.00	8.00	4
22835	●	M10 x 1	OH3	Bottom (1.5P)	75.00	20.00	-	7.00	5.50	8.00	4
24035	●	M10 x 1	OH3	Modified Bottom (3P)	75.00	20.00	-	7.00	5.50	8.00	4
22834	●	M10 x 1.25	OH4	Bottom (1.5P)	75.00	20.00	-	7.00	5.50	8.00	4
24034	●	M10 x 1.25	OH4	Modified Bottom (3P)	75.00	20.00	-	7.00	5.50	8.00	4
22833	●	M10 x 1.5	OH4	Bottom (1.5P)	75.00	24.00	-	7.00	5.50	8.00	4
24033	●	M10 x 1.5	OH4	Modified Bottom (3P)	75.00	24.00	-	7.00	5.50	8.00	4
22841	●	M12 x 1	OH3	Bottom (1.5P)	80.00	24.00	-	8.50	6.50	9.00	4
24041	●	M12 x 1	OH3	Modified Bottom (3P)	80.00	24.00	-	8.50	6.50	9.00	4
22840	●	M12 x 1.25	OH4	Bottom (1.5P)	80.00	24.00	-	8.50	6.50	9.00	4
24040	●	M12 x 1.25	OH4	Modified Bottom (3P)	80.00	24.00	-	8.50	6.50	9.00	4
22839	●	M12 x 1.5	OH4	Bottom (1.5P)	82.00	29.00	-	8.50	6.50	9.00	4
24039	●	M12 x 1.5	OH4	Modified Bottom (3P)	82.00	29.00	-	8.50	6.50	9.00	4
22837	●	M12 x 1.75	OH5	Bottom (1.5P)	82.00	29.00	-	8.50	6.50	9.00	4
24037	●	M12 x 1.75	OH5	Modified Bottom (3P)	82.00	29.00	-	8.50	6.50	9.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HTE

CONTINUED ›

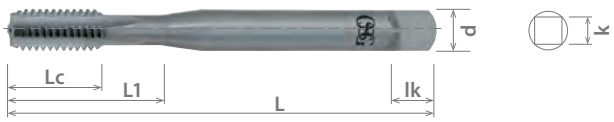
P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA					
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Composites)	Copper Alloys	Nickel Alloy	Titanium	Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Low	Medium	High							6061 7075	Casting			Inconel	6Al4V (30 HRC)				
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH											
								◎	◎	◎		◎			○	◎		
								40-90 SFM	60-160 SFM	55-120 SFM		40-80 SFM			30-60 SFM	15-40 SFM		

○ Good ◎ Best

List 349 (Continued)

STRAIGHT FLUTE | CARBIDE | BR | 4 FLUTE | C/1.5P | C/3P | 0° | PACKED 1 PIECE

EXOCARB® CHT, DIN Overall Lenght



EDP		Thread Size	Class of Fit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
24048	●	M14 x 1.5	OH4	Bottom (1.5P)	88.00	21.00	-	10.50	8.00	11.00	4
24047	●	M14 x 1.5	OH4	Modified Bottom (3P)	88.00	21.00	-	10.50	8.00	11.00	4
24046	●	M14 x 2	OH4	Bottom (1.5P)	88.00	29.00	-	10.50	8.00	11.00	4
24045	●	M14 x 2	OH4	Modified Bottom (3P)	88.00	29.00	-	10.50	8.00	11.00	4
24054	●	M16 x 1.5	OH4	Bottom (1.5P)	95.00	29.00	-	12.50	10.00	13.00	4
24053	●	M16 x 1.5	OH4	Modified Bottom (3P)	95.00	29.00	-	12.50	10.00	13.00	4
24052	●	M16 x 2	OH5	Bottom (1.5P)	95.00	29.00	-	12.50	10.00	13.00	4
24051	●	M16 x 2	OH5	Modified Bottom (3P)	95.00	29.00	-	12.50	10.00	13.00	4
24060	●	M18 x 1.5	OH4	Bottom (1.5P)	95.00	29.00	-	14.00	11.00	14.00	4
24059	●	M18 x 1.5	OH4	Modified Bottom (3P)	95.00	29.00	-	14.00	11.00	14.00	4
24056	●	M18 x 2.5	OH5	Bottom (1.5P)	100.00	35.00	-	14.00	11.00	14.00	4
24055	●	M18 x 2.5	OH5	Modified Bottom (3P)	100.00	35.00	-	14.00	11.00	14.00	4
24066	●	M20 x 1.5	OH4	Bottom (1.5P)	95.00	29.00	-	15.00	12.00	15.00	4
24065	●	M20 x 1.5	OH4	Modified Bottom (3P)	95.00	29.00	-	15.00	12.00	15.00	4
24062	●	M20 x 2.5	OH5	Bottom (1.5P)	105.00	35.00	-	15.00	12.00	15.00	4
24061	●	M20 x 2.5	OH5	Modified Bottom (3P)	105.00	35.00	-	15.00	12.00	15.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HTE

P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA					
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Compo-sites)	Copper Alloys	Nickel Alloy	Titan-ium	Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Low	Medium	High																
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)				
								◎	◎	◎		◎			○	◎		
								40-90 SFM	60-160 SFM	55-120 SFM		40-80 SFM			30-60 SFM	15-40 SFM		

○ Good ◎ Best

List 356

EXOCARB® LT-OTT, JIS

STRAIGHT FLUTE | CARBIDE | BR | C/1.5P | C/3P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
22929	●	M6 x 1	OH3	100.00	24.00	6.00	4.50	7.00	3
22933	●	M8 x 1.25	OH4	150.00	22.00	6.20	5.00	8.00	4
22949	●	M10 x 1	OH4	150.00	24.00	7.00	5.50	8.00	4
22945	●	M10 x 1.25	OH4	150.00	24.00	7.00	5.50	8.00	4
22941	●	M10 x 1.5	OH4	150.00	24.00	7.00	5.50	8.00	4
22953	●	M12 x 1.75	OH4	150.00	29.00	8.50	6.50	9.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

HTE

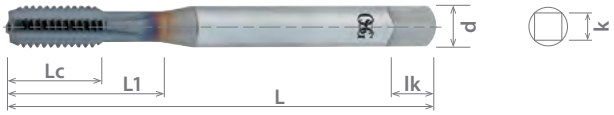
P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA					
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Compo-sites)	Copper Alloys	Nickel Alloy	Titan-ium	Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Low	Medium	High																
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)				
								◎	◎	◎		◎			○	◎		
								40-90 SFM	60-160 SFM	55-120 SFM		40-80 SFM			30-60 SFM	15-40 SFM		

○ Good ◎ Best

List 10051

EXOTAP® VCX V-XPM-HT

STRAIGHT FLUTE | XPM | V | C/2.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1005110508	●	No. 6 - 32 UNC	H3	2.000	0.374	0.688	0.141	0.110	0.188	4
1005110808	●	No. 8 - 32 UNC	H3	2.125	0.374	0.751	0.168	0.131	0.250	4
1005111008	●	No. 10 - 24 UNC	H3	2.375	0.500	0.874	0.194	0.152	0.250	4
1005111208	●	No. 10 - 32 UNF	H3	2.375	0.500	0.874	0.194	0.152	0.250	4
1005111408	●	1/4 - 20 UNC	H5	2.500	0.598	1.000	0.255	0.191	0.313	4
1005111608	●	1/4 - 28 UNF	H4	2.500	0.586	0.988	0.255	0.191	0.313	4
1005111808	●	5/16 - 18 UNC	H5	2.719	0.665	1.125	0.318	0.238	0.375	5
1005112008	●	5/16 - 24 UNF	H4	2.719	0.665	1.125	0.318	0.238	0.375	5
1005112208	●	3/8 - 16 UNC	H5	2.938	0.751	1.251	0.381	0.286	0.438	5
1005112408	●	3/8 - 24 UNF	H4	2.938	0.751	1.251	0.381	0.286	0.438	5
1005113008	●	1/2 - 13 UNC	H5	3.375	0.921	1.933	0.367	0.275	0.438	5
1005113208	●	1/2 - 20 UNF	H5	3.375	0.921	1.933	0.367	0.275	0.438	5
1005113408	●	9/16 - 12 UNC	H5	3.594	1.000	1.972	0.429	0.322	0.500	5
1005113608	●	9/16 - 18 UNF	H5	3.594	1.000	1.972	0.429	0.322	0.500	5
1005113808	●	5/8 - 11 UNC	H6	3.813	1.091	2.126	0.480	0.360	0.563	5
1005114008	●	5/8 - 18 UNF	H5	3.813	1.091	2.126	0.480	0.360	0.563	5
1005114208	●	3/4 - 10 UNC	H6	4.250	1.201	2.433	0.590	0.442	0.688	5
1005114408	●	3/4 - 16 UNF	H5	4.250	1.201	2.433	0.590	0.442	0.688	5
1005114608	●	7/8 - 9 UNC	H7	4.688	1.335	2.654	0.697	0.523	0.750	5
1005114808	●	7/8 - 14 UNF	H6	4.688	1.335	2.654	0.697	0.523	0.750	5
1005115008	●	1 - 8 UNC	H7	5.125	1.500	3.012	0.800	0.600	0.813	5
1005115208	●	1 - 12 UNF	H6	5.125	1.500	3.012	0.800	0.600	0.813	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

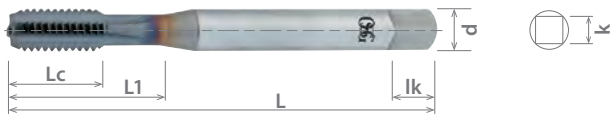
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○												◎	
			15-20 SFM												8-15 SFM	

○ Good ◎ Best

List 11051

EXOTAP® VCX V-XPM-HT

STRAIGHT FLUTE | XPM | V | C/2.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1105100108	●	M3 x 0.5	D3	49.20	6.20	16.10	3.58	2.79	4.76	4
1105100208	●	M4 x 0.7	D4	54.00	8.40	19.10	4.27	3.33	6.35	4
1105100308	●	M5 x 0.8	D4	60.30	9.60	22.20	4.93	3.86	6.35	4
1105100408	●	M6 x 1	D5	63.00	12.00	25.40	6.48	4.85	7.94	4
1105100608	●	M8 x 1	D5	69.10	15.00	28.60	8.08	6.05	9.53	5
1105100508	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	5
1105100908	●	M10 x 1	D5	74.60	18.00	31.80	9.68	7.26	11.11	5
1105100808	●	M10 x 1.25	D5	74.60	18.00	31.80	9.68	7.26	11.11	5
1105100708	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	5
1105101208	●	M12 x 1.25	D6	85.70	21.00	49.10	9.32	6.99	11.11	5
1105101108	●	M12 x 1.5	D6	85.70	21.00	49.10	9.32	6.99	11.11	5
1105101008	●	M12 x 1.75	D6	85.70	21.00	49.10	9.32	6.99	11.11	5
1105101408	●	M14 x 1.5	D6	91.30	24.00	50.10	10.90	8.18	12.70	5
1105101308	●	M14 x 2	D7	91.30	24.00	50.10	10.90	8.18	12.70	5
1105101608	●	M16 x 1.5	D6	96.80	24.00	54.00	12.19	9.14	14.29	5
1105101508	●	M16 x 2	D7	96.80	24.00	54.00	12.19	9.14	14.29	5
1105101808	●	M18 x 1.5	D6	102.40	30.00	55.00	13.77	10.31	15.88	5
1105101708	●	M18 x 2.5	D7	102.40	30.00	55.00	13.77	10.31	15.88	5
1105102008	●	M20 x 1.5	D6	113.50	30.00	61.80	16.56	12.42	17.46	5
1105101908	●	M20 x 2.5	D7	113.50	30.00	61.80	16.56	12.42	17.46	5
1105102208	●	M22 x 1.5	D6	119.10	30.00	67.40	17.70	13.28	19.05	5
1105102108	●	M22 x 2.5	D7	119.10	30.00	67.40	17.70	13.28	19.05	5
1105102408	●	M24 x 1.5	D6	124.60	36.00	68.40	19.30	14.48	19.05	5
1105102308	●	M24 x 3	D8	124.60	36.00	68.40	19.30	14.48	19.05	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

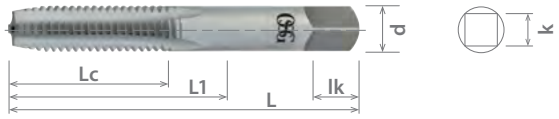
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○												◎	
			15-20 SFM												8-15 SFM	

○ Good ◎ Best

List 305

STRAIGHT FLUTE | HSS-Co | BR | C/4P | 0° | PACKED 1 PIECE

EXOTAP-MOLD® HT



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1745000	●	No. 4 - 40 UNC	H2	1.875	0.562	0.598	0.141	0.110	0.188	3
1745100	●	No. 6 - 32 UNC	H3	2.000	0.688	-	0.141	0.110	0.188	3
1745200	●	No. 8 - 32 UNC	H3	2.125	0.751	-	0.168	0.131	0.250	3
1745300	●	No. 10 - 24 UNC	H3	2.375	0.874	-	0.194	0.152	0.250	3
1745400	●	No. 10 - 32 UNF	H3	2.375	0.874	-	0.194	0.152	0.250	3
1745500	●	1/4 - 20 UNC	H3	2.500	1.000	-	0.255	0.191	0.313	3
1734000	●	1/4 - 20 UNC	H3	2.500	1.000	-	0.255	0.191	0.313	4
1745600	●	1/4 - 28 UNF	H3	2.500	1.000	-	0.255	0.191	0.313	3
1739000	●	1/4 - 28 UNF	H3	2.500	1.000	-	0.255	0.191	0.313	4
1734100	●	5/16 - 18 UNC	H3	2.719	1.125	-	0.318	0.238	0.375	4
1739100	●	5/16 - 24 UNF	H3	2.719	1.125	-	0.318	0.238	0.375	4
1734200	●	3/8 - 16 UNC	H3	2.938	1.251	-	0.381	0.286	0.438	4
1739200	●	3/8 - 24 UNF	H3	2.938	1.251	-	0.381	0.286	0.438	4
1739600	●	7/16 - 14 UNC	H3	3.156	1.437	-	0.323	0.242	0.406	4
1739700	●	7/16 - 20 UNF	H3	3.156	1.437	-	0.323	0.242	0.406	4
1734300	●	1/2 - 13 UNC	H3	3.375	1.657	-	0.367	0.275	0.438	4
1739300	●	1/2 - 20 UNF	H3	3.375	1.657	-	0.367	0.275	0.438	4
1734400	●	5/8 - 11 UNC	H3	3.813	1.811	-	0.480	0.360	0.563	4
1739400	●	5/8 - 18 UNF	H3	3.813	1.811	-	0.480	0.360	0.563	4
1734500	●	3/4 - 10 UNC	H3	4.250	2.000	-	0.590	0.442	0.688	4
1739500	●	3/4 - 16 UNF	H3	4.250	2.000	-	0.590	0.442	0.688	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EXT

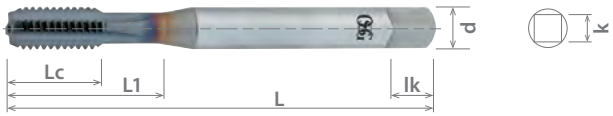
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○	◎									◎	○		
			20-40 SFM	15-20 SFM									15-35 SFM	8-15 SFM		

○ Good ◎ Best

List 10052

EXOTAP® DC VP-DC-HT, DIN Overall Length

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1005200108	●	1/4 - 20 UNC	H3	3.150	0.598	1.181	0.255	0.191	0.313	4
1005200208	●	1/4 - 20 UNC	H5	3.150	0.598	1.181	0.255	0.191	0.313	4
1005200308	●	1/4 - 28 UNF	H3	3.150	0.598	1.181	0.255	0.191	0.313	4
1005200408	●	5/16 - 18 UNC	H3	3.543	0.665	1.377	0.318	0.238	0.375	4
1005200508	●	5/16 - 18 UNC	H5	3.543	0.665	1.377	0.318	0.238	0.375	4
1005200608	●	5/16 - 24 UNF	H3	3.543	0.665	1.377	0.318	0.238	0.375	4
1005200708	●	3/8 - 16 UNC	H3	3.937	0.751	1.377	0.381	0.286	0.438	4
1005200808	●	3/8 - 16 UNC	H5	3.937	0.751	1.377	0.381	0.286	0.438	4
1005200908	●	3/8 - 24 UNF	H3	3.937	0.751	1.377	0.381	0.286	0.438	4
1005201008	●	7/16 - 14 UNC	H3	3.937	0.858	1.712	0.323	0.242	0.406	4
1005201108	●	7/16 - 14 UNC	H5	3.937	0.858	1.712	0.323	0.242	0.406	4
1005201208	●	7/16 - 20 UNF	H3	3.937	0.858	1.712	0.323	0.242	0.406	4
1005201308	●	7/16 - 20 UNF	H5	3.937	0.858	1.712	0.323	0.242	0.406	4
1005201408	●	1/2 - 13 UNC	H3	4.331	0.921	1.933	0.367	0.275	0.438	4
1005201508	●	1/2 - 13 UNC	H5	4.331	0.921	1.933	0.367	0.275	0.438	4
1005201608	●	1/2 - 20 UNF	H3	3.937	0.921	1.933	0.367	0.275	0.438	4
1005201708	●	1/2 - 20 UNF	H5	3.937	0.921	1.933	0.367	0.275	0.438	4
1005201808	●	9/16 - 12 UNC	H3	4.331	1.000	1.972	0.429	0.322	0.500	5
1005201908	●	9/16 - 12 UNC	H5	4.331	1.000	1.972	0.429	0.322	0.500	5
1005202008	●	9/16 - 18 UNF	H3	3.937	1.000	1.972	0.429	0.322	0.500	5
1005202108	●	9/16 - 18 UNF	H5	3.937	1.000	1.972	0.429	0.322	0.500	5
1005202208	●	5/8 - 11 UNC	H3	4.331	1.090	2.125	0.480	0.360	0.563	5
1005202308	●	5/8 - 11 UNC	H5	4.331	1.090	2.125	0.480	0.360	0.563	5
1005202408	●	5/8 - 18 UNF	H3	3.937	1.090	2.125	0.480	0.360	0.563	5
1005202508	●	5/8 - 18 UNF	H5	3.937	1.090	2.125	0.480	0.360	0.563	5
1005202608	●	3/4 - 10 UNC	H3	4.921	1.200	2.433	0.590	0.442	0.688	5
1005202708	●	3/4 - 10 UNC	H5	4.921	1.200	2.433	0.590	0.442	0.688	5
1005202808	●	3/4 - 16 UNF	H3	4.331	1.200	2.433	0.590	0.442	0.688	5
1005202908	●	3/4 - 16 UNF	H5	4.331	1.200	2.433	0.590	0.442	0.688	5
1005203008	●	7/8 - 9 UNC	H3	5.512	1.334	2.653	0.697	0.523	0.750	5
1005203108	●	7/8 - 9 UNC	H5	5.512	1.334	2.653	0.697	0.523	0.750	5
1005203208	●	7/8 - 14 UNF	H3	4.921	1.334	2.653	0.697	0.523	0.750	5
1005203308	●	7/8 - 14 UNF	H5	4.921	1.334	2.653	0.697	0.523	0.750	5
1005203408	●	1 - 8 UNC	H3	6.299	1.500	3.011	0.800	0.600	0.813	5
1005203508	●	1 - 8 UNC	H5	6.299	1.500	3.011	0.800	0.600	0.813	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

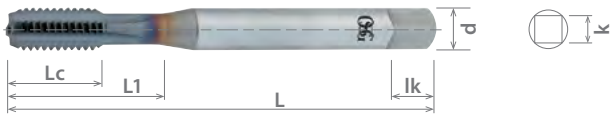
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								25-75 SFM		40-65 SFM						

○ Good ◎ Best

List 11052

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE

EXOTAP® DC VP-DC-HT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1105200108	●	M6 x 1	D5	80.00	12.00	30.00	6.48	4.85	7.94	3
1105200208	●	M8 x 1.25	D5	90.00	15.00	35.00	8.08	6.05	9.53	4
1105200308	●	M10 x 1	D5	90.00	18.00	39.00	9.68	7.26	11.11	4
1105200408	●	M10 x 1.25	D6	100.00	18.00	39.00	9.68	7.26	11.11	4
1105200508	●	M10 x 1.5	D6	100.00	18.00	39.00	9.68	7.26	11.11	4
1105200608	●	M12 x 1.25	D6	100.00	21.00	49.10	9.32	6.99	11.11	4
1105200708	●	M12 x 1.5	D6	100.00	21.00	49.10	9.32	6.99	11.11	4
1105200808	●	M12 x 1.75	D6	110.00	21.00	49.10	9.32	6.99	11.11	4
1105200908	●	M14 x 1.5	D7	100.00	24.00	50.10	10.90	8.18	12.70	5
1105201008	●	M14 x 2	D7	110.00	24.00	50.10	10.90	8.18	12.70	5
1105201108	●	M16 x 1.5	D6	100.00	24.00	54.00	12.19	9.14	14.29	5
1105201208	●	M16 x 2	D7	110.00	24.00	54.00	12.19	9.14	14.29	5
1105201308	●	M18 x 1.5	D6	110.00	30.00	55.00	13.77	10.31	15.88	5
1105201408	●	M18 x 2	D7	125.00	30.00	55.00	13.77	10.31	15.88	5
1105201508	●	M18 x 2.5	D7	125.00	30.00	55.00	13.77	10.31	15.88	5
1105201608	●	M20 x 1.5	D6	125.00	30.00	61.80	16.56	12.42	17.46	5
1105201708	●	M20 x 2	D7	140.00	30.00	61.80	16.56	12.42	17.46	5
1105201808	●	M20 x 2.5	D7	140.00	30.00	61.80	16.56	12.42	17.46	5
1105201908	●	M22 x 1.5	D6	125.00	30.00	67.40	17.70	13.28	19.05	5
1105202008	●	M22 x 2	D8	140.00	30.00	67.40	17.70	13.28	19.05	5
1105202108	●	M22 x 2.5	D8	140.00	30.00	67.40	17.70	13.28	19.05	5
1105202208	●	M24 x 1.5	D6	140.00	36.00	68.40	19.30	14.48	19.05	5
1105202308	●	M24 x 2	D8	140.00	36.00	68.40	19.30	14.48	19.05	5
1105202408	●	M24 x 3	D8	160.00	36.00	68.40	19.30	14.48	19.05	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

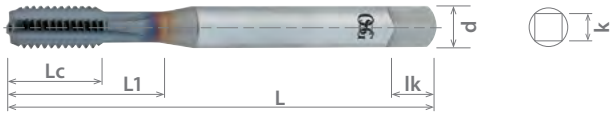
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								25-75 SFM		40-65 SFM						

○ Good ◎ Best

List 10053

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE

EXOTAP® DC-OIL VPO-DC-HT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1005300108	●	1/4 - 20 UNC	H3	3.150	0.598	1.181	0.255	0.191	0.313	4
1005300208	●	1/4 - 20 UNC	H5	3.150	0.598	1.181	0.255	0.191	0.313	4
1005300308	●	1/4 - 28 UNF	H3	3.150	0.598	1.181	0.255	0.191	0.313	4
1005300408	●	5/16 - 18 UNC	H3	3.543	0.665	1.377	0.318	0.238	0.375	4
1005300508	●	5/16 - 18 UNC	H5	3.543	0.665	1.377	0.318	0.238	0.375	4
1005300608	●	5/16 - 24 UNF	H3	3.543	0.665	1.377	0.318	0.238	0.375	4
1005300708	●	3/8 - 16 UNC	H3	3.937	0.751	1.377	0.381	0.286	0.438	4
1005300808	●	3/8 - 16 UNC	H5	3.937	0.751	1.377	0.381	0.286	0.438	4
1005300908	●	3/8 - 24 UNF	H3	3.937	0.751	1.377	0.381	0.286	0.438	4
1005301008	●	7/16 - 14 UNC	H3	3.937	0.858	1.712	0.323	0.242	0.406	4
1005301108	●	7/16 - 14 UNC	H5	3.937	0.858	1.712	0.323	0.242	0.406	4
1005301208	●	7/16 - 20 UNF	H3	3.937	0.858	1.712	0.323	0.242	0.406	4
1005301308	●	7/16 - 20 UNF	H5	3.937	0.858	1.712	0.323	0.242	0.406	4
1005301408	●	1/2 - 13 UNC	H3	4.331	0.921	1.933	0.367	0.275	0.438	4
1005301508	●	1/2 - 13 UNC	H5	4.331	0.921	1.933	0.367	0.275	0.438	4
1005301608	●	1/2 - 20 UNF	H3	3.937	0.921	1.933	0.367	0.275	0.438	4
1005301708	●	1/2 - 20 UNF	H5	3.937	0.921	1.933	0.367	0.275	0.438	4
1005301808	●	9/16 - 12 UNC	H3	4.331	1.000	1.972	0.429	0.322	0.500	5
1005301908	●	9/16 - 12 UNC	H5	4.331	1.000	1.972	0.429	0.322	0.500	5
1005302008	●	9/16 - 18 UNF	H3	3.937	1.000	1.972	0.429	0.322	0.500	5
1005302108	●	9/16 - 18 UNF	H5	3.937	1.000	1.972	0.429	0.322	0.500	5
1005302208	●	5/8 - 11 UNC	H3	4.331	1.090	2.125	0.480	0.360	0.563	5
1005302308	●	5/8 - 11 UNC	H5	4.331	1.090	2.125	0.480	0.360	0.563	5
1005302408	●	5/8 - 18 UNF	H3	3.937	1.090	2.125	0.480	0.360	0.563	5
1005302508	●	5/8 - 18 UNF	H5	3.937	1.090	2.125	0.480	0.360	0.563	5
1005302608	●	3/4 - 10 UNC	H3	4.921	1.200	2.433	0.590	0.442	0.688	5
1005302708	●	3/4 - 10 UNC	H5	4.921	1.200	2.433	0.590	0.442	0.688	5
1005302808	●	3/4 - 16 UNF	H3	4.331	1.200	2.433	0.590	0.442	0.688	5
1005302908	●	3/4 - 16 UNF	H5	4.331	1.200	2.433	0.590	0.442	0.688	5
1005303008	●	7/8 - 9 UNC	H3	5.512	1.334	2.653	0.697	0.523	0.750	5
1005303108	●	7/8 - 9 UNC	H5	5.512	1.334	2.653	0.697	0.523	0.750	5
1005303208	●	7/8 - 14 UNF	H3	4.921	1.334	2.653	0.697	0.523	0.750	5
1005303308	●	7/8 - 14 UNF	H5	4.921	1.334	2.653	0.697	0.523	0.750	5
1005303408	●	1 - 8 UNC	H3	6.299	1.500	3.011	0.800	0.600	0.813	5
1005303508	●	1 - 8 UNC	H5	6.299	1.500	3.011	0.800	0.600	0.813	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

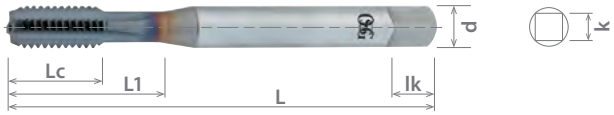
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								40-100 SFM		50-110 SFM						

○ Good ◎ Best

List 11053

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE

EXOTAP® DC-OIL VPO-DC-HT, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1105300108	●	M6 x 1	D5	80.00	12.00	30.00	6.48	4.85	7.94	3
1105300208	●	M8 x 1.25	D5	90.00	15.00	35.00	8.08	6.05	9.53	4
1105300308	●	M10 x 1.25	D6	100.00	18.00	39.00	9.68	7.26	11.11	4
1105300408	●	M10 x 1.5	D6	100.00	18.00	39.00	9.68	7.26	11.11	4
1105302508	●	M12 x 1.25	D6	100.00	21.00	49.10	9.32	6.99	11.11	4
1105300508	●	M12 x 1.5	D6	100.00	21.00	49.10	9.32	6.99	11.11	4
1105300608	●	M12 x 1.75	D6	110.00	21.00	49.10	9.32	6.99	11.11	4
1105300708	●	M14 x 1.5	D7	100.00	24.00	50.10	10.90	8.18	12.70	5
1105300808	●	M14 x 2	D7	110.00	24.00	50.10	10.90	8.18	12.70	5
1105301108	●	M16 x 1.5	D6	100.00	24.00	54.00	12.19	9.14	14.29	5
1105301208	●	M16 x 2	D7	110.00	24.00	54.00	12.19	9.14	14.29	5
1105301308	●	M18 x 1.5	D6	110.00	30.00	55.00	13.77	10.31	15.88	5
1105301408	●	M18 x 2	D7	125.00	30.00	55.00	13.77	10.31	15.88	5
1105301508	●	M18 x 2.5	D7	125.00	30.00	55.00	13.77	10.31	15.88	5
1105301608	●	M20 x 1.5	D6	125.00	30.00	61.80	16.56	12.42	17.46	5
1105301708	●	M20 x 2	D7	140.00	30.00	61.80	16.56	12.42	17.46	5
1105301808	●	M20 x 2.5	D7	140.00	30.00	61.80	16.56	12.42	17.46	5
1105301908	●	M22 x 1.5	D6	125.00	30.00	67.40	17.70	13.28	19.05	5
1105302008	●	M22 x 2	D8	140.00	30.00	67.40	17.70	13.28	19.05	5
1105302108	●	M22 x 2.5	D8	140.00	30.00	67.40	17.70	13.28	19.05	5
1105302208	●	M24 x 1.5	D6	140.00	36.00	68.40	19.30	14.48	19.05	5
1105302308	●	M24 x 2	D8	140.00	36.00	68.40	19.30	14.48	19.05	5
1105302408	●	M24 x 3	D8	160.00	36.00	68.40	19.30	14.48	19.05	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

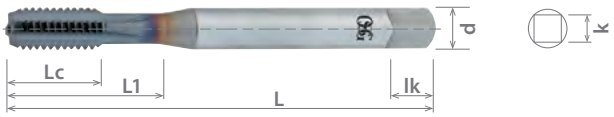
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								40-100 SFM		50-110 SFM						

○ Good ◎ Best

List 11054

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE

EXOTAP® DC VP-DC-HT, DIN Shank, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1105400108	●	M6 x 1	D5	80.00	12.00	30.00	6.00	4.90	8.00	3
1105400208	●	M8 x 1.25	D5	90.00	15.00	35.00	8.00	6.20	9.00	4
1105400308	●	M10 x 1.5	D6	100.00	18.00	39.00	10.00	8.00	11.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

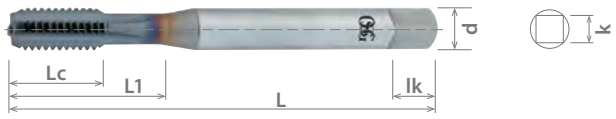
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								25-75 SFM		40-65 SFM						

○ Good ◎ Best

List 11055

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE

EXOTAP® DC-OIL VPO-DC-HT, DIN Shank, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1105500108	●	M6 x 1	D5	80.00	12.00	30.00	6.00	4.90	8.00	3
1105500208	●	M8 x 1.25	D5	90.00	14.00	34.90	8.00	6.20	9.00	4
1105500308	●	M10 x 1.5	D6	100.00	17.00	38.90	10.00	8.00	11.00	4
1105500408	●	M12 x 1.75	D6	110.00	20.00	43.90	9.00	7.00	10.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

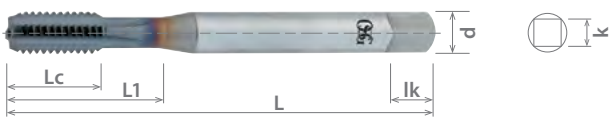
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								40-100 SFM		50-110 SFM						

○ Good ◎ Best

List 10056

EXOTAP® DC VP-DC-HT

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1005600108	●	1/4 - 20 UNC	H3	2.500	0.598	1.000	0.255	0.191	0.313	4
1005600208	●	1/4 - 20 UNC	H5	2.500	0.598	1.000	0.255	0.191	0.313	4
1005600308	●	1/4 - 28 UNF	H3	2.500	0.598	1.000	0.255	0.191	0.313	4
1005600408	●	5/16 - 18 UNC	H3	2.720	0.665	1.125	0.318	0.238	0.375	4
1005600508	●	5/16 - 18 UNC	H5	2.720	0.665	1.125	0.318	0.238	0.375	4
1005600608	●	5/16 - 24 UNF	H3	2.720	0.665	1.125	0.318	0.238	0.375	4
1005600708	●	3/8 - 16 UNC	H3	2.930	0.751	1.251	0.381	0.286	0.438	4
1005600808	●	3/8 - 16 UNC	H5	2.930	0.751	1.251	0.381	0.286	0.438	4
1005600908	●	3/8 - 24 UNF	H3	2.930	0.751	1.251	0.381	0.286	0.438	4
1005601008	●	7/16 - 14 UNC	H3	3.150	0.858	1.712	0.323	0.242	0.406	4
1005601108	●	7/16 - 14 UNC	H5	3.150	0.858	1.712	0.323	0.242	0.406	4
1005601208	●	7/16 - 20 UNF	H3	3.150	0.858	1.712	0.323	0.242	0.406	4
1005601308	●	7/16 - 20 UNF	H5	3.150	0.858	1.712	0.323	0.242	0.406	4
1005601408	●	1/2 - 13 UNC	H3	3.370	0.921	1.933	0.367	0.275	0.438	4
1005601508	●	1/2 - 13 UNC	H5	3.370	0.921	1.933	0.367	0.275	0.438	4
1005601608	●	1/2 - 20 UNF	H3	3.370	0.921	1.933	0.367	0.275	0.438	4
1005601708	●	1/2 - 20 UNF	H5	3.370	0.921	1.933	0.367	0.275	0.438	4
1005601808	●	9/16 - 12 UNC	H3	3.590	1.000	1.972	0.429	0.322	0.500	5
1005601908	●	9/16 - 12 UNC	H5	3.590	1.000	1.972	0.429	0.322	0.500	5
1005602008	●	9/16 - 18 UNF	H3	3.590	1.000	1.972	0.429	0.322	0.500	5
1005602108	●	9/16 - 18 UNF	H5	3.590	1.000	1.972	0.429	0.322	0.500	5
1005602208	●	5/8 - 11 UNC	H3	3.810	1.090	2.125	0.480	0.360	0.563	5
1005602308	●	5/8 - 11 UNC	H5	3.810	1.090	2.125	0.480	0.360	0.563	5
1005602408	●	5/8 - 18 UNF	H3	3.810	1.090	2.125	0.480	0.360	0.563	5
1005602508	●	5/8 - 18 UNF	H5	3.810	1.090	2.125	0.480	0.360	0.563	5
1005602608	●	3/4 - 10 UNC	H3	4.250	1.200	2.433	0.590	0.442	0.688	5
1005602708	●	3/4 - 10 UNC	H5	4.250	1.200	2.433	0.590	0.442	0.688	5
1005602808	●	3/4 - 16 UNF	H3	4.250	1.200	2.433	0.590	0.442	0.688	5
1005602908	●	3/4 - 16 UNF	H5	4.250	1.200	2.433	0.590	0.442	0.688	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

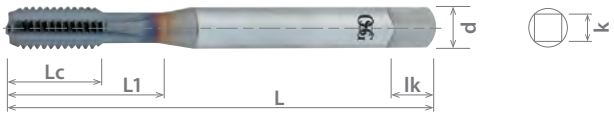
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								25-75 SFM		40-65 SFM						

○ Good ◎ Best

List 11056

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE

EXOTAP® DC VP-DC-HT



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1105600108	●	M6 x 1	D5	63.50	12.00	25.40	6.48	4.85	7.94	3
1105600208	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	4
1105600308	●	M10 x 1	D5	74.60	18.00	31.80	9.68	7.26	11.11	4
1105600408	●	M10 x 1.25	D6	74.60	18.00	31.80	9.68	7.26	11.11	4
1105600508	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	4
1105600608	●	M12 x 1.25	D6	85.70	21.00	49.10	9.32	6.99	11.11	4
1105600708	●	M12 x 1.5	D6	85.70	21.00	49.10	9.32	6.99	11.11	4
1105600808	●	M12 x 1.75	D6	85.70	21.00	49.10	9.32	6.99	11.11	4
1105600908	●	M14 x 1.5	D7	91.30	24.00	50.10	10.90	8.18	12.70	5
1105601008	●	M14 x 2	D7	91.30	24.00	50.10	10.90	8.18	12.70	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

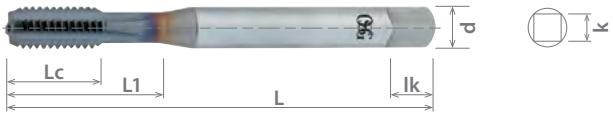
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								25-75 SFM		40-65 SFM						

○ Good ◎ Best

List 10057

EXOTAP® DC-OIL VPO-DC-HT

STRAIGHT FLUTE | VC10 | V | 4 FLUTE | C/1.5P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1005700108	●	1/4 - 20 UNC	H3	2.500	0.598	1.000	0.255	0.191	0.313
1005700208	●	1/4 - 20 UNC	H5	2.500	0.598	1.000	0.255	0.191	0.313
1005700308	●	1/4 - 28 UNF	H3	2.500	0.598	1.000	0.255	0.191	0.313
1005700408	●	5/16 - 18 UNC	H3	2.719	0.665	1.125	0.318	0.238	0.375
1005700508	●	5/16 - 18 UNC	H5	2.719	0.665	1.125	0.318	0.238	0.375
1005700608	●	5/16 - 24 UNF	H3	2.719	0.665	1.125	0.318	0.238	0.375
1005700708	●	3/8 - 16 UNC	H3	2.938	0.751	1.251	0.381	0.286	0.438
1005700808	●	3/8 - 16 UNC	H5	2.938	0.751	1.251	0.381	0.286	0.438
1005700908	●	3/8 - 24 UNF	H3	2.938	0.751	1.251	0.381	0.286	0.438
1005701008	●	7/16 - 14 UNC	H3	3.156	0.858	1.712	0.323	0.242	0.406
1005701108	●	7/16 - 14 UNC	H5	3.156	0.858	1.712	0.323	0.242	0.406
1005701208	●	7/16 - 20 UNF	H3	3.156	0.858	1.712	0.323	0.242	0.406
1005701308	●	7/16 - 20 UNF	H5	3.156	0.858	1.712	0.323	0.242	0.406
1005701408	●	1/2 - 13 UNC	H3	3.375	0.921	1.933	0.367	0.275	0.438
1005701508	●	1/2 - 13 UNC	H5	3.375	0.921	1.933	0.367	0.275	0.438
1005701608	●	1/2 - 20 UNF	H3	3.375	0.921	1.933	0.367	0.275	0.438
1005701708	●	1/2 - 20 UNF	H5	3.375	0.921	1.933	0.367	0.275	0.438

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

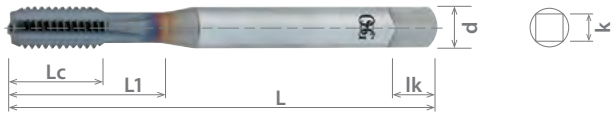
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								40-100 SFM		50-110 SFM						

○ Good ◎ Best

List 11057

STRAIGHT FLUTE | VC10 | V | C/1.5P | 0° | PACKED 1 PIECE

EXOTAP® DC-OIL VPO-DC-HT



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1105700108	●	M6 x 1	D5	63.50	12.00	25.40	6.48	4.85	7.94	3
1105700208	●	M8 x 1.25	D5	69.10	15.00	28.60	8.08	6.05	9.53	4
1105700308	●	M10 x 1.25	D6	74.60	18.00	31.80	9.68	7.26	11.11	4
1105700408	●	M10 x 1.5	D6	74.60	18.00	31.80	9.68	7.26	11.11	4
1105700508	●	M12 x 1.5	D6	85.70	21.00	49.10	9.32	6.99	11.11	4
1105700608	●	M12 x 1.75	D6	85.70	21.00	49.10	9.32	6.99	11.11	4
1105700708	●	M14 x 1.5	D7	91.30	24.00	50.10	10.90	8.18	12.70	5
1105700808	●	M14 x 2	D7	91.30	24.00	50.10	10.90	8.18	12.70	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

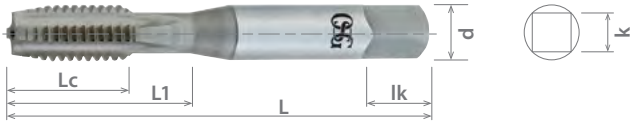
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								40-100 SFM		50-110 SFM						

○ Good ◎ Best

List 240

HY-PRO® DC EX-DC-HT

STRAIGHT FLUTE | HSSE | BR | N | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2492900	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.811	0.437	0.476	0.141	0.110	0.188	3	Bright
2492800	●	No. 2 - 56 UNC	H2	Plug (4P)	1.811	0.437	0.476	0.141	0.110	0.188	3	Bright
2493100	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.874	0.295	0.559	0.141	0.110	0.188	3	Bright
2493000	●	No. 4 - 40 UNC	H2	Plug (4P)	1.874	0.295	0.559	0.141	0.110	0.188	3	Bright
2401203	●	No. 5 - 40 UNC	H3	Bottom (1.5P)	1.937	0.299	0.626	0.141	0.110	0.188	3	Nitride
2401103	●	No. 5 - 40 UNC	H3	Plug (4P)	1.937	0.299	0.626	0.141	0.110	0.188	3	Nitride
2401603	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	3	Nitride
2401503	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.370	0.685	0.141	0.110	0.188	3	Nitride
2493203	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.374	0.752	0.168	0.131	0.250	3	Nitride
2401903	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.374	0.752	0.168	0.131	0.250	3	Nitride
2402403	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.492	0.866	0.194	0.152	0.250	3	Nitride
2402303	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.492	0.866	0.194	0.152	0.250	3	Nitride
2402803	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.492	0.866	0.194	0.152	0.250	3	Nitride
2402703	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.492	0.866	0.194	0.152	0.250	3	Nitride
2403203	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	3	Nitride
2493303	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.594	0.996	0.255	0.191	0.313	3	Nitride
2403603	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	3	Nitride
2493403	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.594	0.996	0.255	0.191	0.313	3	Nitride
2493603	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	3	Nitride
2493503	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.594	0.996	0.255	0.191	0.313	3	Nitride
2404403	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.720	0.665	1.126	0.318	0.238	0.375	4	Nitride
2404303	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.665	1.126	0.318	0.238	0.375	4	Nitride
2493803	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.720	0.665	1.126	0.318	0.238	0.375	4	Nitride
2493703	●	5/16 - 18 UNC	H5	Plug (4P)	2.720	0.665	1.126	0.318	0.238	0.375	4	Nitride
2494003	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.665	1.126	0.318	0.238	0.375	4	Nitride
2493903	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.665	1.126	0.318	0.238	0.375	4	Nitride
2494203	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.752	1.252	0.381	0.286	0.438	4	Nitride
2494103	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.752	1.252	0.381	0.286	0.438	4	Nitride
2494403	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.937	0.752	1.252	0.381	0.286	0.438	4	Nitride
2494303	●	3/8 - 16 UNC	H5	Plug (4P)	2.937	0.752	1.252	0.381	0.286	0.438	4	Nitride
2406403	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.752	1.252	0.381	0.286	0.438	4	Nitride
2406303	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.752	1.252	0.381	0.286	0.438	4	Nitride
2494603	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.157	0.858	1.713	0.323	0.242	0.406	4	Nitride
2494503	●	7/16 - 14 UNC	H3	Plug (4P)	3.157	0.858	1.713	0.323	0.242	0.406	4	Nitride
2494803	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.157	0.858	1.713	0.323	0.242	0.406	4	Nitride
2494703	●	7/16 - 20 UNF	H3	Plug (4P)	3.157	0.858	1.713	0.323	0.242	0.406	4	Nitride
2407603	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	0.921	1.933	0.367	0.275	0.438	4	Nitride

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

CONTINUED ›

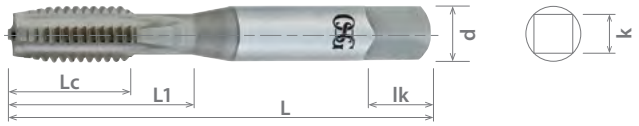
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎	○	◎						
								25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 240 (Continued)

HY-PRO® DC EX-DC-HT

STRAIGHT FLUTE | HSSE | BR | N | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
2407503	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	0.921	1.933	0.367	0.275	0.438	4	Nitride
2408003	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.374	0.921	1.933	0.367	0.275	0.438	4	Nitride
2407903	●	1/2 - 20 UNF	H3	Plug (4P)	3.374	0.921	1.933	0.367	0.275	0.438	4	Nitride

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

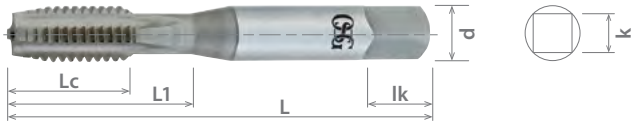
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
								◎	○	◎						
								25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 241

HY-PRO® DC EX-DC-HT

STRAIGHT FLUTE | HSSE | N | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
2410203	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	7.30	17.20	3.58	2.79	4.76	3
2494903	●	M3 x 0.5	D3	Plug (4P)	49.20	7.30	17.20	3.58	2.79	4.76	3
2495003	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	10.10	20.80	4.27	3.33	6.35	3
2410303	●	M4 x 0.7	D4	Plug (4P)	54.00	10.10	20.80	4.27	3.33	6.35	3
2410603	●	M5 x 0.8	D5	Bottom (1.5P)	60.30	11.80	24.40	4.93	3.86	6.35	3
2495103	●	M5 x 0.8	D5	Plug (4P)	60.30	11.80	24.40	4.93	3.86	6.35	3
2410803	●	M6 x 1	D5	Bottom (1.5P)	63.50	14.60	28.00	6.48	4.85	7.94	3
2495203	●	M6 x 1	D5	Plug (4P)	63.50	14.60	28.00	6.48	4.85	7.94	3
2411203	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	15.00	28.60	8.08	6.05	9.53	4
2411103	●	M8 x 1.25	D5	Plug (4P)	69.10	15.00	28.60	8.08	6.05	9.53	4
2411603	●	M10 x 1.25	D5	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	4
2495303	●	M10 x 1.25	D5	Plug (4P)	74.60	18.00	31.80	9.68	7.26	11.11	4
2495403	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	18.00	31.80	9.68	7.26	11.11	4
2411703	●	M10 x 1.5	D6	Plug (4P)	74.60	18.00	31.80	9.68	7.26	11.11	4
2495503	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	21.00	49.10	9.32	6.99	11.11	4
2412103	●	M12 x 1.75	D6	Plug (4P)	85.70	21.00	49.10	9.32	6.99	11.11	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

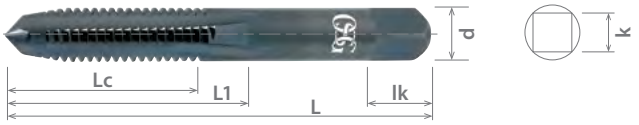
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎	○	◎						
								25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101C

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | N S/O | 4 FLUTE | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1600207	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.756	1.189	0.255	0.191	0.313
1600107	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.756	1.189	0.255	0.191	0.313
1600407	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.756	1.189	0.255	0.191	0.313
1600307	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.756	1.189	0.255	0.191	0.313
1600607	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.756	1.189	0.255	0.191	0.313
1600507	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.756	1.189	0.255	0.191	0.313
1600807	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375
1600707	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375
1601007	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375
1600907	●	5/16 - 18 UNC	H5	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375
1601207	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375
1601107	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375
1601407	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438
1601307	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438
1601607	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438
1601507	●	3/8 - 16 UNC	H5	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438
1601807	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438
1601707	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438
1602007	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406
1601907	●	7/16 - 14 UNC	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406
1602207	●	7/16 - 14 UNC	H5	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406
1602107	●	7/16 - 14 UNC	H5	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406
1602407	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406
1602307	●	7/16 - 20 UNF	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406
1602607	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406
1602507	●	7/16 - 20 UNF	H5	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406
1602807	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	1.177	1.811	0.367	0.275	0.438
1602707	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.177	1.811	0.367	0.275	0.438
1603007	●	1/2 - 13 UNC	H5	Bottom (1.5P)	3.374	1.177	1.811	0.367	0.275	0.438
1602907	●	1/2 - 13 UNC	H5	Plug (4P)	3.374	1.177	1.811	0.367	0.275	0.438
1603207	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.374	1.177	1.811	0.367	0.275	0.438
1603107	●	1/2 - 20 UNF	H3	Plug (4P)	3.374	1.177	1.811	0.367	0.275	0.438
1603407	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.374	1.177	1.811	0.367	0.275	0.438
1603307	●	1/2 - 20 UNF	H5	Plug (4P)	3.374	1.177	1.811	0.367	0.275	0.438
1603607	●	9/16 - 12 UNC	H3	Bottom (1.5P)	3.594	1.280	1.941	0.429	0.322	0.500
1603507	●	9/16 - 12 UNC	H3	Plug (4P)	3.594	1.280	1.941	0.429	0.322	0.500
1603807	●	9/16 - 18 UNF	H3	Bottom (1.5P)	3.594	1.280	1.941	0.429	0.322	0.500
1603707	●	9/16 - 18 UNF	H3	Plug (4P)	3.594	1.280	1.941	0.429	0.322	0.500
1600007	●	9/16 - 18 UNF	H5	Bottom (1.5P)	3.594	1.280	1.941	0.429	0.322	0.500
1604007	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.811	1.390	2.000	0.480	0.360	0.563
1603907	●	5/8 - 11 UNC	H3	Plug (4P)	3.811	1.390	2.000	0.480	0.360	0.563
1604807	●	5/8 - 11 UNC	H5	Bottom (1.5P)	3.811	1.390	2.000	0.480	0.360	0.563
1604707	●	5/8 - 11 UNC	H5	Plug (4P)	3.811	1.390	2.000	0.480	0.360	0.563
1604207	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.811	1.390	2.000	0.480	0.360	0.563
1604107	●	5/8 - 18 UNF	H3	Plug (4P)	3.811	1.390	2.000	0.480	0.360	0.563
1605207	●	5/8 - 18 UNF	H5	Bottom (1.5P)	3.811	1.390	2.000	0.480	0.360	0.563
1604407	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.252	1.531	2.220	0.590	0.442	0.688
1604307	●	3/4 - 10 UNC	H3	Plug (4P)	4.252	1.531	2.220	0.590	0.442	0.688
1604607	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.252	1.531	2.220	0.590	0.442	0.688
1604507	●	3/4 - 16 UNF	H3	Plug (4P)	4.252	1.531	2.220	0.590	0.442	0.688

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

List 101C (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | N S/O | 4 FLUTE | C/1.5P | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1605007	●	3/4 - 16 UNF	H5	Bottom (1.5P)	4.252	1.531	2.220	0.590	0.442	0.688
1604907	●	3/4 - 16 UNF	H5	Plug (4P)	4.252	1.531	2.220	0.590	0.442	0.688

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								25-75 SFM		40-65 SFM						

○ Good ◎ Best

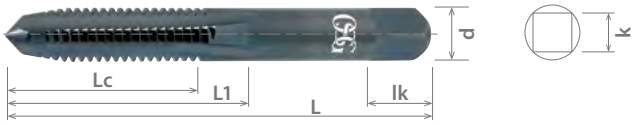
GENERAL PURPOSE

Ideal for Cast Iron

List 141C

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | N S/O | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
1608207	●	M6 x 1	D5	Bottom (1.5P)	63.50	17.80	30.90	6.48	4.85	7.94	3
1608107	●	M6 x 1	D5	Plug (4P)	63.50	17.80	30.90	6.48	4.85	7.94	3
1608407	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	18.80	33.60	8.08	6.05	9.53	4
1608307	●	M8 x 1.25	D5	Plug (4P)	69.10	18.80	33.60	8.08	6.05	9.53	4
1608607	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	22.50	35.10	9.68	7.26	11.11	4
1608507	●	M10 x 1.5	D6	Plug (4P)	74.60	22.50	35.10	9.68	7.26	11.11	4
1608807	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	27.20	46.00	9.32	6.99	11.11	4
1608707	●	M12 x 1.75	D6	Plug (4P)	85.70	27.20	46.00	9.32	6.99	11.11	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

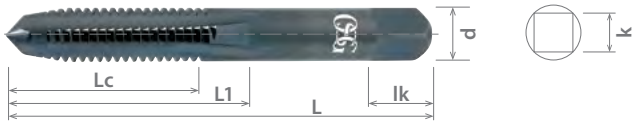
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
								◎		◎						
								25-75 SFM		40-65 SFM						

○ Good ◎ Best

List 101

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1100200	●	1/4 - 20 UNC	H1	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1100208	●	1/4 - 20 UNC	H1	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1100100	●	1/4 - 20 UNC	H1	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1100108	●	1/4 - 20 UNC	H1	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1100000	●	1/4 - 20 UNC	H1	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1100008	●	1/4 - 20 UNC	H1	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1110200	●	1/4 - 20 UNC	H2	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1110208	●	1/4 - 20 UNC	H2	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1110100	●	1/4 - 20 UNC	H2	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1110108	●	1/4 - 20 UNC	H2	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1110000	●	1/4 - 20 UNC	H2	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1110008	●	1/4 - 20 UNC	H2	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1120200	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1120201	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Steam Oxide
1120208	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1120100	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1120101	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Steam Oxide
1120108	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1120105	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiN
1120000	●	1/4 - 20 UNC	H3	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1120001	●	1/4 - 20 UNC	H3	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Steam Oxide
1120008	●	1/4 - 20 UNC	H3	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1140200	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1140208	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1140100	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1140108	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1100500	●	1/4 - 28 UNF	H1	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1100400	●	1/4 - 28 UNF	H1	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1110500	●	1/4 - 28 UNF	H2	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1110508	●	1/4 - 28 UNF	H2	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1110400	●	1/4 - 28 UNF	H2	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1120500	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1120501	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Steam Oxide
1120508	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1120400	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1120401	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Steam Oxide
1120408	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1120405	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiN
1120300	●	1/4 - 28 UNF	H3	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1120308	●	1/4 - 28 UNF	H3	Taper (9P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1130500	●	1/4 - 28 UNF	H4	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1130400	●	1/4 - 28 UNF	H4	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1100800	●	5/16 - 18 UNC	H1	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1100700	●	5/16 - 18 UNC	H1	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1110800	●	5/16 - 18 UNC	H2	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1110700	●	5/16 - 18 UNC	H2	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1110708	●	5/16 - 18 UNC	H2	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1008800	●	5/16 - 18 UNC	H2	Taper (9P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1120800	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1120801	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Steam Oxide
1120808	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1120700	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1120701	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Steam Oxide
1120708	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1120705	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiN
1120600	●	5/16 - 18 UNC	H3	Taper (9P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1120601	●	5/16 - 18 UNC	H3	Taper (9P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Steam Oxide
1120608	●	5/16 - 18 UNC	H3	Taper (9P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1140800	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1140808	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1140700	●	5/16 - 18 UNC	H5	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1140708	●	5/16 - 18 UNC	H5	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1101100	●	5/16 - 24 UNF	H1	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1101000	●	5/16 - 24 UNF	H1	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1111100	●	5/16 - 24 UNF	H2	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1111108	●	5/16 - 24 UNF	H2	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1111000	●	5/16 - 24 UNF	H2	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1121100	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1121101	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Steam Oxide
1121108	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1121000	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1121001	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Steam Oxide
1121008	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1121005	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiN
1120900	●	5/16 - 24 UNF	H3	Taper (9P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1120901	●	5/16 - 24 UNF	H3	Taper (9P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Steam Oxide
1120908	●	5/16 - 24 UNF	H3	Taper (9P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1131100	●	5/16 - 24 UNF	H4	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1131108	●	5/16 - 24 UNF	H4	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1131000	●	5/16 - 24 UNF	H4	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1101400	●	3/8 - 16 UNC	H1	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1101300	●	3/8 - 16 UNC	H1	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1111400	●	3/8 - 16 UNC	H2	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1111300	●	3/8 - 16 UNC	H2	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1121400	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1121401	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Steam Oxide
1121408	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1121300	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1121301	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Steam Oxide
1121308	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1121305	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiN
1121200	●	3/8 - 16 UNC	H3	Taper (9P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1121201	●	3/8 - 16 UNC	H3	Taper (9P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Steam Oxide
1121208	●	3/8 - 16 UNC	H3	Taper (9P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1141400	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 101 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1141408	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1141300	●	3/8 - 16 UNC	H5	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1141308	●	3/8 - 16 UNC	H5	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1101700	●	3/8 - 24 UNF	H1	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1101708	●	3/8 - 24 UNF	H1	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1101600	●	3/8 - 24 UNF	H1	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1111700	●	3/8 - 24 UNF	H2	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1111600	●	3/8 - 24 UNF	H2	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1111608	●	3/8 - 24 UNF	H2	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1121700	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1121701	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Steam Oxide
1121708	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1121600	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1121601	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Steam Oxide
1121608	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1121605	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiN
1121500	●	3/8 - 24 UNF	H3	Taper (9P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1121501	●	3/8 - 24 UNF	H3	Taper (9P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Steam Oxide
1121508	●	3/8 - 24 UNF	H3	Taper (9P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1131700	●	3/8 - 24 UNF	H4	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1131708	●	3/8 - 24 UNF	H4	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1131600	●	3/8 - 24 UNF	H4	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1131608	●	3/8 - 24 UNF	H4	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1051600	●	7/16 - 14 UNC	H2	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1051608	●	7/16 - 14 UNC	H2	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN
1122000	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1122008	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN
1121900	●	7/16 - 14 UNC	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1121908	●	7/16 - 14 UNC	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN
1121800	●	7/16 - 14 UNC	H3	Taper (9P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1121808	●	7/16 - 14 UNC	H3	Taper (9P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN
1142000	●	7/16 - 14 UNC	H5	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1141900	●	7/16 - 14 UNC	H5	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1112200	●	7/16 - 20 UNF	H2	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1122300	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1122301	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Steam Oxide
1122308	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN
1122200	●	7/16 - 20 UNF	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1122201	●	7/16 - 20 UNF	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Steam Oxide
1122208	●	7/16 - 20 UNF	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN
1122205	●	7/16 - 20 UNF	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiN
1122100	●	7/16 - 20 UNF	H3	Taper (9P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1122101	●	7/16 - 20 UNF	H3	Taper (9P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Steam Oxide
1122108	●	7/16 - 20 UNF	H3	Taper (9P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN
1142300	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1142308	●	7/16 - 20 UNF	H5	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN
1142200	●	7/16 - 20 UNF	H5	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1142208	●	7/16 - 20 UNF	H5	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

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CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101 (Continued)

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-HT



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1102600	●	1/2 - 13 UNC	H1	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1102500	●	1/2 - 13 UNC	H1	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1112600	●	1/2 - 13 UNC	H2	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1112500	●	1/2 - 13 UNC	H2	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1122600	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1122601	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Steam Oxide
1122608	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1122500	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1122501	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Steam Oxide
1122508	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1122505	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiN
1122400	●	1/2 - 13 UNC	H3	Taper (9P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1122401	●	1/2 - 13 UNC	H3	Taper (9P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Steam Oxide
1122408	●	1/2 - 13 UNC	H3	Taper (9P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1142600	●	1/2 - 13 UNC	H5	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1142500	●	1/2 - 13 UNC	H5	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1142508	●	1/2 - 13 UNC	H5	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1102900	●	1/2 - 20 UNF	H1	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1102800	●	1/2 - 20 UNF	H1	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1122900	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1122901	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Steam Oxide
1122908	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1122800	●	1/2 - 20 UNF	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1122801	●	1/2 - 20 UNF	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Steam Oxide
1122808	●	1/2 - 20 UNF	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1122805	●	1/2 - 20 UNF	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiN
1122700	●	1/2 - 20 UNF	H3	Taper (9P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1122701	●	1/2 - 20 UNF	H3	Taper (9P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Steam Oxide
1122708	●	1/2 - 20 UNF	H3	Taper (9P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1142900	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1142908	●	1/2 - 20 UNF	H5	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1142800	●	1/2 - 20 UNF	H5	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1123200	●	9/16 - 12 UNC	H3	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1123201	●	9/16 - 12 UNC	H3	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Steam Oxide
1123208	●	9/16 - 12 UNC	H3	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1123100	●	9/16 - 12 UNC	H3	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1123101	●	9/16 - 12 UNC	H3	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Steam Oxide
1123108	●	9/16 - 12 UNC	H3	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1123000	●	9/16 - 12 UNC	H3	Taper (9P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1123001	●	9/16 - 12 UNC	H3	Taper (9P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Steam Oxide
1123008	●	9/16 - 12 UNC	H3	Taper (9P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1061100	●	9/16 - 12 UNC	H5	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1061108	●	9/16 - 12 UNC	H5	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1143100	●	9/16 - 12 UNC	H5	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1143108	●	9/16 - 12 UNC	H5	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1113400	●	9/16 - 18 UNF	H2	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1123500	●	9/16 - 18 UNF	H3	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1123501	●	9/16 - 18 UNF	H3	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Steam Oxide
1123508	●	9/16 - 18 UNF	H3	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1123400	●	9/16 - 18 UNF	H3	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1123401	●	9/16 - 18 UNF	H3	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Steam Oxide
1123408	●	9/16 - 18 UNF	H3	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1123300	●	9/16 - 18 UNF	H3	Taper (9P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 101 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1123301	●	9/16 - 18 UNF	H3	Taper (9P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Steam Oxide
1123308	●	9/16 - 18 UNF	H3	Taper (9P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1143500	●	9/16 - 18 UNF	H5	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1143508	●	9/16 - 18 UNF	H5	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1143400	●	9/16 - 18 UNF	H5	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	Bright
1143408	●	9/16 - 18 UNF	H5	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4	TiCN
1103700	●	5/8 - 11 UNC	H1	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1063200	●	5/8 - 11 UNC	H2	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1113700	●	5/8 - 11 UNC	H2	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1123800	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1123801	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Steam Oxide
1123808	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1123700	●	5/8 - 11 UNC	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1123701	●	5/8 - 11 UNC	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Steam Oxide
1123708	●	5/8 - 11 UNC	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1123705	●	5/8 - 11 UNC	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiN
1123600	●	5/8 - 11 UNC	H3	Taper (9P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1123601	●	5/8 - 11 UNC	H3	Taper (9P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Steam Oxide
1123608	●	5/8 - 11 UNC	H3	Taper (9P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1143800	●	5/8 - 11 UNC	H5	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1143808	●	5/8 - 11 UNC	H5	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1143700	●	5/8 - 11 UNC	H5	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1143708	●	5/8 - 11 UNC	H5	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1104000	●	5/8 - 18 UNF	H1	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1114000	●	5/8 - 18 UNF	H2	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1124100	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1124101	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Steam Oxide
1124108	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1124000	●	5/8 - 18 UNF	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1124001	●	5/8 - 18 UNF	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Steam Oxide
1124008	●	5/8 - 18 UNF	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1124005	●	5/8 - 18 UNF	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiN
1123900	●	5/8 - 18 UNF	H3	Taper (9P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1123901	●	5/8 - 18 UNF	H3	Taper (9P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Steam Oxide
1123908	●	5/8 - 18 UNF	H3	Taper (9P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1144100	●	5/8 - 18 UNF	H5	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1144108	●	5/8 - 18 UNF	H5	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1144000	●	5/8 - 18 UNF	H5	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1144008	●	5/8 - 18 UNF	H5	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1124400	●	11/16 - 11 NS	H3	Bottom (1.5P)	4.031	1.362	2.130	0.542	0.406	0.625	4	Bright
1124408	●	11/16 - 11 NS	H3	Bottom (1.5P)	4.031	1.362	2.130	0.542	0.406	0.625	4	TiCN
1124300	●	11/16 - 11 NS	H3	Plug (4P)	4.031	1.362	2.130	0.542	0.406	0.625	4	Bright
1124308	●	11/16 - 11 NS	H3	Plug (4P)	4.031	1.362	2.130	0.542	0.406	0.625	4	TiCN
1124200	●	11/16 - 11 NS	H3	Taper (9P)	4.031	1.362	2.130	0.542	0.406	0.625	4	Bright
1124700	●	11/16 - 16 UN	H3	Bottom (1.5P)	4.031	1.362	2.130	0.542	0.406	0.625	4	Bright
1124708	●	11/16 - 16 UN	H3	Bottom (1.5P)	4.031	1.362	2.130	0.542	0.406	0.625	4	TiCN
1124600	●	11/16 - 16 UN	H3	Plug (4P)	4.031	1.362	2.130	0.542	0.406	0.625	4	Bright
1124608	●	11/16 - 16 UN	H3	Plug (4P)	4.031	1.362	2.130	0.542	0.406	0.625	4	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ❯

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1124500	●	11/16 - 16 UN	H3	Taper (9P)	4.031	1.362	2.130	0.542	0.406	0.625	4	Bright
1124508	●	11/16 - 16 UN	H3	Taper (9P)	4.031	1.362	2.130	0.542	0.406	0.625	4	TiCN
1066500	●	3/4 - 10 UNC	H1	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1008900	●	3/4 - 10 UNC	H1	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1114900	●	3/4 - 10 UNC	H2	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1125000	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1125001	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Steam Oxide
1125008	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1124900	●	3/4 - 10 UNC	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1124901	●	3/4 - 10 UNC	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Steam Oxide
1124908	●	3/4 - 10 UNC	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1124905	●	3/4 - 10 UNC	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiN
1124800	●	3/4 - 10 UNC	H3	Taper (9P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1124808	●	3/4 - 10 UNC	H3	Taper (9P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1145000	●	3/4 - 10 UNC	H5	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1145008	●	3/4 - 10 UNC	H5	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1144900	●	3/4 - 10 UNC	H5	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1144908	●	3/4 - 10 UNC	H5	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1105200	●	3/4 - 16 UNF	H1	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1105208	●	3/4 - 16 UNF	H1	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1115200	●	3/4 - 16 UNF	H2	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1125300	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1125301	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Steam Oxide
1125308	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1125200	●	3/4 - 16 UNF	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1125201	●	3/4 - 16 UNF	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Steam Oxide
1125208	●	3/4 - 16 UNF	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1125205	●	3/4 - 16 UNF	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiN
1125100	●	3/4 - 16 UNF	H3	Taper (9P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1125108	●	3/4 - 16 UNF	H3	Taper (9P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1145300	●	3/4 - 16 UNF	H5	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1145308	●	3/4 - 16 UNF	H5	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1145200	●	3/4 - 16 UNF	H5	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1145208	●	3/4 - 16 UNF	H5	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	TiCN
1069200	●	7/8 - 9 UNC	H1	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1009000	●	7/8 - 9 UNC	H2	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1135600	●	7/8 - 9 UNC	H4	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1135601	●	7/8 - 9 UNC	H4	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Steam Oxide
1135608	●	7/8 - 9 UNC	H4	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiCN
1135500	●	7/8 - 9 UNC	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1135501	●	7/8 - 9 UNC	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Steam Oxide
1135508	●	7/8 - 9 UNC	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiCN
1135505	●	7/8 - 9 UNC	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiN
1135400	●	7/8 - 9 UNC	H4	Taper (9P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1135408	●	7/8 - 9 UNC	H4	Taper (9P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiCN
1145500	●	7/8 - 9 UNC	H6	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1145508	●	7/8 - 9 UNC	H6	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiN
1115800	●	7/8 - 14 UNF	H2	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1135900	●	7/8 - 14 UNF	H4	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1135901	●	7/8 - 14 UNF	H4	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Steam Oxide
1135908	●	7/8 - 14 UNF	H4	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiCN
1135800	●	7/8 - 14 UNF	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1135801	●	7/8 - 14 UNF	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 101 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1135808	●	7/8 - 14 UNF	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiCN
1135805	●	7/8 - 14 UNF	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiN
1135700	●	7/8 - 14 UNF	H4	Taper (9P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1135708	●	7/8 - 14 UNF	H4	Taper (9P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiCN
1145800	●	7/8 - 14 UNF	H6	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	Bright
1145808	●	7/8 - 14 UNF	H6	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4	TiCN
1071900	●	1 - 8 UNC	H1	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1071800	●	1 - 8 UNC	H1	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1071808	●	1 - 8 UNC	H1	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1116100	●	1 - 8 UNC	H2	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136200	●	1 - 8 UNC	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136201	●	1 - 8 UNC	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Steam Oxide
1136208	●	1 - 8 UNC	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1136100	●	1 - 8 UNC	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136101	●	1 - 8 UNC	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Steam Oxide
1136108	●	1 - 8 UNC	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1136105	●	1 - 8 UNC	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiN
1136000	●	1 - 8 UNC	H4	Taper (9P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136001	●	1 - 8 UNC	H4	Taper (9P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Steam Oxide
1136008	●	1 - 8 UNC	H4	Taper (9P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1146100	●	1 - 8 UNC	H6	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1146108	●	1 - 8 UNC	H6	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1136500	●	1 - 12 UNF	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136508	●	1 - 12 UNF	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1136400	●	1 - 12 UNF	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136408	●	1 - 12 UNF	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1136300	●	1 - 12 UNF	H4	Taper (9P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136308	●	1 - 12 UNF	H4	Taper (9P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1116700	●	1 - 14 UNS	H2	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1116708	●	1 - 14 UNS	H2	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1136800	●	1 - 14 UNS	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136801	●	1 - 14 UNS	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Steam Oxide
1136808	●	1 - 14 UNS	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1136700	●	1 - 14 UNS	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136701	●	1 - 14 UNS	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Steam Oxide
1136708	●	1 - 14 UNS	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1136600	●	1 - 14 UNS	H4	Taper (9P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Bright
1136601	●	1 - 14 UNS	H4	Taper (9P)	5.126	1.874	2.720	0.800	0.600	0.813	4	Steam Oxide
1136608	●	1 - 14 UNS	H4	Taper (9P)	5.126	1.874	2.720	0.800	0.600	0.813	4	TiCN
1137100	●	1- 1/8 - 7 UNC	H4	Bottom (1.5P)	5.437	2.142	2.941	0.896	0.672	0.875	4	Bright
1137101	●	1- 1/8 - 7 UNC	H4	Bottom (1.5P)	5.437	2.142	2.941	0.896	0.672	0.875	4	Steam Oxide
1137108	●	1- 1/8 - 7 UNC	H4	Bottom (1.5P)	5.437	2.142	2.941	0.896	0.672	0.875	4	TiCN
1137000	●	1- 1/8 - 7 UNC	H4	Plug (4P)	5.437	2.142	2.941	0.896	0.672	0.875	4	Bright
1137001	●	1- 1/8 - 7 UNC	H4	Plug (4P)	5.437	2.142	2.941	0.896	0.672	0.875	4	Steam Oxide
1137008	●	1- 1/8 - 7 UNC	H4	Plug (4P)	5.437	2.142	2.941	0.896	0.672	0.875	4	TiCN
1136900	●	1- 1/8 - 7 UNC	H4	Taper (9P)	5.437	2.142	2.941	0.896	0.672	0.875	4	Bright
1136908	●	1- 1/8 - 7 UNC	H4	Taper (9P)	5.437	2.142	2.941	0.896	0.672	0.875	4	TiCN
1137400	●	1- 1/8 - 12 UNF	H4	Bottom (1.5P)	5.437	1.874	2.941	0.896	0.672	0.875	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1137401	●	1- 1/8 - 12 UNF	H4	Bottom (1.5P)	5.437	1.874	2.941	0.896	0.672	0.875	4	Steam Oxide
1137408	●	1- 1/8 - 12 UNF	H4	Bottom (1.5P)	5.437	1.874	2.941	0.896	0.672	0.875	4	TiCN
1137300	●	1- 1/8 - 12 UNF	H4	Plug (4P)	5.437	1.874	2.941	0.896	0.672	0.875	4	Bright
1137301	●	1- 1/8 - 12 UNF	H4	Plug (4P)	5.437	1.874	2.941	0.896	0.672	0.875	4	Steam Oxide
1137308	●	1- 1/8 - 12 UNF	H4	Plug (4P)	5.437	1.874	2.941	0.896	0.672	0.875	4	TiCN
1137200	●	1- 1/8 - 12 UNF	H4	Taper (9P)	5.437	1.874	2.941	0.896	0.672	0.875	4	Bright
1137201	●	1- 1/8 - 12 UNF	H4	Taper (9P)	5.437	1.874	2.941	0.896	0.672	0.875	4	Steam Oxide
1137208	●	1- 1/8 - 12 UNF	H4	Taper (9P)	5.437	1.874	2.941	0.896	0.672	0.875	4	TiCN
1137700	●	1- 1/4 - 7 UNC	H4	Bottom (1.5P)	5.752	2.142	3.000	1.021	0.766	1.000	4	Bright
1137701	●	1- 1/4 - 7 UNC	H4	Bottom (1.5P)	5.752	2.142	3.000	1.021	0.766	1.000	4	Steam Oxide
1137708	●	1- 1/4 - 7 UNC	H4	Bottom (1.5P)	5.752	2.142	3.000	1.021	0.766	1.000	4	TiCN
1137600	●	1- 1/4 - 7 UNC	H4	Plug (4P)	5.752	2.142	3.000	1.021	0.766	1.000	4	Bright
1137608	●	1- 1/4 - 7 UNC	H4	Plug (4P)	5.752	2.142	3.000	1.021	0.766	1.000	4	TiCN
1137500	●	1- 1/4 - 7 UNC	H4	Taper (9P)	5.752	2.142	3.000	1.021	0.766	1.000	4	Bright
1137508	●	1- 1/4 - 7 UNC	H4	Taper (9P)	5.752	2.142	3.000	1.021	0.766	1.000	4	TiCN
1138000	●	1- 1/4 - 12 UNF	H4	Bottom (1.5P)	5.752	1.874	3.000	1.021	0.766	1.000	6	Bright
1138001	●	1- 1/4 - 12 UNF	H4	Bottom (1.5P)	5.752	1.874	3.000	1.021	0.766	1.000	6	Steam Oxide
1138008	●	1- 1/4 - 12 UNF	H4	Bottom (1.5P)	5.752	1.874	3.000	1.021	0.766	1.000	6	TiCN
1137900	●	1- 1/4 - 12 UNF	H4	Plug (4P)	5.752	1.874	3.000	1.021	0.766	1.000	6	Bright
1137901	●	1- 1/4 - 12 UNF	H4	Plug (4P)	5.752	1.874	3.000	1.021	0.766	1.000	6	Steam Oxide
1137908	●	1- 1/4 - 12 UNF	H4	Plug (4P)	5.752	1.874	3.000	1.021	0.766	1.000	6	TiCN
1137800	●	1- 1/4 - 12 UNF	H4	Taper (9P)	5.752	1.874	3.000	1.021	0.766	1.000	6	Bright
1137808	●	1- 1/4 - 12 UNF	H4	Taper (9P)	5.752	1.874	3.000	1.021	0.766	1.000	6	TiCN
1138300	●	1- 3/8 - 6 UNC	H4	Bottom (1.5P)	6.063	2.500	3.161	1.108	0.831	1.063	4	Bright
1138308	●	1- 3/8 - 6 UNC	H4	Bottom (1.5P)	6.063	2.500	3.161	1.108	0.831	1.063	4	TiCN
1138200	●	1- 3/8 - 6 UNC	H4	Plug (4P)	6.063	2.500	3.161	1.108	0.831	1.063	4	Bright
1138208	●	1- 3/8 - 6 UNC	H4	Plug (4P)	6.063	2.500	3.161	1.108	0.831	1.063	4	TiCN
1138100	●	1- 3/8 - 6 UNC	H4	Taper (9P)	6.063	2.500	3.161	1.108	0.831	1.063	4	Bright
1138101	●	1- 3/8 - 6 UNC	H4	Taper (9P)	6.063	2.500	3.161	1.108	0.831	1.063	4	Steam Oxide
1138600	●	1- 3/8 - 12 UNF	H4	Bottom (1.5P)	6.063	1.874	3.161	1.108	0.831	1.063	6	Bright
1138601	●	1- 3/8 - 12 UNF	H4	Bottom (1.5P)	6.063	1.874	3.161	1.108	0.831	1.063	6	Steam Oxide
1138608	●	1- 3/8 - 12 UNF	H4	Bottom (1.5P)	6.063	1.874	3.161	1.108	0.831	1.063	6	TiCN
1138500	●	1- 3/8 - 12 UNF	H4	Plug (4P)	6.063	1.874	3.161	1.108	0.831	1.063	6	Bright
1138501	●	1- 3/8 - 12 UNF	H4	Plug (4P)	6.063	1.874	3.161	1.108	0.831	1.063	6	Steam Oxide
1138508	●	1- 3/8 - 12 UNF	H4	Plug (4P)	6.063	1.874	3.161	1.108	0.831	1.063	6	TiCN
1138400	●	1- 3/8 - 12 UNF	H4	Taper (9P)	6.063	1.874	3.161	1.108	0.831	1.063	6	Bright
1138401	●	1- 3/8 - 12 UNF	H4	Taper (9P)	6.063	1.874	3.161	1.108	0.831	1.063	6	Steam Oxide
1138408	●	1- 3/8 - 12 UNF	H4	Taper (9P)	6.063	1.874	3.161	1.108	0.831	1.063	6	TiCN
1138900	●	1- 1/2 - 6 UNC	H4	Bottom (1.5P)	6.374	2.500	3.382	1.233	0.925	1.125	4	Bright
1138901	●	1- 1/2 - 6 UNC	H4	Bottom (1.5P)	6.374	2.500	3.382	1.233	0.925	1.125	4	Steam Oxide
1138908	●	1- 1/2 - 6 UNC	H4	Bottom (1.5P)	6.374	2.500	3.382	1.233	0.925	1.125	4	TiCN
1138800	●	1- 1/2 - 6 UNC	H4	Plug (4P)	6.374	2.500	3.382	1.233	0.925	1.125	4	Bright
1138801	●	1- 1/2 - 6 UNC	H4	Plug (4P)	6.374	2.500	3.382	1.233	0.925	1.125	4	Steam Oxide
1138808	●	1- 1/2 - 6 UNC	H4	Plug (4P)	6.374	2.500	3.382	1.233	0.925	1.125	4	TiCN
1138700	●	1- 1/2 - 6 UNC	H4	Taper (9P)	6.374	2.500	3.382	1.233	0.925	1.125	4	Bright
1138701	●	1- 1/2 - 6 UNC	H4	Taper (9P)	6.374	2.500	3.382	1.233	0.925	1.125	4	Steam Oxide
1138708	●	1- 1/2 - 6 UNC	H4	Taper (9P)	6.374	2.500	3.382	1.233	0.925	1.125	4	TiCN
1139200	●	1- 1/2 - 12 UNF	H4	Bottom (1.5P)	6.374	1.874	3.382	1.233	0.925	1.125	6	Bright
1139201	●	1- 1/2 - 12 UNF	H4	Bottom (1.5P)	6.374	1.874	3.382	1.233	0.925	1.125	6	Steam Oxide
1139208	●	1- 1/2 - 12 UNF	H4	Bottom (1.5P)	6.374	1.874	3.382	1.233	0.925	1.125	6	TiCN
1139100	●	1- 1/2 - 12 UNF	H4	Plug (4P)	6.374	1.874	3.382	1.233	0.925	1.125	6	Bright
1139101	●	1- 1/2 - 12 UNF	H4	Plug (4P)	6.374	1.874	3.382	1.233	0.925	1.125	6	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 101 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1139108	●	1- 1/2 - 12 UNF	H4	Plug (4P)	6.374	1.874	3.382	1.233	0.925	1.125	6	TiCN
1139000	●	1- 1/2 - 12 UNF	H4	Taper (9P)	6.374	1.874	3.382	1.233	0.925	1.125	6	Bright
1139001	●	1- 1/2 - 12 UNF	H4	Taper (9P)	6.374	1.874	3.382	1.233	0.925	1.125	6	Steam Oxide
1139008	●	1- 1/2 - 12 UNF	H4	Taper (9P)	6.374	1.874	3.382	1.233	0.925	1.125	6	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

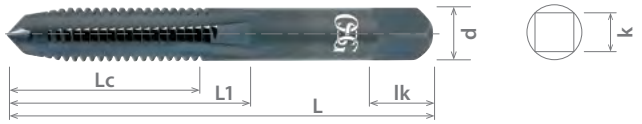
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 102

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1000200	●	No. 0 - 80 UNF	H1	Bottom (1.5P)	1.626	0.311	-	0.141	0.110	0.188	2	Bright
1000201	●	No. 0 - 80 UNF	H1	Bottom (1.5P)	1.626	0.311	-	0.141	0.110	0.188	2	Steam Oxide
1000208	●	No. 0 - 80 UNF	H1	Bottom (1.5P)	1.626	0.311	-	0.141	0.110	0.188	2	TiCN
1000205	●	No. 0 - 80 UNF	H1	Bottom (1.5P)	1.626	0.311	-	0.141	0.110	0.188	2	TiN
1000100	●	No. 0 - 80 UNF	H1	Plug (4P)	1.626	0.311	-	0.141	0.110	0.188	2	Bright
1000101	●	No. 0 - 80 UNF	H1	Plug (4P)	1.626	0.311	-	0.141	0.110	0.188	2	Steam Oxide
1000108	●	No. 0 - 80 UNF	H1	Plug (4P)	1.626	0.311	-	0.141	0.110	0.188	2	TiCN
1000105	●	No. 0 - 80 UNF	H1	Plug (4P)	1.626	0.311	-	0.141	0.110	0.188	2	TiN
1000000	●	No. 0 - 80 UNF	H1	Taper (9P)	1.626	0.311	-	0.141	0.110	0.188	2	Bright
1000001	●	No. 0 - 80 UNF	H1	Taper (9P)	1.626	0.311	-	0.141	0.110	0.188	2	Steam Oxide
1000008	●	No. 0 - 80 UNF	H1	Taper (9P)	1.626	0.311	-	0.141	0.110	0.188	2	TiCN
1010200	●	No. 0 - 80 UNF	H2	Bottom (1.5P)	1.626	0.311	-	0.141	0.110	0.188	2	Bright
1010208	●	No. 0 - 80 UNF	H2	Bottom (1.5P)	1.626	0.311	-	0.141	0.110	0.188	2	TiCN
1010100	●	No. 0 - 80 UNF	H2	Plug (4P)	1.626	0.311	-	0.141	0.110	0.188	2	Bright
1010108	●	No. 0 - 80 UNF	H2	Plug (4P)	1.626	0.311	-	0.141	0.110	0.188	2	TiCN
1010105	●	No. 0 - 80 UNF	H2	Plug (4P)	1.626	0.311	-	0.141	0.110	0.188	2	TiN
1000500	●	No. 1 - 64 UNC	H1	Bottom (1.5P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1000501	●	No. 1 - 64 UNC	H1	Bottom (1.5P)	1.689	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1000400	●	No. 1 - 64 UNC	H1	Plug (4P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1000401	●	No. 1 - 64 UNC	H1	Plug (4P)	1.689	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1000300	●	No. 1 - 64 UNC	H1	Taper (9P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1008000	●	No. 1 - 64 UNC	H2	Bottom (1.5P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1008008	●	No. 1 - 64 UNC	H2	Bottom (1.5P)	1.689	0.370	-	0.141	0.110	0.188	2	TiCN
1010400	●	No. 1 - 64 UNC	H2	Plug (4P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1010408	●	No. 1 - 64 UNC	H2	Plug (4P)	1.689	0.370	-	0.141	0.110	0.188	2	TiCN
1000800	●	No. 1 - 72 UNF	H1	Bottom (1.5P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1000801	●	No. 1 - 72 UNF	H1	Bottom (1.5P)	1.689	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1000700	●	No. 1 - 72 UNF	H1	Plug (4P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1000701	●	No. 1 - 72 UNF	H1	Plug (4P)	1.689	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1000600	●	No. 1 - 72 UNF	H1	Taper (9P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1000601	●	No. 1 - 72 UNF	H1	Taper (9P)	1.689	0.370	-	0.141	0.110	0.188	2	Steam Oxide
1000608	●	No. 1 - 72 UNF	H1	Taper (9P)	1.689	0.370	-	0.141	0.110	0.188	2	TiCN
1010800	●	No. 1 - 72 UNF	H2	Bottom (1.5P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1010808	●	No. 1 - 72 UNF	H2	Bottom (1.5P)	1.689	0.370	-	0.141	0.110	0.188	2	TiCN
1010700	●	No. 1 - 72 UNF	H2	Plug (4P)	1.689	0.370	-	0.141	0.110	0.188	2	Bright
1010708	●	No. 1 - 72 UNF	H2	Plug (4P)	1.689	0.370	-	0.141	0.110	0.188	2	TiCN
1001100	●	No. 2 - 56 UNC	H1	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1001108	●	No. 2 - 56 UNC	H1	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	TiCN
1001000	●	No. 2 - 56 UNC	H1	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1000900	●	No. 2 - 56 UNC	H1	Taper (9P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1011100	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1011101	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	Steam Oxide
1011108	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	TiCN
1011105	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	TiN
1011000	●	No. 2 - 56 UNC	H2	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1011001	●	No. 2 - 56 UNC	H2	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3	Steam Oxide
1011008	●	No. 2 - 56 UNC	H2	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3	TiCN
1011005	●	No. 2 - 56 UNC	H2	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3	TiN
1010900	●	No. 2 - 56 UNC	H2	Taper (9P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1010901	●	No. 2 - 56 UNC	H2	Taper (9P)	1.752	0.437	-	0.141	0.110	0.188	3	Steam Oxide
1010908	●	No. 2 - 56 UNC	H2	Taper (9P)	1.752	0.437	-	0.141	0.110	0.188	3	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 102 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1001400	●	No. 2 - 64 UNF	H1	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1001300	●	No. 2 - 64 UNF	H1	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1011400	●	No. 2 - 64 UNF	H2	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1011401	●	No. 2 - 64 UNF	H2	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3	Steam Oxide
1011300	●	No. 2 - 64 UNF	H2	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1011301	●	No. 2 - 64 UNF	H2	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3	Steam Oxide
1011200	●	No. 2 - 64 UNF	H2	Taper (9P)	1.752	0.437	-	0.141	0.110	0.188	3	Bright
1001600	●	No. 3 - 48 UNC	H1	Plug (4P)	1.811	0.496	-	0.141	0.110	0.188	3	Bright
1011700	●	No. 3 - 48 UNC	H2	Bottom (1.5P)	1.811	0.496	-	0.141	0.110	0.188	3	Bright
1011701	●	No. 3 - 48 UNC	H2	Bottom (1.5P)	1.811	0.496	-	0.141	0.110	0.188	3	Steam Oxide
1011708	●	No. 3 - 48 UNC	H2	Bottom (1.5P)	1.811	0.496	-	0.141	0.110	0.188	3	TiCN
1011600	●	No. 3 - 48 UNC	H2	Plug (4P)	1.811	0.496	-	0.141	0.110	0.188	3	Bright
1011601	●	No. 3 - 48 UNC	H2	Plug (4P)	1.811	0.496	-	0.141	0.110	0.188	3	Steam Oxide
1011608	●	No. 3 - 48 UNC	H2	Plug (4P)	1.811	0.496	-	0.141	0.110	0.188	3	TiCN
1011500	●	No. 3 - 48 UNC	H2	Taper (9P)	1.811	0.496	-	0.141	0.110	0.188	3	Bright
1011501	●	No. 3 - 48 UNC	H2	Taper (9P)	1.811	0.496	-	0.141	0.110	0.188	3	Steam Oxide
1011508	●	No. 3 - 48 UNC	H2	Taper (9P)	1.811	0.496	-	0.141	0.110	0.188	3	TiCN
1001900	●	No. 3 - 56 UNF	H1	Plug (4P)	1.811	0.496	-	0.141	0.110	0.188	3	Bright
1012000	●	No. 3 - 56 UNF	H2	Bottom (1.5P)	1.811	0.496	-	0.141	0.110	0.188	3	Bright
1012001	●	No. 3 - 56 UNF	H2	Bottom (1.5P)	1.811	0.496	-	0.141	0.110	0.188	3	Steam Oxide
1012008	●	No. 3 - 56 UNF	H2	Bottom (1.5P)	1.811	0.496	-	0.141	0.110	0.188	3	TiCN
1011900	●	No. 3 - 56 UNF	H2	Plug (4P)	1.811	0.496	-	0.141	0.110	0.188	3	Bright
1011901	●	No. 3 - 56 UNF	H2	Plug (4P)	1.811	0.496	-	0.141	0.110	0.188	3	Steam Oxide
1011908	●	No. 3 - 56 UNF	H2	Plug (4P)	1.811	0.496	-	0.141	0.110	0.188	3	TiCN
1011800	●	No. 3 - 56 UNF	H2	Taper (9P)	1.811	0.496	-	0.141	0.110	0.188	3	Bright
1011801	●	No. 3 - 56 UNF	H2	Taper (9P)	1.811	0.496	-	0.141	0.110	0.188	3	Steam Oxide
1012900	●	No. 4 - 36 NS	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012901	●	No. 4 - 36 NS	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Steam Oxide
1012800	●	No. 4 - 36 NS	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012700	●	No. 4 - 36 NS	H2	Taper (9P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1002300	●	No. 4 - 40 UNC	H1	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1002200	●	No. 4 - 40 UNC	H1	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1002100	●	No. 4 - 40 UNC	H1	Taper (9P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012300	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012301	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Steam Oxide
1012308	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	TiCN
1012305	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	TiN
1012200	●	No. 4 - 40 UNC	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012201	●	No. 4 - 40 UNC	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Steam Oxide
1012208	●	No. 4 - 40 UNC	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	TiCN
1012205	●	No. 4 - 40 UNC	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	TiN
1012100	●	No. 4 - 40 UNC	H2	Taper (9P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012101	●	No. 4 - 40 UNC	H2	Taper (9P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Steam Oxide
1012108	●	No. 4 - 40 UNC	H2	Taper (9P)	1.874	0.370	0.681	0.141	0.110	0.188	3	TiCN
1002500	●	No. 4 - 48 UNF	H1	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012600	●	No. 4 - 48 UNF	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

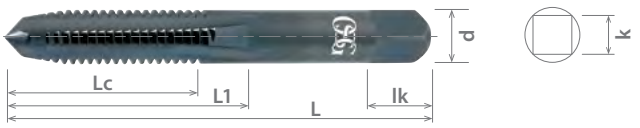
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 102 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1012601	●	No. 4 - 48 UNF	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Steam Oxide
1012608	●	No. 4 - 48 UNF	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	3	TiCN
1012500	●	No. 4 - 48 UNF	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012501	●	No. 4 - 48 UNF	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Steam Oxide
1012508	●	No. 4 - 48 UNF	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	3	TiCN
1012400	●	No. 4 - 48 UNF	H2	Taper (9P)	1.874	0.370	0.681	0.141	0.110	0.188	3	Bright
1012408	●	No. 4 - 48 UNF	H2	Taper (9P)	1.874	0.370	0.681	0.141	0.110	0.188	3	TiCN
1003200	●	No. 5 - 40 UNC	H1	Bottom (1.5P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1003100	●	No. 5 - 40 UNC	H1	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1013200	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1013201	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Steam Oxide
1013208	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiCN
1013205	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiN
1013100	●	No. 5 - 40 UNC	H2	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1013101	●	No. 5 - 40 UNC	H2	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Steam Oxide
1013108	●	No. 5 - 40 UNC	H2	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiCN
1013105	●	No. 5 - 40 UNC	H2	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiN
1013000	●	No. 5 - 40 UNC	H2	Taper (9P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1013001	●	No. 5 - 40 UNC	H2	Taper (9P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Steam Oxide
1013008	●	No. 5 - 40 UNC	H2	Taper (9P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiCN
1003400	●	No. 5 - 44 UNF	H1	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1003408	●	No. 5 - 44 UNF	H1	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiCN
1013500	●	No. 5 - 44 UNF	H2	Bottom (1.5P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1013501	●	No. 5 - 44 UNF	H2	Bottom (1.5P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Steam Oxide
1013508	●	No. 5 - 44 UNF	H2	Bottom (1.5P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiCN
1013400	●	No. 5 - 44 UNF	H2	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1013401	●	No. 5 - 44 UNF	H2	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Steam Oxide
1013408	●	No. 5 - 44 UNF	H2	Plug (4P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiCN
1013300	●	No. 5 - 44 UNF	H2	Taper (9P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Bright
1013301	●	No. 5 - 44 UNF	H2	Taper (9P)	1.937	0.374	0.744	0.141	0.110	0.188	3	Steam Oxide
1013308	●	No. 5 - 44 UNF	H2	Taper (9P)	1.937	0.374	0.744	0.141	0.110	0.188	3	TiCN
1003800	●	No. 6 - 32 UNC	H1	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1003700	●	No. 6 - 32 UNC	H1	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1003600	●	No. 6 - 32 UNC	H1	Taper (9P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1013800	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1013808	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiCN
1013805	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiN
1013700	●	No. 6 - 32 UNC	H2	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1013708	●	No. 6 - 32 UNC	H2	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiCN
1013705	●	No. 6 - 32 UNC	H2	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiN
1013600	●	No. 6 - 32 UNC	H2	Taper (9P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1013608	●	No. 6 - 32 UNC	H2	Taper (9P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiCN
1023800	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1023801	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Steam Oxide
1023808	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiCN
1023805	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiN
1023700	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1023701	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Steam Oxide
1023708	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiCN
1023705	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiN
1023600	●	No. 6 - 32 UNC	H3	Taper (9P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 102 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1023601	●	No. 6 - 32 UNC	H3	Taper (9P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Steam Oxide
1023608	●	No. 6 - 32 UNC	H3	Taper (9P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiCN
1014100	●	No. 6 - 40 UNF	H2	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1014101	●	No. 6 - 40 UNF	H2	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Steam Oxide
1014105	●	No. 6 - 40 UNF	H2	Bottom (1.5P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiN
1068105	●	No. 6 - 40 UNF	H2	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	2	TiN
1014000	●	No. 6 - 40 UNF	H2	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1014001	●	No. 6 - 40 UNF	H2	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Steam Oxide
1014005	●	No. 6 - 40 UNF	H2	Plug (4P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiN
1013900	●	No. 6 - 40 UNF	H2	Taper (9P)	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1013908	●	No. 6 - 40 UNF	H2	Taper (9P)	2.000	0.465	0.799	0.141	0.110	0.188	3	TiCN
1004400	●	No. 8 - 32 UNC	H1	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1004300	●	No. 8 - 32 UNC	H1	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1004308	●	No. 8 - 32 UNC	H1	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiCN
1004200	●	No. 8 - 32 UNC	H1	Taper (9P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1004208	●	No. 8 - 32 UNC	H1	Taper (9P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiCN
1014400	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1014405	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiN
1014300	●	No. 8 - 32 UNC	H2	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1014308	●	No. 8 - 32 UNC	H2	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiCN
1014305	●	No. 8 - 32 UNC	H2	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiN
1014200	●	No. 8 - 32 UNC	H2	Taper (9P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1024400	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1024401	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Steam Oxide
1024408	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiCN
1024405	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiN
1024300	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1024301	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Steam Oxide
1024308	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiCN
1024305	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiN
1024200	●	No. 8 - 32 UNC	H3	Taper (9P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1024201	●	No. 8 - 32 UNC	H3	Taper (9P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Steam Oxide
1024208	●	No. 8 - 32 UNC	H3	Taper (9P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiCN
1004600	●	No. 8 - 36 UNF	H1	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1014700	●	No. 8 - 36 UNF	H2	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1014701	●	No. 8 - 36 UNF	H2	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Steam Oxide
1014705	●	No. 8 - 36 UNF	H2	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiN
1014600	●	No. 8 - 36 UNF	H2	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1014601	●	No. 8 - 36 UNF	H2	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Steam Oxide
1014605	●	No. 8 - 36 UNF	H2	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	4	TiN
1014500	●	No. 8 - 36 UNF	H2	Taper (9P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1014501	●	No. 8 - 36 UNF	H2	Taper (9P)	2.126	0.469	0.933	0.168	0.131	0.250	4	Steam Oxide
1005000	●	No. 10 - 24 UNC	H1	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1005001	●	No. 10 - 24 UNC	H1	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Steam Oxide
1004900	●	No. 10 - 24 UNC	H1	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1004800	●	No. 10 - 24 UNC	H1	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

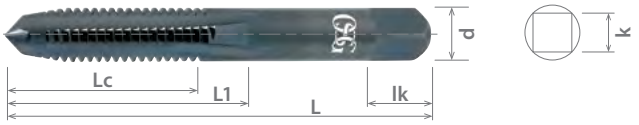
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 102 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1015000	●	No. 10 - 24 UNC	H2	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1015008	●	No. 10 - 24 UNC	H2	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1014900	●	No. 10 - 24 UNC	H2	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1014800	●	No. 10 - 24 UNC	H2	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1014808	●	No. 10 - 24 UNC	H2	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1014805	●	No. 10 - 24 UNC	H2	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiN
1025000	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1025001	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Steam Oxide
1025008	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1025005	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiN
1024900	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1024901	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Steam Oxide
1024908	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1024905	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiN
1024800	●	No. 10 - 24 UNC	H3	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1024801	●	No. 10 - 24 UNC	H3	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Steam Oxide
1005300	●	No. 10 - 32 UNF	H1	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1005200	●	No. 10 - 32 UNF	H1	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1005100	●	No. 10 - 32 UNF	H1	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1015300	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1015308	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1015305	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiN
1015200	●	No. 10 - 32 UNF	H2	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1015208	●	No. 10 - 32 UNF	H2	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1015100	●	No. 10 - 32 UNF	H2	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1015105	●	No. 10 - 32 UNF	H2	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiN
1025300	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1025301	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Steam Oxide
1025308	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1025305	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiN
1025200	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1025201	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Steam Oxide
1025208	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1025205	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiN
1025100	●	No. 10 - 32 UNF	H3	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1025101	●	No. 10 - 32 UNF	H3	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	Steam Oxide
1025108	●	No. 10 - 32 UNF	H3	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiCN
1025105	●	No. 10 - 32 UNF	H3	Taper (9P)	2.374	0.618	1.047	0.194	0.152	0.250	4	TiN
1005500	●	No. 12 - 24 UNC	H1	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Bright
1025600	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Bright
1025601	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Steam Oxide
1025608	●	No. 12 - 24 UNC	H3	Bottom (1.5P)	2.374	0.622	1.110	0.220	0.165	0.281	4	TiCN
1025500	●	No. 12 - 24 UNC	H3	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Bright
1025501	●	No. 12 - 24 UNC	H3	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Steam Oxide
1025508	●	No. 12 - 24 UNC	H3	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	TiCN
1025505	●	No. 12 - 24 UNC	H3	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	TiN
1025400	●	No. 12 - 24 UNC	H3	Taper (9P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Bright
1025401	●	No. 12 - 24 UNC	H3	Taper (9P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Steam Oxide
1025408	●	No. 12 - 24 UNC	H3	Taper (9P)	2.374	0.622	1.110	0.220	0.165	0.281	4	TiCN
1005800	●	No. 12 - 28 UNF	H1	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Bright
1025900	●	No. 12 - 28 UNF	H3	Bottom (1.5P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 102 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1025901	●	No. 12 - 28 UNF	H3	Bottom (1.5P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Steam Oxide
1025908	●	No. 12 - 28 UNF	H3	Bottom (1.5P)	2.374	0.622	1.110	0.220	0.165	0.281	4	TiCN
1025905	●	No. 12 - 28 UNF	H3	Bottom (1.5P)	2.374	0.622	1.110	0.220	0.165	0.281	4	TiN
1025800	●	No. 12 - 28 UNF	H3	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Bright
1025801	●	No. 12 - 28 UNF	H3	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Steam Oxide
1025808	●	No. 12 - 28 UNF	H3	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4	TiCN
1025700	●	No. 12 - 28 UNF	H3	Taper (9P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Bright
1025701	●	No. 12 - 28 UNF	H3	Taper (9P)	2.374	0.622	1.110	0.220	0.165	0.281	4	Steam Oxide
1025708	●	No. 12 - 28 UNF	H3	Taper (9P)	2.374	0.622	1.110	0.220	0.165	0.281	4	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

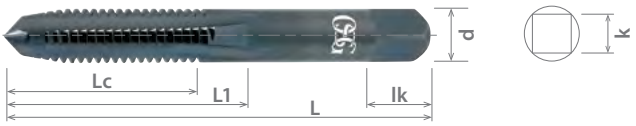
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101H

OSG GENERAL PURPOSE-HT, +0.005 OVERSIZE

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | 4 FLUTE | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1009100	●	1/4 - 20 UNC	2B +0.005"	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1009108	●	1/4 - 20 UNC	2B +0.005"	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1590100	●	1/4 - 20 UNC	2B +0.005"	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1590101	●	1/4 - 20 UNC	2B +0.005"	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Steam Oxide
1590108	●	1/4 - 20 UNC	2B +0.005"	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1590300	●	1/4 - 28 UNF	2B +0.005"	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Bright
1590301	●	1/4 - 28 UNF	2B +0.005"	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	Steam Oxide
1590308	●	1/4 - 28 UNF	2B +0.005"	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4	TiCN
1009200	●	5/16 - 18 UNC	2B +0.005"	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1009208	●	5/16 - 18 UNC	2B +0.005"	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1590700	●	5/16 - 18 UNC	2B +0.005"	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1590701	●	5/16 - 18 UNC	2B +0.005"	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Steam Oxide
1590708	●	5/16 - 18 UNC	2B +0.005"	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1591100	●	5/16 - 24 UNF	2B +0.005"	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	Bright
1591108	●	5/16 - 24 UNF	2B +0.005"	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4	TiCN
1009300	●	3/8 - 16 UNC	2B +0.005"	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1009308	●	3/8 - 16 UNC	2B +0.005"	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1591300	●	3/8 - 16 UNC	2B +0.005"	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1591308	●	3/8 - 16 UNC	2B +0.005"	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1591500	●	3/8 - 24 UNF	2B +0.005"	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	Bright
1591508	●	3/8 - 24 UNF	2B +0.005"	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4	TiCN
1591900	●	7/16 - 14 UNC	2B +0.005"	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1592100	●	7/16 - 20 UNF	2B +0.005"	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	4	Bright
1009400	●	1/2 - 13 UNC	2B +0.005"	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1009408	●	1/2 - 13 UNC	2B +0.005"	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1592500	●	1/2 - 13 UNC	2B +0.005"	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1592508	●	1/2 - 13 UNC	2B +0.005"	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1592700	●	1/2 - 20 UNF	2B +0.005"	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	Bright
1592708	●	1/2 - 20 UNF	2B +0.005"	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4	TiCN
1125700	●	5/8 - 11 UNC	2B +0.005"	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1125708	●	5/8 - 11 UNC	2B +0.005"	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1593700	●	5/8 - 11 UNC	2B +0.005"	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1593708	●	5/8 - 11 UNC	2B +0.005"	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1125900	●	5/8 - 18 UNF	2B +0.005"	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Bright
1125901	●	5/8 - 18 UNF	2B +0.005"	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	Steam Oxide
1125908	●	5/8 - 18 UNF	2B +0.005"	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4	TiCN
1594700	●	3/4 - 10 UNC	2B +0.005"	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Bright
1594701	●	3/4 - 10 UNC	2B +0.005"	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◯	◯	◯						◯	◯	◯						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

◯ Good ◎ Best

List 102H

STRAIGHT FLUTE | HSS | BR | S/O | C/4P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-HT, +0.005 OVERSIZE



EDP		Thread Size	Class of Fit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1593500	●	No. 6 - 32 UNC	2B +0.005"	2.000	0.465	0.799	0.141	0.110	0.188	3	Bright
1594300	●	No. 8 - 32 UNC	2B +0.005"	2.126	0.469	0.933	0.168	0.131	0.250	4	Bright
1594900	●	No. 10 - 24 UNC	2B +0.005"	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1595100	●	No. 10 - 32 UNF	2B +0.005"	2.374	0.618	1.047	0.194	0.152	0.250	4	Bright
1595101	●	No. 10 - 32 UNF	2B +0.005"	2.374	0.618	1.047	0.194	0.152	0.250	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 103

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiN | 3 FLUTE | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Surface Treatment
1040200	●	No. 8 - 32 UNC	H1	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	Bright
1040100	●	No. 8 - 32 UNC	H1	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	Bright
1045200	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	Bright
1045100	●	No. 8 - 32 UNC	H2	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	Bright
1050200	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	Bright
1050100	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	Bright
1019900	●	No. 8 - 32 UNC	H7	Bottom (1.5P)	2.126	0.469	0.933	0.168	0.131	0.250	Bright
1019800	●	No. 8 - 32 UNC	H7	Plug (4P)	2.126	0.469	0.933	0.168	0.131	0.250	Bright
1040700	●	No. 10 - 24 UNC	H1	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1045700	●	No. 10 - 24 UNC	H2	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1050800	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1050700	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1008700	●	No. 10 - 24 UNC	H7	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1008600	●	No. 10 - 24 UNC	H7	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1046100	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1046000	●	No. 10 - 32 UNF	H2	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1051100	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1051101	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	Steam Oxide
1051105	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	TiN
1051000	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1051001	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	Steam Oxide
1051005	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	TiN
1028600	●	No. 10 - 32 UNF	H7	Bottom (1.5P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1028500	●	No. 10 - 32 UNF	H7	Plug (4P)	2.374	0.618	1.047	0.194	0.152	0.250	Bright
1059300	●	1/4 - 20 UNC	H1	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1160100	●	1/4 - 20 UNC	H1	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1035600	●	1/4 - 20 UNC	H2	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1165100	●	1/4 - 20 UNC	H2	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1170200	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1170201	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	Steam Oxide
1170205	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	TiN
1170100	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1170101	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	Steam Oxide
1170105	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	TiN
1180200	●	1/4 - 20 UNC	H5	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1180100	●	1/4 - 20 UNC	H5	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1170500	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1170501	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	Steam Oxide
1170505	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	TiN
1170400	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	Bright
1170401	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	Steam Oxide
1170405	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	TiN
1160700	●	5/16 - 18 UNC	H1	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	Bright
1170800	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	Bright
1170700	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	Bright
1170705	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	TiN
1180800	●	5/16 - 18 UNC	H5	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	Bright
1180700	●	5/16 - 18 UNC	H5	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	Bright
1171100	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	Bright
1171101	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	Steam Oxide
1171105	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 103 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | TiN | 3 FLUTE | C/1.5P | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Surface Treatment
1171000	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	Bright
1171001	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	Steam Oxide
1171005	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	TiN
1046200	●	3/8 - 16 UNC	H1	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	Bright
1161300	●	3/8 - 16 UNC	H1	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	Bright
1171400	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	Bright
1171401	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	Steam Oxide
1171405	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	TiN
1171300	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	Bright
1171301	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	Steam Oxide
1171305	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	TiN
1181400	●	3/8 - 16 UNC	H5	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	Bright
1181300	●	3/8 - 16 UNC	H5	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	Bright
1171700	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	Bright
1171701	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	Steam Oxide
1171705	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	TiN
1171600	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	Bright
1171601	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	Steam Oxide
1171605	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	TiN
1172000	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	Bright
1171900	●	7/16 - 14 UNC	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	Bright
1054700	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.157	1.071	1.689	0.323	0.242	0.406	Bright
1172200	●	7/16 - 20 UNF	H3	Plug (4P)	3.157	1.071	1.689	0.323	0.242	0.406	Bright
1172600	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	Bright
1172601	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	Steam Oxide
1172605	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	TiN
1172500	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	Bright
1172501	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	Steam Oxide
1172505	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	TiN
1172800	●	1/2 - 20 UNF	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 104

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | 2 FLUTE | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Surface Treatment
1060200	●	No. 2 - 56 UNC	H1	Bottom (1.5P)	1.752	0.472	0.512	0.141	0.110	0.188	Bright
1060100	●	No. 2 - 56 UNC	H1	Plug (4P)	1.752	0.472	0.512	0.141	0.110	0.188	Bright
1065200	●	No. 2 - 56 UNC	H2	Bottom (1.5P)	1.752	0.472	0.512	0.141	0.110	0.188	Bright
1065100	●	No. 2 - 56 UNC	H2	Plug (4P)	1.752	0.472	0.512	0.141	0.110	0.188	Bright
1065800	●	No. 3 - 48 UNC	H2	Bottom (1.5P)	1.811	0.539	0.579	0.141	0.110	0.188	Bright
1065700	●	No. 3 - 48 UNC	H2	Plug (4P)	1.811	0.539	0.579	0.141	0.110	0.188	Bright
1007900	●	No. 4 - 40 UNC	H1	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	Bright
1061300	●	No. 4 - 40 UNC	H1	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	Bright
1066400	●	No. 4 - 40 UNC	H2	Bottom (1.5P)	1.874	0.370	0.681	0.141	0.110	0.188	Bright
1066300	●	No. 4 - 40 UNC	H2	Plug (4P)	1.874	0.370	0.681	0.141	0.110	0.188	Bright
1067300	●	No. 5 - 40 UNC	H2	Bottom (1.5P)	1.937	0.425	0.795	0.141	0.110	0.188	Bright
1067200	●	No. 5 - 40 UNC	H2	Plug (4P)	1.937	0.425	0.795	0.141	0.110	0.188	Bright
1067500	●	No. 5 - 44 UNF	H2	Plug (4P)	1.937	0.425	0.795	0.141	0.110	0.188	Bright
1008100	●	No. 6 - 32 UNC	H1	Bottom (1.5P)	2.000	0.524	0.858	0.141	0.110	0.188	Bright
1062800	●	No. 6 - 32 UNC	H1	Plug (4P)	2.000	0.524	0.858	0.141	0.110	0.188	Bright
1067900	●	No. 6 - 32 UNC	H2	Bottom (1.5P)	2.000	0.524	0.858	0.141	0.110	0.188	Bright
1067800	●	No. 6 - 32 UNC	H2	Plug (4P)	2.000	0.524	0.858	0.141	0.110	0.188	Bright
1072900	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.524	0.858	0.141	0.110	0.188	Bright
1072901	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.524	0.858	0.141	0.110	0.188	Steam Oxide
1072800	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.524	0.858	0.141	0.110	0.188	Bright
1072801	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.524	0.858	0.141	0.110	0.188	Steam Oxide
1016400	●	No. 6 - 40 UNF	H2	Bottom (1.5P)	2.000	0.524	0.858	0.141	0.110	0.188	Bright
1068100	●	No. 6 - 40 UNF	H2	Plug (4P)	2.000	0.524	0.858	0.141	0.110	0.188	Bright
1068500	●	No. 8 - 32 UNC	H2	Bottom (1.5P)	2.126	0.539	1.004	0.168	0.131	0.250	Bright
1068400	●	No. 8 - 32 UNC	H2	Plug (4P)	2.126	0.539	1.004	0.168	0.131	0.250	Bright
1073500	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.539	1.004	0.168	0.131	0.250	Bright
1073501	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.539	1.004	0.168	0.131	0.250	Steam Oxide
1073400	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.539	1.004	0.168	0.131	0.250	Bright
1073401	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.539	1.004	0.168	0.131	0.250	Steam Oxide
1069100	●	No. 10 - 24 UNC	H2	Bottom (1.5P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1069000	●	No. 10 - 24 UNC	H2	Plug (4P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1074100	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1074101	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.701	1.130	0.194	0.152	0.250	Steam Oxide
1074000	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1074001	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.701	1.130	0.194	0.152	0.250	Steam Oxide
1026200	●	No. 10 - 32 UNF	H1	Bottom (1.5P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1026100	●	No. 10 - 32 UNF	H1	Plug (4P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1069400	●	No. 10 - 32 UNF	H2	Bottom (1.5P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1069300	●	No. 10 - 32 UNF	H2	Plug (4P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1074400	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1074401	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.701	1.130	0.194	0.152	0.250	Steam Oxide
1074300	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.701	1.130	0.194	0.152	0.250	Bright
1074301	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.701	1.130	0.194	0.152	0.250	Steam Oxide
1195200	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.854	1.287	0.255	0.191	0.313	Bright
1195201	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.854	1.287	0.255	0.191	0.313	Steam Oxide
1195100	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.854	1.287	0.255	0.191	0.313	Bright
1195101	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.854	1.287	0.255	0.191	0.313	Steam Oxide
1195500	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.854	1.287	0.255	0.191	0.313	Bright
1195501	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.854	1.287	0.255	0.191	0.313	Steam Oxide
1195400	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.854	1.287	0.255	0.191	0.313	Bright
1195401	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.854	1.287	0.255	0.191	0.313	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 104 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | 2 FLUTE | C/1.5P | C/4P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Surface Treatment
1195800	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.720	0.854	1.323	0.318	0.238	0.375	Bright
1195700	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.854	1.323	0.318	0.238	0.375	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

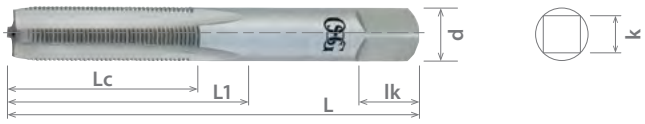
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101N

STRAIGHT FLUTE | HSS | BR | C/1.5P | C/4P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-HT, UNEF



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1670200	●	No. 12 - 32 UNEF	H3	Bottom (1.5P)	2.374	0.622	1.110	0.220	0.165	0.281	4
1670100	●	No. 12 - 32 UNEF	H3	Plug (4P)	2.374	0.622	1.110	0.220	0.165	0.281	4
1680200	●	1/4 - 32 UNEF	H3	Bottom (1.5P)	2.500	0.748	1.181	0.255	0.191	0.313	4
1680100	●	1/4 - 32 UNEF	H3	Plug (4P)	2.500	0.748	1.181	0.255	0.191	0.313	4
1680400	●	5/16 - 32 UNEF	H3	Bottom (1.5P)	2.720	0.835	1.323	0.318	0.238	0.375	4
1680300	●	5/16 - 32 UNEF	H3	Plug (4P)	2.720	0.835	1.323	0.318	0.238	0.375	4
1680600	●	3/8 - 32 UNEF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4
1680500	●	3/8 - 32 UNEF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4
1680800	●	7/16 - 28 UNEF	H3	Bottom (1.5P)	3.157	0.992	1.689	0.323	0.242	0.406	4
1680700	●	7/16 - 28 UNEF	H3	Plug (4P)	3.157	0.992	1.689	0.323	0.242	0.406	4
1681000	●	1/2 - 28 UNEF	H3	Bottom (1.5P)	3.374	1.154	1.811	0.367	0.275	0.438	4
1680900	●	1/2 - 28 UNEF	H3	Plug (4P)	3.374	1.154	1.811	0.367	0.275	0.438	4
1681200	●	9/16 - 24 UNEF	H3	Bottom (1.5P)	3.594	1.252	1.941	0.429	0.322	0.500	4
1681100	●	9/16 - 24 UNEF	H3	Plug (4P)	3.594	1.252	1.941	0.429	0.322	0.500	4
1681400	●	5/8 - 24 UNEF	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	6
1681300	●	5/8 - 24 UNEF	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	6
1681600	●	11/16 - 24 UNEF	H3	Bottom (1.5P)	4.031	1.362	2.130	0.542	0.406	0.625	6
1681500	●	11/16 - 24 UNEF	H3	Plug (4P)	4.031	1.362	2.130	0.542	0.406	0.625	6
1681800	●	3/4 - 20 UNEF	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	6
1681700	●	3/4 - 20 UNEF	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	6
1682000	●	13/16 - 20 UNEF	H3	Bottom (1.5P)	4.469	1.500	2.382	0.652	0.489	0.688	6
1681900	●	13/16 - 20 UNEF	H3	Plug (4P)	4.469	1.500	2.382	0.652	0.489	0.688	6
1682200	●	7/8 - 20 UNEF	H3	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	6
1682100	●	7/8 - 20 UNEF	H3	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	6
1682400	●	15/16 - 20 UNEF	H3	Bottom (1.5P)	4.906	1.500	2.500	0.760	0.570	0.750	6
1682300	●	15/16 - 20 UNEF	H3	Plug (4P)	4.906	1.500	2.500	0.760	0.570	0.750	6
1682600	●	1 - 20 UNEF	H3	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	6
1682500	●	1 - 20 UNEF	H3	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

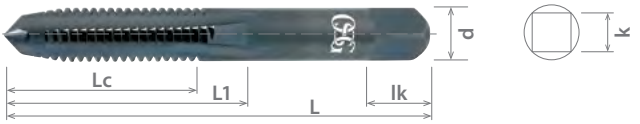
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 141

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1978800	●	M1.6 x 0.35	D3	Plug (4P)	41.30	7.90	8.90	3.58	2.79	4.76	3	Bright
1977400	●	M2 x 0.4	D3	Bottom (1.5P)	44.50	11.10	12.10	3.58	2.79	4.76	3	Bright
1977300	●	M2 x 0.4	D3	Plug (4P)	44.50	11.10	12.10	3.58	2.79	4.76	3	Bright
1972300	●	M2.5 x 0.45	D3	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	3	Bright
1972301	●	M2.5 x 0.45	D3	Bottom (1.5P)	46.00	12.80	13.80	3.58	2.79	4.76	3	Steam Oxide
1972200	●	M2.5 x 0.45	D3	Plug (4P)	46.00	12.80	13.80	3.58	2.79	4.76	3	Bright
1972201	●	M2.5 x 0.45	D3	Plug (4P)	46.00	12.80	13.80	3.58	2.79	4.76	3	Steam Oxide
1970200	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	7.50	18.90	3.58	2.79	4.76	3	Bright
1970201	●	M3 x 0.5	D3	Bottom (1.5P)	49.20	7.50	18.90	3.58	2.79	4.76	3	Steam Oxide
1970100	●	M3 x 0.5	D3	Plug (4P)	49.20	7.50	18.90	3.58	2.79	4.76	3	Bright
1970101	●	M3 x 0.5	D3	Plug (4P)	49.20	7.50	18.90	3.58	2.79	4.76	3	Steam Oxide
1970000	●	M3 x 0.5	D3	Taper (9P)	49.20	7.50	18.90	3.58	2.79	4.76	3	Bright
1972600	●	M3.5 x 0.6	D4	Bottom (1.5P)	50.80	9.00	20.40	3.58	2.79	4.76	3	Bright
1972601	●	M3.5 x 0.6	D4	Bottom (1.5P)	50.80	9.00	20.40	3.58	2.79	4.76	3	Steam Oxide
1972500	●	M3.5 x 0.6	D4	Plug (4P)	50.80	9.00	20.40	3.58	2.79	4.76	3	Bright
1972501	●	M3.5 x 0.6	D4	Plug (4P)	50.80	9.00	20.40	3.58	2.79	4.76	3	Steam Oxide
1970500	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	10.50	23.70	4.27	3.33	6.35	4	Bright
1970501	●	M4 x 0.7	D4	Bottom (1.5P)	54.00	10.50	23.70	4.27	3.33	6.35	4	Steam Oxide
1970400	●	M4 x 0.7	D4	Plug (4P)	54.00	10.50	23.70	4.27	3.33	6.35	4	Bright
1970401	●	M4 x 0.7	D4	Plug (4P)	54.00	10.50	23.70	4.27	3.33	6.35	4	Steam Oxide
1970300	●	M4 x 0.7	D4	Taper (9P)	54.00	10.50	23.70	4.27	3.33	6.35	4	Bright
1972900	●	M4.5 x 0.75	D4	Bottom (1.5P)	60.30	12.20	26.70	4.93	3.86	6.35	4	Bright
1972901	●	M4.5 x 0.75	D4	Bottom (1.5P)	60.30	12.20	26.70	4.93	3.86	6.35	4	Steam Oxide
1972800	●	M4.5 x 0.75	D4	Plug (4P)	60.30	12.20	26.70	4.93	3.86	6.35	4	Bright
1972801	●	M4.5 x 0.75	D4	Plug (4P)	60.30	12.20	26.70	4.93	3.86	6.35	4	Steam Oxide
1970800	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	12.10	26.90	4.93	3.86	6.35	4	Bright
1970801	●	M5 x 0.8	D4	Bottom (1.5P)	60.30	12.10	26.90	4.93	3.86	6.35	4	Steam Oxide
1970700	●	M5 x 0.8	D4	Plug (4P)	60.30	12.10	26.90	4.93	3.86	6.35	4	Bright
1970701	●	M5 x 0.8	D4	Plug (4P)	60.30	12.10	26.90	4.93	3.86	6.35	4	Steam Oxide
1970600	●	M5 x 0.8	D4	Taper (9P)	60.30	12.10	26.90	4.93	3.86	6.35	4	Bright
1971100	●	M6 x 1	D5	Bottom (1.5P)	63.50	15.90	30.00	6.48	4.85	7.94	4	Bright
1971101	●	M6 x 1	D5	Bottom (1.5P)	63.50	15.90	30.00	6.48	4.85	7.94	4	Steam Oxide
1971000	●	M6 x 1	D5	Plug (4P)	63.50	15.90	30.00	6.48	4.85	7.94	4	Bright
1971001	●	M6 x 1	D5	Plug (4P)	63.50	15.90	30.00	6.48	4.85	7.94	4	Steam Oxide
1970900	●	M6 x 1	D5	Taper (9P)	63.50	15.90	30.00	6.48	4.85	7.94	4	Bright
1973200	●	M7 x 1	D5	Bottom (1.5P)	69.10	15.00	33.60	8.08	6.05	9.53	4	Bright
1973201	●	M7 x 1	D5	Bottom (1.5P)	69.10	15.00	33.60	8.08	6.05	9.53	4	Steam Oxide
1973100	●	M7 x 1	D5	Plug (4P)	69.10	15.00	33.60	8.08	6.05	9.53	4	Bright
1973101	●	M7 x 1	D5	Plug (4P)	69.10	15.00	33.60	8.08	6.05	9.53	4	Steam Oxide
1973500	●	M8 x 1	D5	Bottom (1.5P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

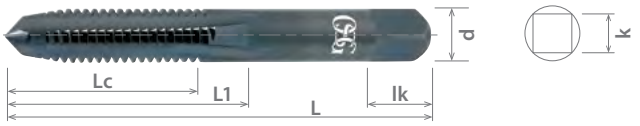
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 141 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1973501	●	M8 x 1	D5	Bottom (1.5P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Steam Oxide
1973400	●	M8 x 1	D5	Plug (4P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Bright
1973401	●	M8 x 1	D5	Plug (4P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Steam Oxide
1971400	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Bright
1971401	●	M8 x 1.25	D5	Bottom (1.5P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Steam Oxide
1971300	●	M8 x 1.25	D5	Plug (4P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Bright
1971301	●	M8 x 1.25	D5	Plug (4P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Steam Oxide
1971200	●	M8 x 1.25	D5	Taper (9P)	69.10	18.80	33.60	8.08	6.05	9.53	4	Bright
1973800	●	M10 x 1	D5	Bottom (1.5P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Bright
1973801	●	M10 x 1	D5	Bottom (1.5P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Steam Oxide
1973700	●	M10 x 1	D5	Plug (4P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Bright
1973701	●	M10 x 1	D5	Plug (4P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Steam Oxide
1974100	●	M10 x 1.25	D5	Bottom (1.5P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Bright
1974101	●	M10 x 1.25	D5	Bottom (1.5P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Steam Oxide
1974000	●	M10 x 1.25	D5	Plug (4P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Bright
1974001	●	M10 x 1.25	D5	Plug (4P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Steam Oxide
1971700	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Bright
1971701	●	M10 x 1.5	D6	Bottom (1.5P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Steam Oxide
1971600	●	M10 x 1.5	D6	Plug (4P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Bright
1971601	●	M10 x 1.5	D6	Plug (4P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Steam Oxide
1971500	●	M10 x 1.5	D6	Taper (9P)	74.60	22.50	35.10	9.68	7.26	11.11	4	Bright
1974400	●	M12 x 1.25	D5	Bottom (1.5P)	85.70	26.30	46.00	9.32	6.99	11.11	4	Bright
1974401	●	M12 x 1.25	D5	Bottom (1.5P)	85.70	26.30	46.00	9.32	6.99	11.11	4	Steam Oxide
1974300	●	M12 x 1.25	D5	Plug (4P)	85.70	26.30	46.00	9.32	6.99	11.11	4	Bright
1974301	●	M12 x 1.25	D5	Plug (4P)	85.70	26.30	46.00	9.32	6.99	11.11	4	Steam Oxide
1974700	●	M12 x 1.5	D6	Bottom (1.5P)	85.70	26.30	46.00	9.32	6.99	11.11	4	Bright
1974600	●	M12 x 1.5	D6	Plug (4P)	85.70	26.30	46.00	9.32	6.99	11.11	4	Bright
1972000	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	27.20	46.00	9.32	6.99	11.11	4	Bright
1972001	●	M12 x 1.75	D6	Bottom (1.5P)	85.70	27.20	46.00	9.32	6.99	11.11	4	Steam Oxide
1971900	●	M12 x 1.75	D6	Plug (4P)	85.70	27.20	46.00	9.32	6.99	11.11	4	Bright
1971901	●	M12 x 1.75	D6	Plug (4P)	85.70	27.20	46.00	9.32	6.99	11.11	4	Steam Oxide
1971800	●	M12 x 1.75	D6	Taper (9P)	85.70	27.20	46.00	9.32	6.99	11.11	4	Bright
1975000	●	M14 x 1.25	D5	Bottom (1.5P)	91.30	30.00	49.30	10.90	8.18	12.70	4	Bright
1974900	●	M14 x 1.25	D5	Plug (4P)	91.30	30.00	49.30	10.90	8.18	12.70	4	Bright
1977700	●	M14 x 1.5	D6	Bottom (1.5P)	91.30	30.80	49.30	10.90	8.18	12.70	4	Bright
1977600	●	M14 x 1.5	D6	Plug (4P)	91.30	30.80	49.30	10.90	8.18	12.70	4	Bright
1975300	●	M14 x 2	D7	Bottom (1.5P)	91.30	31.00	49.30	10.90	8.18	12.70	4	Bright
1975200	●	M14 x 2	D7	Plug (4P)	91.30	31.00	49.30	10.90	8.18	12.70	4	Bright
1975201	●	M14 x 2	D7	Plug (4P)	91.30	31.00	49.30	10.90	8.18	12.70	4	Steam Oxide
1975100	●	M14 x 2	D7	Taper (9P)	91.30	31.00	49.30	10.90	8.18	12.70	4	Bright
1975600	●	M16 x 1.5	D6	Bottom (1.5P)	96.80	30.00	50.80	12.19	9.14	14.29	4	Bright
1975601	●	M16 x 1.5	D6	Bottom (1.5P)	96.80	30.00	50.80	12.19	9.14	14.29	4	Steam Oxide
1975500	●	M16 x 1.5	D6	Plug (4P)	96.80	30.00	50.80	12.19	9.14	14.29	4	Bright
1975501	●	M16 x 1.5	D6	Plug (4P)	96.80	30.00	50.80	12.19	9.14	14.29	4	Steam Oxide
1975900	●	M16 x 2	D7	Bottom (1.5P)	96.80	31.00	50.80	12.19	9.14	14.29	4	Bright
1975901	●	M16 x 2	D7	Bottom (1.5P)	96.80	31.00	50.80	12.19	9.14	14.29	4	Steam Oxide
1975800	●	M16 x 2	D7	Plug (4P)	96.80	31.00	50.80	12.19	9.14	14.29	4	Bright
1975801	●	M16 x 2	D7	Plug (4P)	96.80	31.00	50.80	12.19	9.14	14.29	4	Steam Oxide
1975700	●	M16 x 2	D7	Taper (9P)	96.80	31.00	50.80	12.19	9.14	14.29	4	Bright
1976200	●	M18 x 1.5	D6	Bottom (1.5P)	102.40	37.50	54.10	13.77	10.31	15.88	4	Bright
1976201	●	M18 x 1.5	D6	Bottom (1.5P)	102.40	37.50	54.10	13.77	10.31	15.88	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 141 (Continued)

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | S/O | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1976100	●	M18 x 1.5	D6	Plug (4P)	102.40	37.50	54.10	13.77	10.31	15.88	4	Bright
1976500	●	M18 x 2.5	D7	Bottom (1.5P)	102.40	38.80	54.10	13.77	10.31	15.88	4	Bright
1976400	●	M18 x 2.5	D7	Plug (4P)	102.40	38.80	54.10	13.77	10.31	15.88	4	Bright
1976401	●	M18 x 2.5	D7	Plug (4P)	102.40	38.80	54.10	13.77	10.31	15.88	4	Steam Oxide
1976800	●	M20 x 1.5	D6	Bottom (1.5P)	113.50	37.50	60.50	16.56	12.42	17.46	4	Bright
1976801	●	M20 x 1.5	D6	Bottom (1.5P)	113.50	37.50	60.50	16.56	12.42	17.46	4	Steam Oxide
1976700	●	M20 x 1.5	D6	Plug (4P)	113.50	37.50	60.50	16.56	12.42	17.46	4	Bright
1977100	●	M20 x 2.5	D7	Bottom (1.5P)	113.50	38.80	60.50	16.56	12.42	17.46	4	Bright
1977101	●	M20 x 2.5	D7	Bottom (1.5P)	113.50	38.80	60.50	16.56	12.42	17.46	4	Steam Oxide
1977000	●	M20 x 2.5	D7	Plug (4P)	113.50	38.80	60.50	16.56	12.42	17.46	4	Bright
1977001	●	M20 x 2.5	D7	Plug (4P)	113.50	38.80	60.50	16.56	12.42	17.46	4	Steam Oxide
1966900	●	M20 x 2.5	D7	Taper (9P)	113.50	38.80	60.50	16.56	12.42	17.46	4	Bright
1977200	●	M24 x 3	D8	Bottom (1.5P)	124.60	45.00	63.50	19.30	14.48	19.05	4	Bright
1977500	●	M24 x 3	D8	Plug (4P)	124.60	45.00	63.50	19.30	14.48	19.05	4	Bright
1978000	●	M24 x 3	D8	Taper (9P)	124.60	45.00	63.50	19.30	14.48	19.05	4	Bright
1978200	●	M30 x 3.5	D9	Bottom (1.5P)	138.10	52.50	74.70	25.93	19.46	25.40	4	Bright
1978300	●	M30 x 3.5	D9	Plug (4P)	138.10	52.50	74.70	25.93	19.46	25.40	4	Bright
1978400	●	M30 x 3.5	D9	Taper (9P)	138.10	52.50	74.70	25.93	19.46	25.40	4	Bright
1978600	●	M36 x 4	D9	Plug (4P)	154.00	60.00	80.00	31.32	23.50	28.58	4	Bright
1978700	●	M36 x 4	D9	Taper (9P)	154.00	60.00	80.00	31.32	23.50	28.58	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 121

OSG GENERAL PURPOSE-HT, JIS

STRAIGHT FLUTE | HSS | BR | S/O | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
233	●	M2 x 0.4	OH2	Bottom (1.5P)	40.00	8.00	12.00	3.00	2.50	5.00	3	Bright
232	●	M2 x 0.4	OH2	Plug (5P)	40.00	8.00	12.00	3.00	2.50	5.00	3	Bright
293	●	M2.3 x 0.4	OH2	Bottom (1.5P)	42.00	9.00	-	3.00	2.50	5.00	3	Bright
292	●	M2.3 x 0.4	OH2	Plug (5P)	42.00	9.00	-	3.00	2.50	5.00	3	Bright
353	●	M2.6 x 0.45	OH2	Bottom (1.5P)	44.00	9.00	-	3.00	2.50	5.00	3	Bright
352	●	M2.6 x 0.45	OH2	Plug (5P)	44.00	9.00	-	3.00	2.50	5.00	3	Bright
393	●	M3 x 0.5	OH2	Bottom (1.5P)	46.00	11.00	19.00	4.00	3.20	6.00	3	Bright
22606	●	M3 x 0.5	OH2	Bottom (1.5P)	46.00	11.00	19.00	4.00	3.20	6.00	3	Steam Oxide
392	●	M3 x 0.5	OH2	Plug (5P)	46.00	11.00	19.00	4.00	3.20	6.00	3	Bright
22605	●	M3 x 0.5	OH2	Plug (5P)	46.00	11.00	19.00	4.00	3.20	6.00	3	Steam Oxide
391	●	M3 x 0.5	OH2	Taper (9P)	46.00	11.00	19.00	4.00	3.20	6.00	3	Bright
413	●	M3.5 x 0.6	OH2	Bottom (1.5P)	48.00	13.00	20.00	4.00	3.20	6.00	3	Bright
412	●	M3.5 x 0.6	OH2	Plug (5P)	48.00	13.00	20.00	4.00	3.20	6.00	3	Bright
411	●	M3.5 x 0.6	OH2	Taper (9P)	48.00	13.00	20.00	4.00	3.20	6.00	3	Bright
453	●	M4 x 0.7	OH2	Bottom (1.5P)	52.00	13.00	21.00	5.00	4.00	7.00	3	Bright
22612	●	M4 x 0.7	OH2	Bottom (1.5P)	52.00	13.00	21.00	5.00	4.00	7.00	3	Steam Oxide
452	●	M4 x 0.7	OH2	Plug (5P)	52.00	13.00	21.00	5.00	4.00	7.00	3	Bright
22611	●	M4 x 0.7	OH2	Plug (5P)	52.00	13.00	21.00	5.00	4.00	7.00	3	Steam Oxide
451	●	M4 x 0.7	OH2	Taper (9P)	52.00	13.00	21.00	5.00	4.00	7.00	3	Bright
482	●	M4.5 x 0.75	OH2	Plug (5P)	55.00	13.00	21.00	5.00	4.00	7.00	3	Bright
513	●	M5 x 0.8	OH2	Bottom (1.5P)	60.00	16.00	24.00	5.50	4.50	7.00	3	Bright
22618	●	M5 x 0.8	OH2	Bottom (1.5P)	60.00	16.00	24.00	5.50	4.50	7.00	3	Steam Oxide
512	●	M5 x 0.8	OH2	Plug (5P)	60.00	16.00	24.00	5.50	4.50	7.00	3	Bright
22617	●	M5 x 0.8	OH2	Plug (5P)	60.00	16.00	24.00	5.50	4.50	7.00	3	Steam Oxide
511	●	M5 x 0.8	OH2	Taper (9P)	60.00	16.00	24.00	5.50	4.50	7.00	3	Bright
593	●	M6 x 0.75	OH2	Bottom (1.5P)	62.00	19.00	29.00	6.00	4.50	7.00	3	Bright
592	●	M6 x 0.75	OH2	Plug (5P)	62.00	19.00	29.00	6.00	4.50	7.00	3	Bright
591	●	M6 x 0.75	OH2	Taper (9P)	62.00	19.00	29.00	6.00	4.50	7.00	3	Bright
583	●	M6 x 1	OH2	Bottom (1.5P)	62.00	19.00	29.00	6.00	4.50	7.00	3	Bright
22622	●	M6 x 1	OH2	Bottom (1.5P)	62.00	19.00	29.00	6.00	4.50	7.00	3	Steam Oxide
582	●	M6 x 1	OH2	Plug (5P)	62.00	19.00	29.00	6.00	4.50	7.00	3	Bright
22621	●	M6 x 1	OH2	Plug (5P)	62.00	19.00	29.00	6.00	4.50	7.00	3	Steam Oxide
581	●	M6 x 1	OH2	Taper (9P)	62.00	19.00	29.00	6.00	4.50	7.00	3	Bright
612	●	M7 x 1	OH2	Plug (5P)	65.00	19.00	33.00	6.20	5.00	8.00	4	Bright
662	●	M8 x 0.75	OH2	Plug (5P)	70.00	20.00	35.00	6.20	5.00	8.00	4	Bright
653	●	M8 x 1	OH2	Bottom (1.5P)	70.00	22.00	37.00	6.20	5.00	8.00	4	Bright
652	●	M8 x 1	OH2	Plug (5P)	70.00	22.00	37.00	6.20	5.00	8.00	4	Bright
651	●	M8 x 1	OH2	Taper (9P)	70.00	22.00	37.00	6.20	5.00	8.00	4	Bright
643	●	M8 x 1.25	OH2	Bottom (1.5P)	70.00	22.00	37.00	6.20	5.00	8.00	4	Bright
22628	●	M8 x 1.25	OH2	Bottom (1.5P)	70.00	22.00	37.00	6.20	5.00	8.00	4	Steam Oxide
642	●	M8 x 1.25	OH2	Plug (5P)	70.00	22.00	37.00	6.20	5.00	8.00	4	Bright
22627	●	M8 x 1.25	OH2	Plug (5P)	70.00	22.00	37.00	6.20	5.00	8.00	4	Steam Oxide
641	●	M8 x 1.25	OH2	Taper (9P)	70.00	22.00	37.00	6.20	5.00	8.00	4	Bright
692	●	M9 x 1.25	OH2	Plug (5P)	72.00	22.00	38.00	7.00	5.50	8.00	4	Bright
753	●	M10 x 1	OH2	Bottom (1.5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright
752	●	M10 x 1	OH2	Plug (5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright
751	●	M10 x 1	OH2	Taper (9P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright
743	●	M10 x 1.25	OH2	Bottom (1.5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright
22638	●	M10 x 1.25	OH2	Bottom (1.5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Steam Oxide
742	●	M10 x 1.25	OH2	Plug (5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright
22637	●	M10 x 1.25	OH2	Plug (5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Steam Oxide
741	●	M10 x 1.25	OH2	Taper (9P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright
733	●	M10 x 1.5	OH2	Bottom (1.5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 121 (Continued)

OSG GENERAL PURPOSE-HT, JIS

STRAIGHT FLUTE | HSS | BR | S/0 | C/1.5P | C/4P | C/9P | 0° | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
22634	●	M10 x 1.5	OH2	Bottom (1.5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Steam Oxide
732	●	M10 x 1.5	OH2	Plug (5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright
22633	●	M10 x 1.5	OH2	Plug (5P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Steam Oxide
731	●	M10 x 1.5	OH2	Taper (9P)	75.00	24.00	41.00	7.00	5.50	8.00	4	Bright
792	●	M11 x 1.5	OH2	Plug (5P)	80.00	25.00	48.00	8.00	6.00	9.00	4	Bright
883	●	M12 x 1	OH2	Bottom (1.5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
882	●	M12 x 1	OH2	Plug (5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
881	●	M12 x 1	OH2	Taper (9P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
873	●	M12 x 1.25	OH2	Bottom (1.5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
872	●	M12 x 1.25	OH2	Plug (5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
871	●	M12 x 1.25	OH2	Taper (9P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
862	●	M12 x 1.5	OH2	Plug (5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
853	●	M12 x 1.75	OH2	Bottom (1.5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
22644	●	M12 x 1.75	OH2	Bottom (1.5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Steam Oxide
852	●	M12 x 1.75	OH2	Plug (5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
22643	●	M12 x 1.75	OH2	Plug (5P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Steam Oxide
851	●	M12 x 1.75	OH2	Taper (9P)	82.00	29.00	48.00	8.50	6.50	9.00	4	Bright
1003	●	M14 x 1.25	OH2	Bottom (1.5P)	88.00	30.00	48.00	10.50	8.00	11.00	4	Bright
1002	●	M14 x 1.25	OH2	Plug (5P)	88.00	30.00	48.00	10.50	8.00	11.00	4	Bright
993	●	M14 x 1.5	OH2	Bottom (1.5P)	88.00	30.00	48.00	10.50	8.00	11.00	4	Bright
992	●	M14 x 1.5	OH2	Plug (5P)	88.00	30.00	48.00	10.50	8.00	11.00	4	Bright
983	●	M14 x 2	OH2	Bottom (1.5P)	88.00	30.00	48.00	10.50	8.00	11.00	4	Bright
982	●	M14 x 2	OH2	Plug (5P)	88.00	30.00	48.00	10.50	8.00	11.00	4	Bright
1142	●	M16 x 1	OH2	Plug (5P)	95.00	30.00	50.00	12.50	10.00	13.00	4	Bright
1123	●	M16 x 1.5	OH2	Bottom (1.5P)	95.00	32.00	52.00	12.50	10.00	13.00	4	Bright
1122	●	M16 x 1.5	OH2	Plug (5P)	95.00	32.00	52.00	12.50	10.00	13.00	4	Bright
1113	●	M16 x 2	OH2	Bottom (1.5P)	95.00	32.00	52.00	12.50	10.00	13.00	4	Bright
1112	●	M16 x 2	OH2	Plug (5P)	95.00	32.00	52.00	12.50	10.00	13.00	4	Bright
1273	●	M18 x 1.5	OH2	Bottom (1.5P)	100.00	37.00	55.00	14.00	11.00	14.00	4	Bright
1272	●	M18 x 1.5	OH2	Plug (5P)	100.00	37.00	55.00	14.00	11.00	14.00	4	Bright
1262	●	M18 x 2	OH2	Plug (5P)	100.00	37.00	55.00	14.00	11.00	14.00	4	Bright
1253	●	M18 x 2.5	OH2	Bottom (1.5P)	100.00	37.00	55.00	14.00	11.00	14.00	4	Bright
1252	●	M18 x 2.5	OH2	Plug (5P)	100.00	37.00	55.00	14.00	11.00	14.00	4	Bright
1413	●	M20 x 1.5	OH2	Bottom (1.5P)	105.00	37.00	58.00	15.00	12.00	15.00	4	Bright
1412	●	M20 x 1.5	OH2	Plug (5P)	105.00	37.00	58.00	15.00	12.00	15.00	4	Bright
1393	●	M20 x 2.5	OH2	Bottom (1.5P)	105.00	37.00	58.00	15.00	12.00	15.00	4	Bright
1392	●	M20 x 2.5	OH2	Plug (5P)	105.00	37.00	58.00	15.00	12.00	15.00	4	Bright
1523	●	M22 x 1.5	OH2	Bottom (1.5P)	115.00	38.00	63.00	17.00	13.00	16.00	4	Bright
1522	●	M22 x 1.5	OH2	Plug (5P)	115.00	38.00	63.00	17.00	13.00	16.00	4	Bright
1503	●	M22 x 2.5	OH2	Bottom (1.5P)	115.00	38.00	63.00	17.00	13.00	16.00	4	Bright
1502	●	M22 x 2.5	OH2	Plug (5P)	115.00	38.00	63.00	17.00	13.00	16.00	4	Bright
1632	●	M24 x 1.5	OH2	Plug (5P)	120.00	45.00	66.00	19.00	15.00	18.00	4	Bright
1603	●	M24 x 3	OH2	Bottom (1.5P)	120.00	45.00	66.00	19.00	15.00	18.00	4	Bright
1602	●	M24 x 3	OH2	Plug (5P)	120.00	45.00	66.00	19.00	15.00	18.00	4	Bright
1733	●	M26 x 1.5	OH2	Bottom (1.5P)	130.00	45.00	71.00	20.00	15.00	18.00	4	Bright
1732	●	M26 x 1.5	OH2	Plug (5P)	130.00	45.00	71.00	20.00	15.00	18.00	4	Bright
1713	●	M26 x 3	OH2	Bottom (1.5P)	130.00	45.00	71.00	20.00	15.00	18.00	4	Bright
1712	●	M26 x 3	OH2	Plug (5P)	130.00	45.00	71.00	20.00	15.00	18.00	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 121 (Continued)

OSG GENERAL PURPOSE-HT, JIS

STRAIGHT FLUTE	HSS	BR	S/O	C/1.5P	C/4P	C/9P	0°	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
1823	●	M28 x 1.5	OH2	Bottom (1.5P)	130.00	45.00	60.00	21.00	17.00	20.00	4	Bright
1822	●	M28 x 1.5	OH2	Plug (5P)	130.00	45.00	60.00	21.00	17.00	20.00	4	Bright
1873	●	M30 x 1.5	OH2	Bottom (1.5P)	130.00	45.00	60.00	23.00	17.00	20.00	4	Bright
1872	●	M30 x 1.5	OH2	Plug (5P)	130.00	45.00	60.00	23.00	17.00	20.00	4	Bright
1843	●	M30 x 3.5	OH2	Bottom (1.5P)	135.00	51.00	74.00	23.00	17.00	20.00	4	Bright
1842	●	M30 x 3.5	OH2	Plug (5P)	135.00	51.00	74.00	23.00	17.00	20.00	4	Bright
1933	●	M32 x 1.5	OH2	Bottom (1.5P)	105.00	37.00	47.00	24.00	19.00	22.00	4	Bright
1932	●	M32 x 1.5	OH2	Plug (5P)	105.00	37.00	47.00	24.00	19.00	22.00	4	Bright
1983	●	M33 x 1.5	OH2	Bottom (1.5P)	110.00	37.00	47.00	25.00	19.00	22.00	4	Bright
1982	●	M33 x 1.5	OH2	Plug (5P)	110.00	37.00	47.00	25.00	19.00	22.00	4	Bright
2033	●	M34 x 1.5	OH2	Bottom (1.5P)	110.00	37.00	47.00	26.00	21.00	24.00	4	Bright
2032	●	M34 x 1.5	OH2	Plug (5P)	110.00	37.00	47.00	26.00	21.00	24.00	4	Bright
2143	●	M36 x 1.5	OH2	Bottom (1.5P)	110.00	37.00	47.00	28.00	21.00	24.00	4	Bright
2142	●	M36 x 1.5	OH2	Plug (5P)	110.00	37.00	47.00	28.00	21.00	24.00	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 916

STRAIGHT FLUTE | HSS | S/0 | 4 FLUTE | C/4P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-LS-HT, Long Shank



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1290001	●	1/4 - 20 UNC	H3	6.000	1.000	1.689	0.255	0.191	0.313
1290201	●	1/4 - 20 UNC	H3	8.000	1.000	1.689	0.255	0.191	0.313
1290401	●	5/16 - 18 UNC	H3	6.000	1.126	1.756	0.318	0.238	0.374
1290601	●	5/16 - 18 UNC	H3	8.000	1.126	1.756	0.318	0.238	0.374
1290801	●	3/8 - 16 UNC	H3	6.000	1.252	1.882	0.381	0.286	0.437
1291001	●	3/8 - 16 UNC	H3	8.000	1.252	1.882	0.381	0.286	0.437
1291201	●	3/8 - 16 UNC	H3	10.000	1.252	1.882	0.381	0.286	0.437
1291401	●	7/16 - 14 UNC	H3	6.000	1.437	2.224	0.444	0.333	0.500
1291601	●	7/16 - 14 UNC	H3	8.000	1.437	2.224	0.444	0.333	0.500
1292001	●	1/2 - 13 UNC	H3	6.000	1.657	2.445	0.507	0.380	0.563
1292201	●	1/2 - 13 UNC	H3	8.000	1.657	2.445	0.507	0.380	0.563
1292401	●	1/2 - 13 UNC	H3	10.000	1.657	2.445	0.507	0.380	0.563
1292601	●	1/2 - 13 UNC	H3	12.000	1.657	2.445	0.507	0.380	0.563
1292801	●	5/8 - 11 UNC	H3	6.000	1.811	2.598	0.633	0.554	0.689
1293001	●	5/8 - 11 UNC	H3	8.000	1.811	2.598	0.633	0.554	0.689
1293201	●	5/8 - 11 UNC	H3	10.000	1.811	2.598	0.633	0.554	0.689
1293401	●	5/8 - 11 UNC	H3	12.000	1.811	2.598	0.633	0.554	0.689
1293601	●	3/4 - 10 UNC	H3	10.000	2.000	2.787	0.759	0.569	0.748
1293801	●	3/4 - 10 UNC	H3	12.000	2.000	2.787	0.759	0.569	0.748

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○								
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM								

○ Good ◎ Best

List S110

STRAIGHT FLUTE | HSS | BR | 2 FLUTE | C/1.5P | C/4P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-HT MINIATURE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
1020000	●	No. 000 - 120 NS	H1	Bottom (1.5P)	1.571	0.201	0.260	0.141	0.110	0.188
1010000	●	No. 000 - 120 NS	H1	Plug (4P)	1.571	0.201	0.260	0.141	0.110	0.188
2054000	●	No. 000 - 120 NS	H2	Bottom (1.5P)	1.571	0.201	0.260	0.141	0.110	0.188
1929000	●	No. 000 - 120 NS	H2	Plug (4P)	1.571	0.201	0.260	0.141	0.110	0.188
1040000	●	No. 00 - 90 NS	H1	Bottom (1.5P)	1.728	0.280	0.339	0.141	0.110	0.188
1030000	●	No. 00 - 90 NS	H1	Plug (4P)	1.728	0.280	0.339	0.141	0.110	0.188
2055000	●	No. 00 - 90 NS	H2	Bottom (1.5P)	1.728	0.280	0.339	0.141	0.110	0.188
3370000	●	No. 00 - 90 NS	H2	Plug (4P)	1.728	0.280	0.339	0.141	0.110	0.188
1070000	●	No. 00 - 96 NS	H1	Bottom (1.5P)	1.728	0.280	0.339	0.141	0.110	0.188
1060000	●	No. 00 - 96 NS	H1	Plug (4P)	1.728	0.280	0.339	0.141	0.110	0.188
1322000	●	No. 00 - 96 NS	H2	Bottom (1.5P)	1.728	0.280	0.339	0.141	0.110	0.188
3380000	●	No. 00 - 96 NS	H2	Plug (4P)	1.728	0.280	0.339	0.141	0.110	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

Suggested Hole Size Limits for Different Lengths of Engagement

Tap Size	Basic O.D.	Basic P.D.	Depth of Thread Hole					
			Up to 1/3D		1/3 to 1/2D		1/2 to 3D	
			Min.	Max.	Min.	Max.	Min.	Max.
000-120	0.0340	0.0286	0.0260	0.0270	0.0270	0.0280	0.0275	0.0285
00-90	0.0470	0.0398	0.0373	0.0385	0.0380	0.0392	0.0388	0.0400
00-96	0.0470	0.0402	0.0379	0.0393	0.0388	0.0406	0.0397	0.0415

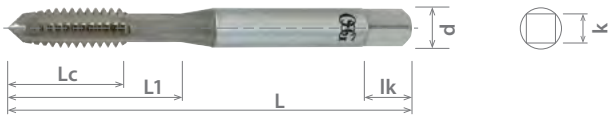
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 114

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS-Co | N | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Class of Fit	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
3141303	●	No. 2 - 56 UNC	-	H7	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3
3141203	●	No. 2 - 56 UNC	-	H7	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3
3141903	●	No. 2 - 56 UNC	2B+	-	Bottom (1.5P)	1.752	0.437	-	0.141	0.110	0.188	3
3141803	●	No. 2 - 56 UNC	2B+	-	Plug (4P)	1.752	0.437	-	0.141	0.110	0.188	3
3142303	●	No. 4 - 40 UNC	-	H7	Bottom (1.5P)	1.874	0.295	0.559	0.141	0.110	0.188	4
3142203	●	No. 4 - 40 UNC	-	H7	Plug (4P)	1.874	0.295	0.559	0.141	0.110	0.188	4
3142903	●	No. 4 - 40 UNC	2B+	-	Bottom (1.5P)	1.874	0.295	0.559	0.141	0.110	0.188	4
3142803	●	No. 4 - 40 UNC	2B+	-	Plug (4P)	1.874	0.295	0.559	0.141	0.110	0.188	4
3144303	●	No. 6 - 32 UNC	-	H7	Bottom (1.5P)	2.000	0.362	0.685	0.141	0.110	0.188	4
3144203	●	No. 6 - 32 UNC	-	H7	Plug (4P)	2.000	0.362	0.685	0.141	0.110	0.188	4
3144903	●	No. 6 - 32 UNC	2B+	-	Bottom (1.5P)	2.000	0.370	0.685	0.141	0.110	0.188	4
3144803	●	No. 6 - 32 UNC	2B+	-	Plug (4P)	2.000	0.370	0.685	0.141	0.110	0.188	4
3145303	●	No. 8 - 32 UNC	-	H7	Bottom (1.5P)	2.126	0.374	0.752	0.168	0.131	0.250	4
3145203	●	No. 8 - 32 UNC	-	H7	Plug (4P)	2.126	0.374	0.752	0.168	0.131	0.250	4
3145903	●	No. 8 - 32 UNC	2B+	-	Bottom (1.5P)	2.126	0.374	0.752	0.168	0.131	0.250	4
3145803	●	No. 8 - 32 UNC	2B+	-	Plug (4P)	2.126	0.374	0.752	0.168	0.131	0.250	4
3146303	●	No. 10 - 24 UNC	-	H7	Bottom (1.5P)	2.374	0.492	0.866	0.194	0.152	0.250	4
3146203	●	No. 10 - 24 UNC	-	H7	Plug (4P)	2.374	0.492	0.866	0.194	0.152	0.250	4
3146903	●	No. 10 - 24 UNC	2B+	-	Bottom (1.5P)	2.374	0.492	0.866	0.194	0.152	0.250	4
3146803	●	No. 10 - 24 UNC	2B+	-	Plug (4P)	2.374	0.492	0.866	0.194	0.152	0.250	4
3146703	●	No. 10 - 32 UNF	-	H7	Bottom (1.5P)	2.374	0.492	0.866	0.194	0.152	0.250	4
3146603	●	No. 10 - 32 UNF	-	H7	Plug (4P)	2.374	0.492	0.866	0.194	0.152	0.250	4
3146503	●	No. 10 - 32 UNF	2B+	-	Bottom (1.5P)	2.374	0.492	0.866	0.194	0.152	0.250	4
3146403	●	No. 10 - 32 UNF	2B+	-	Plug (4P)	2.374	0.492	0.866	0.194	0.152	0.250	4
3147303	●	1/4 - 20 UNC	-	H7	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	4
3147203	●	1/4 - 20 UNC	-	H7	Plug (4P)	2.500	0.594	0.996	0.255	0.191	0.313	4
3147903	●	1/4 - 20 UNC	2B+	-	Bottom (1.5P)	2.500	0.594	0.996	0.255	0.191	0.313	4
3147803	●	1/4 - 20 UNC	2B+	-	Plug (4P)	2.500	0.594	0.996	0.255	0.191	0.313	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

Note: Taps with class of fit 2B+ are designed for tapping thermosetting, reinforced plastics and laminated plastics such as epoxy, bakelite, fiberglass, etc. The 2B+ limit is based on the actual products limit and machining properties, taking the guess work out of H limit selection. Oversize 2B+ Series = +.0005" ~.001" over 2B thread limit.

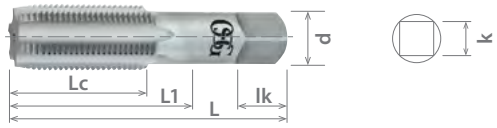
P					M			K	N				S		Other			
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA					
Carbon Steel			Alloy Steel	Die Steel					Aluminum		MMC (Metal Matrix Compo-sites)	Copper Alloys	Nickel Alloy	Titan-ium	Fiberglass	Cobalt-Chrome	Thermo Plastics	Thermo-setting Plastics
Low	Medium	High																
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)				
																	◎	◎
																	33-66 SFM	33-66 SFM

○ Good ◎ Best

List 180

OSG GENERAL PURPOSE-HT, 8 PITCH

STRAIGHT FLUTE	HSS	BR	C/1.5P	C/4P	0°	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1690200	●	1- 1/8 - 8 UN	H5	Bottom (1.5P)	5.437	1.874	2.941	0.896	0.672	0.875	4
1690100	●	1- 1/8 - 8 UN	H5	Plug (4P)	5.437	1.874	2.941	0.896	0.672	0.875	4
1690500	●	1- 1/4 - 8 UN	H5	Bottom (1.5P)	5.752	1.874	3.000	1.021	0.766	1.000	4
1690400	●	1- 1/4 - 8 UN	H5	Plug (4P)	5.752	1.874	3.000	1.021	0.766	1.000	4
1690800	●	1- 3/8 - 8 UN	H5	Bottom (1.5P)	6.063	1.874	3.161	1.108	0.831	1.063	6
1690700	●	1- 3/8 - 8 UN	H5	Plug (4P)	6.063	1.874	3.161	1.108	0.831	1.063	6
1691100	●	1- 1/2 - 8 UN	H5	Bottom (1.5P)	6.374	1.874	3.382	1.233	0.925	1.125	6
1691000	●	1- 1/2 - 8 UN	H5	Plug (4P)	6.374	1.874	3.382	1.233	0.925	1.125	6
1691400	●	1- 5/8 - 8 UN	H6	Bottom (1.5P)	6.689	1.874	3.382	1.305	0.979	1.125	6
1691300	●	1- 5/8 - 8 UN	H6	Plug (4P)	6.689	1.874	3.382	1.305	0.979	1.125	6
1691700	●	1- 3/4 - 8 UN	H6	Bottom (1.5P)	7.000	1.874	3.591	1.430	1.072	1.250	6
1691600	●	1- 3/4 - 8 UN	H6	Plug (4P)	7.000	1.874	3.591	1.430	1.072	1.250	6
1692300	●	2 - 8 UNC	H6	Bottom (1.5P)	7.626	1.874	3.811	1.644	1.233	1.375	6
1692200	●	2 - 8 UNC	H6	Plug (4P)	7.626	1.874	3.811	1.644	1.233	1.375	6
8020000	●	2- 1/4 - 8 UN	H6	Bottom (1.5P)	8.252	1.874	4.000	1.894	1.420	1.438	6
8019000	●	2- 1/4 - 8 UN	H6	Plug (4P)	8.252	1.874	4.000	1.894	1.420	1.438	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

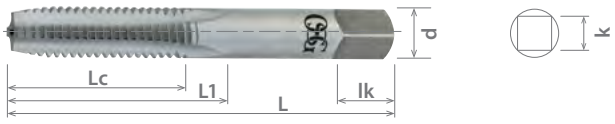
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101L

OSG GENERAL PURPOSE-HT

STRAIGHT FLUTE | HSS | BR | LH | C/1.5P | C/4P | 0° | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1650200	●	No. 6 - 32 UNC	H3	Bottom (1.5P)	2.000	0.523	0.858	0.141	0.110	0.188	3
1650100	●	No. 6 - 32 UNC	H3	Plug (4P)	2.000	0.523	0.858	0.141	0.110	0.188	3
1650400	●	No. 6 - 40 UNF	H2	Bottom (1.5P)	2.000	0.523	0.858	0.141	0.110	0.188	3
1650300	●	No. 6 - 40 UNF	H2	Plug (4P)	2.000	0.523	0.858	0.141	0.110	0.188	3
1650600	●	No. 8 - 32 UNC	H3	Bottom (1.5P)	2.126	0.539	1.003	0.168	0.131	0.250	4
1650500	●	No. 8 - 32 UNC	H3	Plug (4P)	2.126	0.539	1.003	0.168	0.131	0.250	4
1650800	●	No. 8 - 36 UNF	H2	Bottom (1.5P)	2.126	0.539	1.003	0.168	0.131	0.250	4
1650700	●	No. 8 - 36 UNF	H2	Plug (4P)	2.126	0.539	1.003	0.168	0.131	0.250	4
1651000	●	No. 10 - 24 UNC	H3	Bottom (1.5P)	2.374	0.700	1.129	0.194	0.152	0.250	4
1650900	●	No. 10 - 24 UNC	H3	Plug (4P)	2.374	0.700	1.129	0.194	0.152	0.250	4
1651200	●	No. 10 - 32 UNF	H3	Bottom (1.5P)	2.374	0.700	1.129	0.194	0.152	0.250	4
1651100	●	No. 10 - 32 UNF	H3	Plug (4P)	2.374	0.700	1.129	0.194	0.152	0.250	4
1660200	●	1/4 - 20 UNC	H3	Bottom (1.5P)	2.500	0.854	1.287	0.255	0.191	0.313	4
1660100	●	1/4 - 20 UNC	H3	Plug (4P)	2.500	0.854	1.287	0.255	0.191	0.313	4
1660400	●	1/4 - 28 UNF	H3	Bottom (1.5P)	2.500	0.854	1.287	0.255	0.191	0.313	4
1660300	●	1/4 - 28 UNF	H3	Plug (4P)	2.500	0.854	1.287	0.255	0.191	0.313	4
1660600	●	5/16 - 18 UNC	H3	Bottom (1.5P)	2.720	0.834	1.322	0.318	0.238	0.375	4
1660500	●	5/16 - 18 UNC	H3	Plug (4P)	2.720	0.834	1.322	0.318	0.238	0.375	4
1660800	●	5/16 - 24 UNF	H3	Bottom (1.5P)	2.720	0.834	1.322	0.318	0.238	0.375	4
1660700	●	5/16 - 24 UNF	H3	Plug (4P)	2.720	0.834	1.322	0.318	0.238	0.375	4
1661000	●	3/8 - 16 UNC	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4
1660900	●	3/8 - 16 UNC	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4
1661200	●	3/8 - 24 UNF	H3	Bottom (1.5P)	2.937	0.937	1.413	0.381	0.286	0.438	4
1661100	●	3/8 - 24 UNF	H3	Plug (4P)	2.937	0.937	1.413	0.381	0.286	0.438	4
1661400	●	7/16 - 14 UNC	H3	Bottom (1.5P)	3.157	1.070	1.688	0.323	0.242	0.406	4
1661300	●	7/16 - 14 UNC	H3	Plug (4P)	3.157	1.070	1.688	0.323	0.242	0.406	4
1661600	●	7/16 - 20 UNF	H3	Bottom (1.5P)	3.157	1.070	1.688	0.323	0.242	0.406	4
1661500	●	7/16 - 20 UNF	H3	Plug (4P)	3.157	1.070	1.688	0.323	0.242	0.406	4
1661800	●	1/2 - 13 UNC	H3	Bottom (1.5P)	3.374	1.153	1.811	0.367	0.275	0.438	4
1661700	●	1/2 - 13 UNC	H3	Plug (4P)	3.374	1.153	1.811	0.367	0.275	0.438	4
1662000	●	1/2 - 20 UNF	H3	Bottom (1.5P)	3.374	1.153	1.811	0.367	0.275	0.438	4
1661900	●	1/2 - 20 UNF	H3	Plug (4P)	3.374	1.153	1.811	0.367	0.275	0.438	4
1662200	●	9/16 - 12 UNC	H3	Bottom (1.5P)	3.594	1.251	1.940	0.429	0.322	0.500	4
1662100	●	9/16 - 12 UNC	H3	Plug (4P)	3.594	1.251	1.940	0.429	0.322	0.500	4
1662400	●	9/16 - 18 UNF	H3	Bottom (1.5P)	3.594	1.251	1.940	0.429	0.322	0.500	4
1662300	●	9/16 - 18 UNF	H3	Plug (4P)	3.594	1.251	1.940	0.429	0.322	0.500	4
1662600	●	5/8 - 11 UNC	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4
1662500	●	5/8 - 11 UNC	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4
1662800	●	5/8 - 18 UNF	H3	Bottom (1.5P)	3.811	1.362	2.000	0.480	0.360	0.563	4
1662700	●	5/8 - 18 UNF	H3	Plug (4P)	3.811	1.362	2.000	0.480	0.360	0.563	4
1663400	●	3/4 - 10 UNC	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4
1663300	●	3/4 - 10 UNC	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

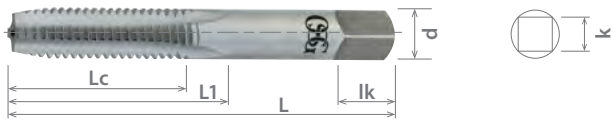
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 101L (Continued)

STRAIGHT FLUTE | HSS | BR | LH | C/1.5P | C/4P | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-HT, LEFT HAND



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1663600	●	3/4 - 16 UNF	H3	Bottom (1.5P)	4.252	1.500	2.220	0.590	0.442	0.688	4
1663500	●	3/4 - 16 UNF	H3	Plug (4P)	4.252	1.500	2.220	0.590	0.442	0.688	4
1663800	●	7/8 - 9 UNC	H4	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4
1663700	●	7/8 - 9 UNC	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4
1664000	●	7/8 - 14 UNF	H4	Bottom (1.5P)	4.689	1.665	2.500	0.697	0.523	0.750	4
1663900	●	7/8 - 14 UNF	H4	Plug (4P)	4.689	1.665	2.500	0.697	0.523	0.750	4
1664200	●	1 - 8 UNC	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4
1664100	●	1 - 8 UNC	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4
1664400	●	1 - 12 UNF	H4	Bottom (1.5P)	5.126	1.874	2.720	0.800	0.600	0.813	4
1664300	●	1 - 12 UNF	H4	Plug (4P)	5.126	1.874	2.720	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

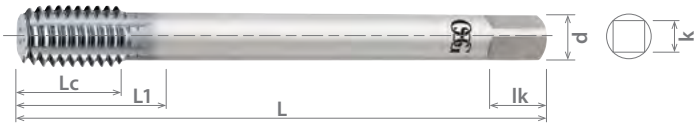
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 16260

FORMING | HSS-Co | V | C/2.5P | STI | PACKED 1 PIECE

EXOPRO® HL-S-XPF STI, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1626000108	●	No. 2 - 56 UNC STI	H1	2.274	0.261	0.718	0.141	0.110	0.188	0.099	0.101
1626000208	●	No. 2 - 56 UNC STI	H2	2.274	0.261	0.718	0.141	0.110	0.188	0.099	0.101
1626000308	●	No. 4 - 40 UNC STI	H2	2.554	0.365	0.841	0.141	0.110	0.188	0.131	0.133
1626000408	●	No. 4 - 40 UNC STI	H3	2.554	0.364	0.841	0.141	0.110	0.188	0.131	0.133
1626000508	●	No. 4 - 48 UNF STI	H2	2.274	0.362	0.800	0.141	0.110	0.188	0.128	0.130
1626000608	●	No. 4 - 48 UNF STI	H3	2.274	0.362	0.800	0.141	0.110	0.188	0.128	0.130
1626000708	●	No. 6 - 32 UNC STI	H2	2.858	0.456	1.003	0.194	0.152	0.250	0.161	0.164
1626000808	●	No. 6 - 32 UNC STI	H3	2.858	0.456	1.003	0.194	0.152	0.250	0.161	0.164
1626000908	●	No. 6 - 40 UNF STI	H2	2.839	0.449	0.996	0.168	0.131	0.250	0.157	0.159
1626001008	●	No. 6 - 40 UNF STI	H3	2.839	0.449	0.996	0.168	0.131	0.250	0.157	0.159
1626001108	●	No. 8 - 32 UNC STI	H2	3.257	0.454	1.198	0.220	0.165	0.281	0.187	0.190
1626001208	●	No. 8 - 32 UNC STI	H3	3.257	0.454	1.198	0.220	0.165	0.281	0.187	0.190
1626001308	●	No. 8 - 36 UNF STI	H2	3.257	0.452	1.196	0.220	0.165	0.281	0.185	0.187
1626001408	●	No. 8 - 36 UNF STI	H3	3.257	0.452	1.196	0.220	0.165	0.281	0.185	0.187
1626001508	●	No. 10 - 24 UNC STI	H3	3.257	0.605	1.203	0.255	0.191	0.313	0.221	0.224
1626001608	●	No. 10 - 24 UNC STI	H4	3.257	0.605	1.203	0.255	0.191	0.313	0.221	0.224
1626001708	●	No. 10 - 32 UNF STI	H3	3.246	0.600	1.199	0.255	0.191	0.313	0.214	0.216
1626001808	●	No. 10 - 32 UNF STI	H4	3.246	0.600	1.199	0.255	0.191	0.313	0.214	0.216
1626001908	●	1/4 - 20 UNC STI	H3	3.543	0.500	1.377	0.318	0.238	0.375	0.287	0.290
1626002008	●	1/4 - 20 UNC STI	H4	3.543	0.500	1.377	0.318	0.238	0.375	0.287	0.290
1626002108	●	1/4 - 28 UNF STI	H3	3.543	0.500	1.377	0.318	0.238	0.375	0.277	0.279
1626002208	●	1/4 - 28 UNF STI	H4	3.543	0.500	1.377	0.318	0.238	0.375	0.277	0.279
1626002308	●	5/16 - 18 UNC STI	H4	3.937	0.555	1.535	0.381	0.286	0.438	0.354	0.357
1626002408	●	5/16 - 18 UNC STI	H5	3.937	0.555	1.535	0.381	0.286	0.438	0.354	0.357
1626002508	●	5/16 - 24 UNF STI	H4	3.543	0.555	1.377	0.381	0.286	0.438	0.344	0.346
1626002608	●	5/16 - 24 UNF STI	H5	3.543	0.555	1.377	0.381	0.286	0.438	0.344	0.346
1626002708	●	3/8 - 16 UNC STI	H5	3.937	0.625	1.933	0.367	0.275	0.438	0.422	0.425
1626002808	●	3/8 - 16 UNC STI	H6	3.937	0.625	1.933	0.367	0.275	0.438	0.422	0.425
1626002908	●	3/8 - 24 UNF STI	H5	3.543	0.625	1.712	0.323	0.242	0.406	0.407	0.409
1626003008	●	3/8 - 24 UNF STI	H6	3.543	0.625	1.712	0.323	0.242	0.406	0.407	0.409
1626003108	●	7/16 - 14 UNC STI	H5	4.331	0.712	1.972	0.429	0.322	0.500	0.491	0.494
1626003208	●	7/16 - 14 UNC STI	H7	4.331	0.712	1.972	0.429	0.322	0.500	0.491	0.494
1626003308	●	7/16 - 20 UNF STI	H5	3.937	0.712	1.933	0.367	0.275	0.438	0.476	0.478
1626003408	●	7/16 - 20 UNF STI	H7	3.937	0.712	1.933	0.367	0.275	0.438	0.476	0.478
1626003508	●	1/2 - 13 UNC STI	H5	4.331	0.767	2.125	0.480	0.360	0.563	0.557	0.560
1626003608	●	1/2 - 13 UNC STI	H7	4.331	0.767	2.125	0.480	0.360	0.563	0.557	0.560
1626003708	●	1/2 - 20 UNF STI	H5	3.937	0.767	1.972	0.429	0.322	0.500	0.538	0.540
1626003808	●	1/2 - 20 UNF STI	H7	3.937	0.767	1.972	0.429	0.322	0.500	0.538	0.540
1626003908	●	9/16 - 12 UNC STI	H7	4.331	0.834	2.165	0.542	0.406	0.625	0.625	0.628
1626004008	●	9/16 - 12 UNC STI	H9	4.331	0.834	2.165	0.542	0.406	0.625	0.625	0.628
1626004108	●	9/16 - 18 UNF STI	H7	3.937	0.834	2.125	0.480	0.360	0.563	0.606	0.608
1626004208	●	9/16 - 18 UNF STI	H9	3.937	0.834	2.125	0.480	0.360	0.563	0.606	0.608

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EP

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	12-25 SFM		

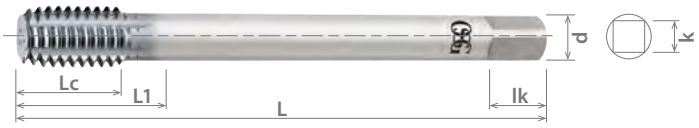
*For Stainless Steel, please use non-water-soluble coolant.

○ Good ◎ Best

List 16260 (Continued)

FORMING | HSS-Co | V | C/2.5P | STI | PACKED 1 PIECE

EXOPRO® HL-S-XPF STI, DIN Overall Length



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Tap Drill Size Min (Inch)	Tap Drill Size Max (Inch)
1626004308	●	5/8 - 11 UNC STI	H7	4.921	0.909	2.433	0.590	0.442	0.688	0.693	0.696
1626004408	●	5/8 - 11 UNC STI	H9	4.921	0.909	2.433	0.590	0.442	0.688	0.693	0.696
1626004508	●	5/8 - 18 UNF STI	H7	4.331	0.909	2.165	0.542	0.406	0.625	0.668	0.670
1626004608	●	5/8 - 18 UNF STI	H9	4.331	0.909	2.165	0.542	0.406	0.625	0.668	0.670
1626004708	●	3/4 - 10 UNC STI	H7	5.512	1.000	2.653	0.697	0.523	0.750	0.824	0.828
1626004808	●	3/4 - 10 UNC STI	H9	5.512	1.000	2.653	0.697	0.523	0.750	0.824	0.828
1626004908	●	3/4 - 16 UNF STI	H7	4.921	1.000	2.433	0.652	0.489	0.688	0.798	0.800
1626005008	●	3/4 - 16 UNF STI	H9	4.921	1.000	2.433	0.652	0.489	0.688	0.798	0.800
1626005108	●	7/8 - 9 UNC STI	H7	6.299	1.110	3.011	0.800	0.600	0.813	0.957	0.961
1626005208	●	7/8 - 9 UNC STI	H10	6.299	1.110	3.011	0.800	0.600	0.813	0.957	0.961
1626005308	●	7/8 - 14 UNF STI	H7	5.512	1.110	3.011	0.800	0.600	0.813	0.930	0.932
1626005408	●	7/8 - 14 UNF STI	H10	5.512	1.110	3.011	0.800	0.600	0.813	0.930	0.932
1626005508	●	1 - 8 UNC STI	H8	7.087	1.251	3.114	1.021	0.766	1.000	1.093	1.097
1626005608	●	1 - 8 UNC STI	H11	7.087	1.251	3.114	1.021	0.766	1.000	1.093	1.097
1626005708	●	1 - 12 UNF STI	H8	5.512	1.251	3.114	0.896	0.672	0.875	1.064	1.066
1626005808	●	1 - 12 UNF STI	H11	5.512	1.251	3.114	0.896	0.672	0.875	1.064	1.066

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	12-25 SFM		

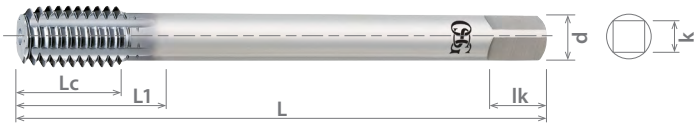
*For Stainless Steel, please use non-water-soluble coolant.

○ Good ◎ Best

List 16360

EXOPRO® HL-S-XPF STI, DIN Overall Length

FORMING | HSS-Co | V | C/2.5P | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Tap Drill Size Min (mm)	Tap Drill Size Max (mm)
1636000108	●	M2 x 0.4 STI	D3	50.00	8.00	9.21	3.58	2.79	4.76	2.32	2.35
1636000208	●	M2.5 x 0.45 STI	D3	56.00	6.00	18.26	3.58	2.79	4.76	2.85	2.89
1636000308	●	M3 x 0.5 STI	D3	63.00	7.00	21.32	3.58	2.79	4.76	3.39	3.43
1636000408	●	M4 x 0.7 STI	D4	70.00	10.00	25.37	4.93	3.86	6.35	4.54	4.59
1636000508	●	M5 x 0.8 STI	D4	80.00	11.00	30.46	6.48	4.85	7.94	5.61	5.67
1636000608	●	M6 x 1 STI	D5	90.00	10.00	35.00	8.08	6.05	9.53	6.76	6.83
1636000708	●	M8 x 1.25 STI	D6	100.00	12.00	39.00	9.68	7.26	11.11	8.95	9.03
1636000808	●	M10 x 1.5 STI	D8	100.00	15.00	49.10	9.32	6.99	11.11	11.15	11.23
1636000908	●	M12 x 1.75 STI	D9	110.00	17.00	50.10	10.90	8.18	12.70	13.33	13.43
1636001008	●	M14 x 2 STI	D10	110.00	20.00	55.00	13.77	10.31	15.88	15.52	15.63
1636001108	●	M16 x 2 STI	D10	125.00	20.00	61.80	14.99	11.23	17.46	17.52	17.63
1636001208	●	M18 x 2.5 STI	D10	140.00	25.00	67.40	17.70	13.28	19.05	19.87	20.00
1636001308	●	M20 x 2.5 STI	D10	160.00	25.00	68.40	19.30	14.48	19.05	21.87	22.00
1636001408	●	M22 x 2.5 STI	D10	160.00	25.00	76.50	20.32	15.24	20.64	23.87	24.00
1636001508	●	M24 x 3 STI	D11	160.00	30.00	79.10	22.76	17.07	22.23	26.23	26.38

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎*	◎*	◎*		◎	◎	○	○	◎	○		
50-115 SFM	50-115 SFM	50-85 SFM	50-85 SFM	20-65 SFM	15-40 SFM	15-35 SFM	10-30 SFM		65-115 SFM	65-90 SFM	8-12 SFM	8-15 SFM	50-100 SFM	12-25 SFM		

*For Stainless Steel, please use non-water-soluble coolant.

○ Good ◎ Best

List 315Ti

SPIRAL FLUTE | VC10 | V | 3 FLUTE | C/2.5P | 10° | STI | PACKED 1 PIECE

EXOTAP® VC-10 V-HL-Ti-SFT STI



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
31540108	●	No. 2 - 56 UNC STI	H2	1.944	0.574	0.614	0.141	0.110	0.188
31540208	●	No. 4 - 40 UNC STI	H2	2.058	0.688	-	0.141	0.110	0.188
31540308	●	No. 6 - 32 UNC STI	H3	2.451	0.870	1.660	0.194	0.152	0.250
31540408	●	No. 8 - 32 UNC STI	H3	2.464	0.937	-	0.220	0.165	0.281
31540508	●	No. 10 - 32 UNF STI	H3	2.500	1.000	1.196	0.255	0.191	0.313
31540608	●	1/4 - 28 UNF STI	H3	2.720	0.500	1.125	0.318	0.238	0.375
31540708	●	5/16 - 24 UNF STI	H3	2.937	0.555	1.251	0.381	0.286	0.438
31540808	●	3/8 - 24 UNF STI	H3	3.157	0.625	1.712	0.323	0.242	0.406
31540908	●	7/16 - 20 UNF STI	H4	3.374	0.712	1.933	0.367	0.275	0.438
31541008	●	1/2 - 20 UNF STI	H4	3.594	0.767	1.972	0.429	0.322	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

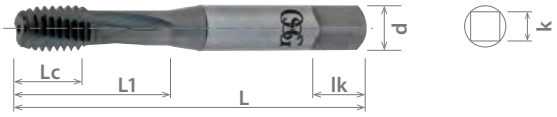
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○				○				○	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 315Ni

EXOTAP® VC-10 V-HL-Ni-SFT STI

SPIRAL FLUTE	VC10	V	STI	10°	3 FLUTE	C/2.5P	10°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
31520108	●	No. 2 - 56 UNC STI	H2	1.880	0.559	0.598	0.141	0.110	0.188
31520208	●	No. 4 - 40 UNC STI	H2	2.058	0.688	-	0.141	0.110	0.188
31520308	●	No. 6 - 32 UNC STI	H3	2.380	0.870	1.669	0.194	0.152	0.250
31520408	●	No. 8 - 32 UNC STI	H3	2.380	0.937	-	0.220	0.165	0.281
31520508	●	No. 10 - 32 UNF STI	H3	2.500	1.000	1.197	0.255	0.191	0.313
31520608	●	1/4 - 28 UNF STI	H3	2.720	0.500	1.125	0.318	0.238	0.375
31520708	●	5/16 - 24 UNF STI	H3	2.937	0.555	1.251	0.381	0.286	0.438
31520808	●	3/8 - 24 UNF STI	H3	3.157	0.625	1.712	0.323	0.242	0.406
31520908	●	7/16 - 20 UNF STI	H4	3.374	0.712	1.933	0.367	0.275	0.438
31521008	●	1/2 - 20 UNF STI	H4	3.594	0.767	1.972	0.429	0.322	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎	○	○	○		
							8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 315

EXOTAP® VC-10 V-HL-SFT STI

SPIRAL FLUTE | VC10 | S/O | V | C/2.5P | 15° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1715701	●	No. 2 - 56 UNC STI	H2	1.933	0.177	0.562	0.141	0.110	0.188	2	Steam Oxide
1715708	●	No. 2 - 56 UNC STI	H2	1.933	0.177	0.562	0.141	0.110	0.188	2	V
31500101	●	No. 3 - 48 UNC STI	H2	1.996	0.208	0.625	0.141	0.110	0.188	2	Steam Oxide
31500108	●	No. 3 - 48 UNC STI	H2	1.996	0.208	0.625	0.141	0.110	0.188	2	V
1715801	●	No. 4 - 40 UNC STI	H2	2.059	0.251	0.688	0.141	0.110	0.188	2	Steam Oxide
1715808	●	No. 4 - 40 UNC STI	H2	2.059	0.251	0.688	0.141	0.110	0.188	2	V
31500201	●	No. 4 - 48 UNF STI	H2	2.075	0.267	0.740	0.141	0.110	0.188	2	Steam Oxide
31500208	●	No. 4 - 48 UNF STI	H2	2.075	0.267	0.740	0.141	0.110	0.188	2	V
1715901	●	No. 6 - 32 UNC STI	H2	2.457	0.311	0.874	0.194	0.152	0.250	3	Steam Oxide
1715908	●	No. 6 - 32 UNC STI	H2	2.457	0.311	0.874	0.194	0.152	0.250	3	V
1716001	●	No. 6 - 32 UNC STI	H3	2.457	0.311	0.874	0.194	0.152	0.250	3	Steam Oxide
1716008	●	No. 6 - 32 UNC STI	H3	2.457	0.311	0.874	0.194	0.152	0.250	3	V
31500301	●	No. 6 - 40 UNF STI	H2	2.213	0.326	0.767	0.168	0.131	0.250	3	Steam Oxide
31500308	●	No. 6 - 40 UNF STI	H2	2.213	0.326	0.767	0.168	0.131	0.250	3	V
1716101	●	No. 8 - 32 UNC STI	H2	2.465	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
1716108	●	No. 8 - 32 UNC STI	H2	2.465	0.311	0.937	0.220	0.165	0.281	3	V
1716201	●	No. 8 - 32 UNC STI	H3	2.465	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
1716208	●	No. 8 - 32 UNC STI	H3	2.465	0.311	0.937	0.220	0.165	0.281	3	V
31500401	●	No. 8 - 36 UNF STI	H2	2.484	0.330	0.956	0.220	0.165	0.281	3	Steam Oxide
31500408	●	No. 8 - 36 UNF STI	H2	2.484	0.330	0.956	0.220	0.165	0.281	3	V
31500501	●	No. 10 - 24 UNC STI	H2	2.524	0.440	1.230	0.255	0.191	0.313	3	Steam Oxide
31500508	●	No. 10 - 24 UNC STI	H2	2.524	0.440	1.230	0.255	0.191	0.313	3	V
31500601	●	No. 10 - 24 UNC STI	H3	2.524	0.440	1.230	0.255	0.191	0.313	3	Steam Oxide
31500608	●	No. 10 - 24 UNC STI	H3	2.524	0.440	1.230	0.255	0.191	0.313	3	V
1716301	●	No. 10 - 32 UNF STI	H2	2.500	0.417	1.000	0.255	0.191	0.313	3	Steam Oxide
1716308	●	No. 10 - 32 UNF STI	H2	2.500	0.417	1.000	0.255	0.191	0.313	3	V
1716401	●	No. 10 - 32 UNF STI	H3	2.500	0.417	1.000	0.255	0.191	0.313	3	Steam Oxide
1716408	●	No. 10 - 32 UNF STI	H3	2.500	0.417	1.000	0.255	0.191	0.313	3	V
31500701	●	1/4 - 20 UNC STI	H2	2.720	0.500	1.125	0.318	0.238	0.375	3	Steam Oxide
31500708	●	1/4 - 20 UNC STI	H2	2.720	0.500	1.125	0.318	0.238	0.375	3	V
31500801	●	1/4 - 20 UNC STI	H3	2.720	0.500	1.125	0.318	0.238	0.375	3	Steam Oxide
31500808	●	1/4 - 20 UNC STI	H3	2.720	0.500	1.125	0.318	0.238	0.375	3	V
1716501	●	1/4 - 28 UNF STI	H2	2.720	0.500	1.125	0.318	0.238	0.375	3	Steam Oxide
1716508	●	1/4 - 28 UNF STI	H2	2.720	0.500	1.125	0.318	0.238	0.375	3	V
1716601	●	1/4 - 28 UNF STI	H3	2.720	0.500	1.125	0.318	0.238	0.375	3	Steam Oxide
1716608	●	1/4 - 28 UNF STI	H3	2.720	0.500	1.125	0.318	0.238	0.375	3	V
31500901	●	5/16 - 18 UNC STI	H3	2.937	0.555	1.251	0.381	0.286	0.438	3	Steam Oxide
31500908	●	5/16 - 18 UNC STI	H3	2.937	0.555	1.251	0.381	0.286	0.438	3	V
31501001	●	5/16 - 18 UNC STI	H4	2.937	0.555	1.251	0.381	0.286	0.438	3	Steam Oxide
31501008	●	5/16 - 18 UNC STI	H4	2.937	0.555	1.251	0.381	0.286	0.438	3	V
31501101	●	5/16 - 24 UNF STI	H2	2.937	0.555	1.251	0.381	0.286	0.438	3	Steam Oxide
31501108	●	5/16 - 24 UNF STI	H2	2.937	0.555	1.251	0.381	0.286	0.438	3	V
1716701	●	5/16 - 24 UNF STI	H3	2.937	0.555	1.251	0.381	0.286	0.438	3	Steam Oxide
1716708	●	5/16 - 24 UNF STI	H3	2.937	0.555	1.251	0.381	0.286	0.438	3	V
31501201	●	3/8 - 16 UNC STI	H3	3.374	0.625	1.933	0.367	0.275	0.438	3	Steam Oxide
31501208	●	3/8 - 16 UNC STI	H3	3.374	0.625	1.933	0.367	0.275	0.438	3	V
31501301	●	3/8 - 16 UNC STI	H4	3.374	0.625	1.933	0.367	0.275	0.438	3	Steam Oxide
31501308	●	3/8 - 16 UNC STI	H4	3.374	0.625	1.933	0.367	0.275	0.438	3	V
31501401	●	3/8 - 24 UNF STI	H2	3.157	0.625	1.712	0.323	0.242	0.406	3	Steam Oxide
31501408	●	3/8 - 24 UNF STI	H2	3.157	0.625	1.712	0.323	0.242	0.406	3	V
31501501	●	3/8 - 24 UNF STI	H3	3.157	0.625	1.712	0.323	0.242	0.406	3	Steam Oxide
31501508	●	3/8 - 24 UNF STI	H3	3.157	0.625	1.712	0.323	0.242	0.406	3	V
31501601	●	7/16 - 14 UNC STI	H3	3.594	0.712	1.972	0.429	0.322	0.500	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 315 (Continued)

EXOTAP® VC-10 V-HL-SFT STI

SPIRAL FLUTE | VC10 | S/0 | V | C/2.5P | 15° | STI | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
31501608	●	7/16 - 14 UNC STI	H3	3.594	0.712	1.972	0.429	0.322	0.500	3	V
31501701	●	7/16 - 14 UNC STI	H4	3.594	0.712	1.972	0.429	0.322	0.500	3	Steam Oxide
31501708	●	7/16 - 14 UNC STI	H4	3.594	0.712	1.972	0.429	0.322	0.500	3	V
31501801	●	7/16 - 20 UNF STI	H3	3.374	0.712	1.933	0.367	0.275	0.438	3	Steam Oxide
31501808	●	7/16 - 20 UNF STI	H3	3.374	0.712	1.933	0.367	0.275	0.438	3	V
31501901	●	7/16 - 20 UNF STI	H4	3.374	0.712	1.933	0.367	0.275	0.438	3	Steam Oxide
31501908	●	7/16 - 20 UNF STI	H4	3.374	0.712	1.933	0.367	0.275	0.438	3	V
31502001	●	1/2 - 13 UNC STI	H3	3.811	0.767	2.125	0.480	0.360	0.563	3	Steam Oxide
31502008	●	1/2 - 13 UNC STI	H3	3.811	0.767	2.125	0.480	0.360	0.563	3	V
31502101	●	1/2 - 13 UNC STI	H4	3.811	0.767	2.125	0.480	0.360	0.563	3	Steam Oxide
31502108	●	1/2 - 13 UNC STI	H4	3.811	0.767	2.125	0.480	0.360	0.563	3	V
31502201	●	1/2 - 20 UNF STI	H3	3.594	0.767	1.972	0.429	0.322	0.500	3	Steam Oxide
31502208	●	1/2 - 20 UNF STI	H3	3.594	0.767	1.972	0.429	0.322	0.500	3	V
31502301	●	1/2 - 20 UNF STI	H4	3.594	0.767	1.972	0.429	0.322	0.500	3	Steam Oxide
31502308	●	1/2 - 20 UNF STI	H4	3.594	0.767	1.972	0.429	0.322	0.500	3	V
31502401	●	9/16 - 12 UNC STI	H3	4.031	0.834	2.165	0.542	0.406	0.625	4	Steam Oxide
31502408	●	9/16 - 12 UNC STI	H3	4.031	0.834	2.165	0.542	0.406	0.625	4	V
31502501	●	9/16 - 12 UNC STI	H4	4.031	0.834	2.165	0.542	0.406	0.625	4	Steam Oxide
31502508	●	9/16 - 12 UNC STI	H4	4.031	0.834	2.165	0.542	0.406	0.625	4	V
31502601	●	9/16 - 18 UNF STI	H3	3.811	0.834	2.125	0.480	0.360	0.563	4	Steam Oxide
31502608	●	9/16 - 18 UNF STI	H3	3.811	0.834	2.125	0.480	0.360	0.563	4	V
31502701	●	9/16 - 18 UNF STI	H4	3.811	0.834	2.125	0.480	0.360	0.563	4	Steam Oxide
31502708	●	9/16 - 18 UNF STI	H4	3.811	0.834	2.125	0.480	0.360	0.563	4	V
31502801	●	5/8 - 11 UNC STI	H3	4.252	0.909	2.433	0.590	0.442	0.688	4	Steam Oxide
31502808	●	5/8 - 11 UNC STI	H3	4.252	0.909	2.433	0.590	0.442	0.688	4	V
31502901	●	5/8 - 11 UNC STI	H4	4.252	0.909	2.433	0.590	0.442	0.688	4	Steam Oxide
31502908	●	5/8 - 11 UNC STI	H4	4.252	0.909	2.433	0.590	0.442	0.688	4	V
31503001	●	5/8 - 18 UNF STI	H3	4.031	0.909	2.165	0.542	0.406	0.625	4	Steam Oxide
31503008	●	5/8 - 18 UNF STI	H3	4.031	0.909	2.165	0.542	0.406	0.625	4	V
31503101	●	5/8 - 18 UNF STI	H4	4.031	0.909	2.165	0.542	0.406	0.625	4	Steam Oxide
31503108	●	5/8 - 18 UNF STI	H4	4.031	0.909	2.165	0.542	0.406	0.625	4	V
31503201	●	3/4 - 10 UNC STI	H3	4.689	1.000	2.653	0.697	0.523	0.750	4	Steam Oxide
31503208	●	3/4 - 10 UNC STI	H3	4.689	1.000	2.653	0.697	0.523	0.750	4	V
31503301	●	3/4 - 10 UNC STI	H5	4.689	1.000	2.653	0.697	0.523	0.750	4	Steam Oxide
31503308	●	3/4 - 10 UNC STI	H5	4.689	1.000	2.653	0.697	0.523	0.750	4	V
31503401	●	3/4 - 16 UNF STI	H3	4.469	1.000	2.433	0.652	0.489	0.688	4	Steam Oxide
31503408	●	3/4 - 16 UNF STI	H3	4.469	1.000	2.433	0.652	0.489	0.688	4	V
31503501	●	3/4 - 16 UNF STI	H4	4.469	1.000	2.433	0.652	0.489	0.688	4	Steam Oxide
31503508	●	3/4 - 16 UNF STI	H4	4.469	1.000	2.433	0.652	0.489	0.688	4	V
31503601	●	7/8 - 9 UNC STI	H3	5.126	1.110	3.110	0.800	0.600	0.813	4	Steam Oxide
31503608	●	7/8 - 9 UNC STI	H3	5.126	1.110	3.110	0.800	0.600	0.813	4	V
31503701	●	7/8 - 9 UNC STI	H5	5.126	1.110	3.110	0.800	0.600	0.813	4	Steam Oxide
31503708	●	7/8 - 9 UNC STI	H5	5.126	1.110	3.110	0.800	0.600	0.813	4	V
31503801	●	7/8 - 14 UNF STI	H3	5.126	1.110	3.110	0.800	0.600	0.813	4	Steam Oxide
31503808	●	7/8 - 14 UNF STI	H3	5.126	1.110	3.110	0.800	0.600	0.813	4	V
31503901	●	7/8 - 14 UNF STI	H4	5.126	1.110	3.110	0.800	0.600	0.813	4	Steam Oxide
31503908	●	7/8 - 14 UNF STI	H4	5.126	1.110	3.110	0.800	0.600	0.813	4	V
31504001	●	1 - 8 UNC STI	H4	5.572	1.251	3.114	1.021	0.766	1.000	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

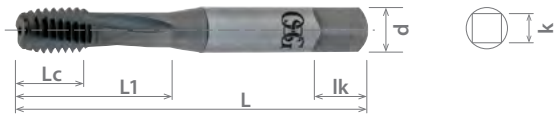
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 315 (Continued)

SPIRAL FLUTE | VC10 | S/0 | V | C/2.5P | 15° | STI | PACKED 1 PIECE

EXOTAP® VC-10 V-HL-SFT STI



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
31504008	●	1 - 8 UNC STI	H4	5.572	1.251	3.114	1.021	0.766	1.000	4	V
31504101	●	1 - 8 UNC STI	H6	5.572	1.251	3.114	1.021	0.766	1.000	4	Steam Oxide
31504108	●	1 - 8 UNC STI	H6	5.572	1.251	3.114	1.021	0.766	1.000	4	V
31504201	●	1 - 12 UNF STI	H4	5.437	1.251	3.114	0.896	0.672	0.875	4	Steam Oxide
31504208	●	1 - 12 UNF STI	H4	5.437	1.251	3.114	0.896	0.672	0.875	4	V
31504301	●	1 - 12 UNF STI	H6	5.437	1.251	3.114	0.896	0.672	0.875	4	Steam Oxide
31504308	●	1 - 12 UNF STI	H6	5.437	1.251	3.114	0.896	0.672	0.875	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

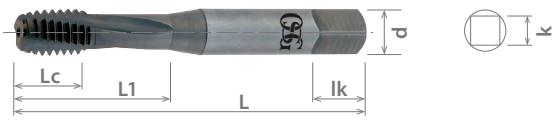
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 345STI

EXOTAP® VC-10 SFT STI

SPIRAL FLUTE | VC10 | S/O | V | C/2.5P | 15° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
34500101	●	M2 x 0.4 STI	D2	47.80	12.00	13.90	3.58	2.79	4.76	2	Steam Oxide
34500108	●	M2 x 0.4 STI	D2	47.80	12.00	13.90	3.58	2.79	4.76	2	V
34500201	●	M2.5 x 0.45 STI	D2	49.30	4.00	15.90	3.58	2.79	4.76	2	Steam Oxide
34500208	●	M2.5 x 0.45 STI	D2	49.30	4.00	15.90	3.58	2.79	4.76	2	V
34500301	●	M3 x 0.5 STI	D2	50.80	5.00	17.60	3.58	2.79	4.76	3	Steam Oxide
34500308	●	M3 x 0.5 STI	D2	50.80	5.00	17.60	3.58	2.79	4.76	3	V
34500401	●	M4 x 0.7 STI	D3	60.50	7.00	22.20	4.93	3.86	6.35	3	Steam Oxide
34500408	●	M4 x 0.7 STI	D3	60.50	7.00	22.20	4.93	3.86	6.35	3	V
34500501	●	M5 x 0.8 STI	D3	63.50	8.00	25.50	6.48	4.85	7.94	3	Steam Oxide
34500508	●	M5 x 0.8 STI	D3	63.50	8.00	25.50	6.48	4.85	7.94	3	V
34500601	●	M6 x 1 STI	D3	69.10	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
34500608	●	M6 x 1 STI	D3	69.10	10.00	28.60	8.08	6.05	9.53	3	V
34500701	●	M8 x 1.25 STI	D3	74.70	12.00	31.80	9.68	7.26	11.11	3	Steam Oxide
34500708	●	M8 x 1.25 STI	D3	74.70	12.00	31.80	9.68	7.26	11.11	3	V
34500801	●	M10 x 1.5 STI	D4	85.90	15.00	49.10	9.32	6.99	11.11	3	Steam Oxide
34500808	●	M10 x 1.5 STI	D4	85.90	15.00	49.10	9.32	6.99	11.11	3	V
34500901	●	M12 x 1.75 STI	D4	91.30	17.00	5.10	10.90	8.18	12.70	3	Steam Oxide
34500908	●	M12 x 1.75 STI	D4	91.30	17.00	5.10	10.90	8.18	12.70	3	V
34501001	●	M14 x 2 STI	D5	102.40	20.00	55.00	13.77	10.31	15.88	4	Steam Oxide
34501008	●	M14 x 2 STI	D5	102.40	20.00	55.00	13.77	10.31	15.88	4	V
34501101	●	M16 x 2 STI	D5	108.00	20.00	61.80	14.99	11.23	17.46	4	Steam Oxide
34501108	●	M16 x 2 STI	D5	108.00	20.00	61.80	14.99	11.23	17.46	4	V
34501201	●	M18 x 2.5 STI	D5	119.10	25.00	67.40	17.70	13.28	19.05	4	Steam Oxide
34501208	●	M18 x 2.5 STI	D5	119.10	25.00	67.40	17.70	13.28	19.05	4	V
34501301	●	M20 x 2.5 STI	D5	124.60	25.00	68.40	19.30	14.48	19.05	4	Steam Oxide
34501308	●	M20 x 2.5 STI	D5	124.60	25.00	68.40	19.30	14.48	19.05	4	V
34501401	●	M22 x 2.5 STI	D5	130.20	25.00	76.50	20.32	15.24	20.64	4	Steam Oxide
34501408	●	M22 x 2.5 STI	D5	130.20	25.00	76.50	20.32	15.24	20.64	4	V
34501501	●	M24 x 3 STI	D6	138.10	30.00	79.10	22.76	17.07	22.23	4	Steam Oxide
34501508	●	M24 x 3 STI	D6	138.10	30.00	79.10	22.76	17.07	22.23	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

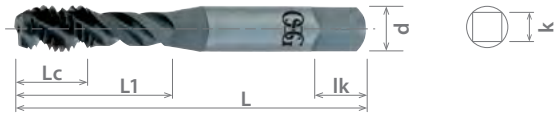
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 302

EXOTAP® VA-3 SFT STI

SPIRAL FLUTE | HSSE | S/O | V | C/1.5P | C/2.5P | 45° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
0144701	●	No. 2 - 56 UNC STI	H2	Bottom (1.5P)	1.882	0.176	0.565	0.141	0.110	0.188	2	Steam Oxide
0144708	●	No. 2 - 56 UNC STI	H2	Bottom (1.5P)	1.882	0.176	0.565	0.141	0.110	0.188	2	V
1713501	●	No. 2 - 56 UNC STI	H2	Modified Bottom (2.5P)	1.882	0.176	0.565	0.141	0.110	0.188	2	Steam Oxide
30200101	●	No. 3 - 48 UNC STI	H2	Bottom (1.5P)	1.941	0.209	0.626	0.141	0.110	0.188	2	Steam Oxide
30200108	●	No. 3 - 48 UNC STI	H2	Bottom (1.5P)	1.941	0.209	0.626	0.141	0.110	0.188	2	V
0144801	●	No. 4 - 40 UNC STI	H2	Bottom (1.5P)	2.000	0.252	0.689	0.141	0.110	0.188	3	Steam Oxide
0144808	●	No. 4 - 40 UNC STI	H2	Bottom (1.5P)	2.000	0.252	0.689	0.141	0.110	0.188	3	V
1713601	●	No. 4 - 40 UNC STI	H2	Modified Bottom (2.5P)	2.000	0.252	0.689	0.141	0.110	0.188	3	Steam Oxide
30200201	●	No. 4 - 48 UNF STI	H2	Bottom (1.5P)	2.000	0.252	0.689	0.141	0.110	0.188	3	Steam Oxide
30200208	●	No. 4 - 48 UNF STI	H2	Bottom (1.5P)	2.000	0.252	0.689	0.141	0.110	0.188	3	V
0144901	●	No. 6 - 32 UNC STI	H2	Bottom (1.5P)	2.382	0.313	0.876	0.194	0.152	0.250	3	Steam Oxide
0144908	●	No. 6 - 32 UNC STI	H2	Bottom (1.5P)	2.382	0.313	0.876	0.194	0.152	0.250	3	V
1713701	●	No. 6 - 32 UNC STI	H2	Modified Bottom (2.5P)	2.382	0.313	0.876	0.194	0.152	0.250	3	Steam Oxide
0145001	●	No. 6 - 32 UNC STI	H3	Bottom (1.5P)	2.382	0.313	0.876	0.194	0.152	0.250	3	Steam Oxide
0145008	●	No. 6 - 32 UNC STI	H3	Bottom (1.5P)	2.382	0.313	0.876	0.194	0.152	0.250	3	V
1713801	●	No. 6 - 32 UNC STI	H3	Modified Bottom (2.5P)	2.382	0.313	0.876	0.194	0.152	0.250	3	Steam Oxide
0145101	●	No. 6 - 40 UNF STI	H2	Bottom (1.5P)	2.130	0.313	0.754	0.168	0.131	0.250	3	Steam Oxide
0145108	●	No. 6 - 40 UNF STI	H2	Bottom (1.5P)	2.130	0.313	0.754	0.168	0.131	0.250	3	V
30200301	●	No. 6 - 40 UNF STI	H2	Modified Bottom (2.5P)	2.130	0.313	0.754	0.168	0.131	0.250	3	Steam Oxide
30200308	●	No. 6 - 40 UNF STI	H2	Modified Bottom (2.5P)	2.130	0.313	0.754	0.168	0.131	0.250	3	V
0145201	●	No. 8 - 32 UNC STI	H2	Bottom (1.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
0145208	●	No. 8 - 32 UNC STI	H2	Bottom (1.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	V
1713901	●	No. 8 - 32 UNC STI	H2	Modified Bottom (2.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
0145301	●	No. 8 - 32 UNC STI	H3	Bottom (1.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
0145308	●	No. 8 - 32 UNC STI	H3	Bottom (1.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	V
1714001	●	No. 8 - 32 UNC STI	H3	Modified Bottom (2.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
0145401	●	No. 8 - 32 UNC STI	H4	Bottom (1.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
0145408	●	No. 8 - 32 UNC STI	H4	Bottom (1.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	V
30200401	●	No. 8 - 32 UNC STI	H4	Modified Bottom (2.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
30200408	●	No. 8 - 32 UNC STI	H4	Modified Bottom (2.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	V
30200501	●	No. 8 - 36 UNF STI	H2	Bottom (1.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	Steam Oxide
30200508	●	No. 8 - 36 UNF STI	H2	Bottom (1.5P)	2.382	0.311	0.937	0.220	0.165	0.281	3	V
0145501	●	No. 10 - 24 UNC STI	H2	Bottom (1.5P)	2.500	0.418	1.000	0.255	0.191	0.313	3	Steam Oxide
0145508	●	No. 10 - 24 UNC STI	H2	Bottom (1.5P)	2.500	0.418	1.000	0.255	0.191	0.313	3	V
30200701	●	No. 10 - 24 UNC STI	H2	Modified Bottom (2.5P)	2.500	0.418	1.000	0.255	0.191	0.313	3	Steam Oxide
30200708	●	No. 10 - 24 UNC STI	H2	Modified Bottom (2.5P)	2.500	0.418	1.000	0.255	0.191	0.313	3	V
0145601	●	No. 10 - 24 UNC STI	H3	Bottom (1.5P)	2.500	0.418	1.000	0.255	0.191	0.313	3	Steam Oxide
0145608	●	No. 10 - 24 UNC STI	H3	Bottom (1.5P)	2.500	0.418	1.000	0.255	0.191	0.313	3	V
30200801	●	No. 10 - 24 UNC STI	H3	Modified Bottom (2.5P)	2.500	0.418	1.000	0.255	0.191	0.313	3	Steam Oxide
30200808	●	No. 10 - 24 UNC STI	H3	Modified Bottom (2.5P)	2.500	0.418	1.000	0.255	0.191	0.313	3	V
0145701	●	No. 10 - 32 UNF STI	H2	Bottom (1.5P)	2.500	0.419	1.001	0.255	0.191	0.313	3	Steam Oxide
0145708	●	No. 10 - 32 UNF STI	H2	Bottom (1.5P)	2.500	0.419	1.001	0.255	0.191	0.313	3	V
1714101	●	No. 10 - 32 UNF STI	H2	Modified Bottom (2.5P)	2.500	0.419	1.001	0.255	0.191	0.313	3	Steam Oxide
0145801	●	No. 10 - 32 UNF STI	H3	Bottom (1.5P)	2.500	0.419	1.001	0.255	0.191	0.313	3	Steam Oxide
0145808	●	No. 10 - 32 UNF STI	H3	Bottom (1.5P)	2.500	0.419	1.001	0.255	0.191	0.313	3	V
1714201	●	No. 10 - 32 UNF STI	H3	Modified Bottom (2.5P)	2.500	0.419	1.001	0.255	0.191	0.313	3	Steam Oxide
0145901	●	No. 10 - 32 UNF STI	H4	Bottom (1.5P)	2.500	0.419	1.001	0.255	0.191	0.313	3	Steam Oxide
0145908	●	No. 10 - 32 UNF STI	H4	Bottom (1.5P)	2.500	0.419	1.001	0.255	0.191	0.313	3	V
0146001	●	1/4 - 20 UNC STI	H2	Bottom (1.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	Steam Oxide
0146008	●	1/4 - 20 UNC STI	H2	Bottom (1.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	V
30201001	●	1/4 - 20 UNC STI	H2	Modified Bottom (2.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	Steam Oxide
30201008	●	1/4 - 20 UNC STI	H2	Modified Bottom (2.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	V
0146101	●	1/4 - 20 UNC STI	H3	Bottom (1.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 302 (Continued)

EXOTAP® VA-3 SFT STI, Spiral Fluted

SPIRAL FLUTE | HSSE | S/O | V | C/1.5P | C/2.5P | 45° | STI | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
0146108	●	1/4 - 20 UNC STI	H3	Bottom (1.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	V
30201101	●	1/4 - 20 UNC STI	H3	Modified Bottom (2.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	Steam Oxide
30201108	●	1/4 - 20 UNC STI	H3	Modified Bottom (2.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	V
0146201	●	1/4 - 28 UNF STI	H2	Bottom (1.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	Steam Oxide
0146208	●	1/4 - 28 UNF STI	H2	Bottom (1.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	V
1714301	●	1/4 - 28 UNF STI	H2	Modified Bottom (2.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	Steam Oxide
0146301	●	1/4 - 28 UNF STI	H3	Bottom (1.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	Steam Oxide
0146308	●	1/4 - 28 UNF STI	H3	Bottom (1.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	V
1714401	●	1/4 - 28 UNF STI	H3	Modified Bottom (2.5P)	2.720	0.500	1.126	0.318	0.238	0.375	3	Steam Oxide
0146401	●	5/16 - 18 UNC STI	H3	Bottom (1.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	Steam Oxide
0146408	●	5/16 - 18 UNC STI	H3	Bottom (1.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	V
30201201	●	5/16 - 18 UNC STI	H3	Modified Bottom (2.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	Steam Oxide
30201208	●	5/16 - 18 UNC STI	H3	Modified Bottom (2.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	V
0146501	●	5/16 - 18 UNC STI	H4	Bottom (1.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	Steam Oxide
0146508	●	5/16 - 18 UNC STI	H4	Bottom (1.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	V
30201301	●	5/16 - 18 UNC STI	H4	Modified Bottom (2.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	Steam Oxide
30201308	●	5/16 - 18 UNC STI	H4	Modified Bottom (2.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	V
0146601	●	5/16 - 24 UNF STI	H2	Bottom (1.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	Steam Oxide
0146608	●	5/16 - 24 UNF STI	H2	Bottom (1.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	V
1714501	●	5/16 - 24 UNF STI	H2	Modified Bottom (2.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	Steam Oxide
0146701	●	5/16 - 24 UNF STI	H3	Bottom (1.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	Steam Oxide
0146708	●	5/16 - 24 UNF STI	H3	Bottom (1.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	V
30201401	●	5/16 - 24 UNF STI	H3	Modified Bottom (2.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	Steam Oxide
30201408	●	5/16 - 24 UNF STI	H3	Modified Bottom (2.5P)	2.941	0.555	1.252	0.381	0.286	0.438	3	V
0146801	●	3/8 - 16 UNC STI	H3	Bottom (1.5P)	3.382	0.626	1.933	0.367	0.275	0.438	3	Steam Oxide
0146808	●	3/8 - 16 UNC STI	H3	Bottom (1.5P)	3.382	0.626	1.933	0.367	0.275	0.438	3	V
30201501	●	3/8 - 16 UNC STI	H3	Modified Bottom (2.5P)	3.382	0.626	1.933	0.367	0.275	0.438	3	Steam Oxide
30201508	●	3/8 - 16 UNC STI	H3	Modified Bottom (2.5P)	3.382	0.626	1.933	0.367	0.275	0.438	3	V
0146901	●	3/8 - 16 UNC STI	H4	Bottom (1.5P)	3.382	0.626	1.933	0.367	0.275	0.438	3	Steam Oxide
0146908	●	3/8 - 16 UNC STI	H4	Bottom (1.5P)	3.382	0.626	1.933	0.367	0.275	0.438	3	V
30201601	●	3/8 - 16 UNC STI	H4	Modified Bottom (2.5P)	3.382	0.626	1.933	0.367	0.275	0.438	3	Steam Oxide
30201608	●	3/8 - 16 UNC STI	H4	Modified Bottom (2.5P)	3.382	0.626	1.933	0.367	0.275	0.438	3	V
0147001	●	3/8 - 24 UNF STI	H2	Bottom (1.5P)	3.161	0.626	1.713	0.323	0.242	0.406	3	Steam Oxide
0147008	●	3/8 - 24 UNF STI	H2	Bottom (1.5P)	3.161	0.626	1.713	0.323	0.242	0.406	3	V
30201701	●	3/8 - 24 UNF STI	H2	Modified Bottom (2.5P)	3.161	0.626	1.713	0.323	0.242	0.406	3	Steam Oxide
30201708	●	3/8 - 24 UNF STI	H2	Modified Bottom (2.5P)	3.161	0.626	1.713	0.323	0.242	0.406	3	V
0147101	●	3/8 - 24 UNF STI	H3	Bottom (1.5P)	3.161	0.626	1.713	0.323	0.242	0.406	3	Steam Oxide
0147108	●	3/8 - 24 UNF STI	H3	Bottom (1.5P)	3.161	0.626	1.713	0.323	0.242	0.406	3	V
30201801	●	3/8 - 24 UNF STI	H3	Modified Bottom (2.5P)	3.161	0.626	1.713	0.323	0.242	0.406	3	Steam Oxide
30201808	●	3/8 - 24 UNF STI	H3	Modified Bottom (2.5P)	3.161	0.626	1.713	0.323	0.242	0.406	3	V
0147201	●	7/16 - 14 UNC STI	H3	Bottom (1.5P)	3.591	0.713	1.972	0.429	0.322	0.500	3	Steam Oxide
0147208	●	7/16 - 14 UNC STI	H3	Bottom (1.5P)	3.591	0.713	1.972	0.429	0.322	0.500	3	V
30201901	●	7/16 - 14 UNC STI	H3	Modified Bottom (2.5P)	3.591	0.713	1.972	0.429	0.322	0.500	3	Steam Oxide
30201908	●	7/16 - 14 UNC STI	H3	Modified Bottom (2.5P)	3.591	0.713	1.972	0.429	0.322	0.500	3	V
0147301	●	7/16 - 14 UNC STI	H4	Bottom (1.5P)	3.591	0.713	1.972	0.429	0.322	0.500	3	Steam Oxide
0147308	●	7/16 - 14 UNC STI	H4	Bottom (1.5P)	3.591	0.713	1.972	0.429	0.322	0.500	3	V
30202101	●	7/16 - 14 UNC STI	H4	Modified Bottom (2.5P)	3.591	0.713	1.972	0.429	0.322	0.500	3	Steam Oxide
30202108	●	7/16 - 14 UNC STI	H4	Modified Bottom (2.5P)	3.591	0.713	1.972	0.429	0.322	0.500	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

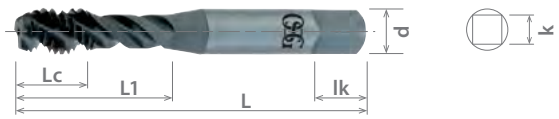
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 302 (Continued)

EXOTAP® VA-3 SFT STI, Spiral Fluted

SPIRAL FLUTE | HSSE | S/O | V | C/1.5P | C/2.5P | 45° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
0147401	●	7/16 - 20 UNF STI	H3	Bottom (1.5P)	3.382	0.713	1.933	0.367	0.275	0.438	3	Steam Oxide
0147408	●	7/16 - 20 UNF STI	H3	Bottom (1.5P)	3.382	0.713	1.933	0.367	0.275	0.438	3	V
30202201	●	7/16 - 20 UNF STI	H3	Modified Bottom (2.5P)	3.382	0.713	1.933	0.367	0.275	0.438	3	Steam Oxide
30202208	●	7/16 - 20 UNF STI	H3	Modified Bottom (2.5P)	3.382	0.713	1.933	0.367	0.275	0.438	3	V
0147501	●	7/16 - 20 UNF STI	H4	Bottom (1.5P)	3.382	0.713	1.933	0.367	0.275	0.438	3	Steam Oxide
0147508	●	7/16 - 20 UNF STI	H4	Bottom (1.5P)	3.382	0.713	1.933	0.367	0.275	0.438	3	V
30202301	●	7/16 - 20 UNF STI	H4	Modified Bottom (2.5P)	3.382	0.713	1.933	0.367	0.275	0.438	3	Steam Oxide
30202308	●	7/16 - 20 UNF STI	H4	Modified Bottom (2.5P)	3.382	0.713	1.933	0.367	0.275	0.438	3	V
0147601	●	1/2 - 13 UNC STI	H3	Bottom (1.5P)	3.811	0.768	2.126	0.480	0.360	0.563	4	Steam Oxide
0147608	●	1/2 - 13 UNC STI	H3	Bottom (1.5P)	3.811	0.768	2.126	0.480	0.360	0.563	4	V
30202401	●	1/2 - 13 UNC STI	H3	Modified Bottom (2.5P)	3.811	0.768	2.126	0.480	0.360	0.563	4	Steam Oxide
30202408	●	1/2 - 13 UNC STI	H3	Modified Bottom (2.5P)	3.811	0.768	2.126	0.480	0.360	0.563	4	V
0147701	●	1/2 - 13 UNC STI	H4	Bottom (1.5P)	3.811	0.768	2.126	0.480	0.360	0.563	4	Steam Oxide
0147708	●	1/2 - 13 UNC STI	H4	Bottom (1.5P)	3.811	0.768	2.126	0.480	0.360	0.563	4	V
30202501	●	1/2 - 13 UNC STI	H4	Modified Bottom (2.5P)	3.811	0.768	2.126	0.480	0.360	0.563	4	Steam Oxide
30202508	●	1/2 - 13 UNC STI	H4	Modified Bottom (2.5P)	3.811	0.768	2.126	0.480	0.360	0.563	4	V
0147801	●	1/2 - 20 UNF STI	H3	Bottom (1.5P)	3.591	0.768	1.972	0.429	0.322	0.500	4	Steam Oxide
0147808	●	1/2 - 20 UNF STI	H3	Bottom (1.5P)	3.591	0.768	1.972	0.429	0.322	0.500	4	V
30202601	●	1/2 - 20 UNF STI	H3	Modified Bottom (2.5P)	3.591	0.768	1.972	0.429	0.322	0.500	4	Steam Oxide
30202608	●	1/2 - 20 UNF STI	H3	Modified Bottom (2.5P)	3.591	0.768	1.972	0.429	0.322	0.500	4	V
0147901	●	1/2 - 20 UNF STI	H4	Bottom (1.5P)	3.591	0.768	1.972	0.429	0.322	0.500	4	Steam Oxide
0147908	●	1/2 - 20 UNF STI	H4	Bottom (1.5P)	3.591	0.768	1.972	0.429	0.322	0.500	4	V
30202701	●	1/2 - 20 UNF STI	H4	Modified Bottom (2.5P)	3.591	0.768	1.972	0.429	0.322	0.500	4	Steam Oxide
30202708	●	1/2 - 20 UNF STI	H4	Modified Bottom (2.5P)	3.591	0.768	1.972	0.429	0.322	0.500	4	V
30202901	●	9/16 - 12 UNC STI	H3	Bottom (1.5P)	4.031	0.835	2.126	0.542	0.406	0.625	4	Steam Oxide
30202908	●	9/16 - 12 UNC STI	H3	Bottom (1.5P)	4.031	0.835	2.126	0.542	0.406	0.625	4	V
30202801	●	9/16 - 12 UNC STI	H3	Modified Bottom (2.5P)	4.031	0.835	2.126	0.542	0.406	0.625	4	Steam Oxide
30202808	●	9/16 - 12 UNC STI	H3	Modified Bottom (2.5P)	4.031	0.835	2.126	0.542	0.406	0.625	4	V
30203201	●	9/16 - 12 UNC STI	H4	Bottom (1.5P)	4.031	0.835	2.126	0.542	0.406	0.625	4	Steam Oxide
30203208	●	9/16 - 12 UNC STI	H4	Bottom (1.5P)	4.031	0.835	2.126	0.542	0.406	0.625	4	V
30203101	●	9/16 - 12 UNC STI	H4	Modified Bottom (2.5P)	4.031	0.835	2.126	0.542	0.406	0.625	4	Steam Oxide
30203108	●	9/16 - 12 UNC STI	H4	Modified Bottom (2.5P)	4.031	0.835	2.126	0.542	0.406	0.625	4	V
0148001	●	9/16 - 18 UNF STI	H3	Bottom (1.5P)	3.810	0.835	2.126	0.480	0.360	0.563	4	Steam Oxide
0148008	●	9/16 - 18 UNF STI	H3	Bottom (1.5P)	3.810	0.835	2.126	0.480	0.360	0.563	4	V
30203301	●	9/16 - 18 UNF STI	H3	Modified Bottom (2.5P)	3.810	0.835	2.126	0.480	0.360	0.563	4	Steam Oxide
30203308	●	9/16 - 18 UNF STI	H3	Modified Bottom (2.5P)	3.810	0.835	2.126	0.480	0.360	0.563	4	V
30203501	●	9/16 - 18 UNF STI	H4	Bottom (1.5P)	3.810	0.835	2.126	0.480	0.360	0.563	4	Steam Oxide
30203508	●	9/16 - 18 UNF STI	H4	Bottom (1.5P)	3.810	0.835	2.126	0.480	0.360	0.563	4	V
30203401	●	9/16 - 18 UNF STI	H4	Modified Bottom (2.5P)	3.810	0.835	2.126	0.480	0.360	0.563	4	Steam Oxide
30203408	●	9/16 - 18 UNF STI	H4	Modified Bottom (2.5P)	3.810	0.835	2.126	0.480	0.360	0.563	4	V
30203701	●	5/8 - 11 UNC STI	H3	Bottom (1.5P)	4.252	0.909	2.433	0.590	0.442	0.688	4	Steam Oxide
30203708	●	5/8 - 11 UNC STI	H3	Bottom (1.5P)	4.252	0.909	2.433	0.590	0.442	0.688	4	V
30203601	●	5/8 - 11 UNC STI	H3	Modified Bottom (2.5P)	4.252	0.909	2.433	0.590	0.442	0.688	4	Steam Oxide
30203608	●	5/8 - 11 UNC STI	H3	Modified Bottom (2.5P)	4.252	0.909	2.433	0.590	0.442	0.688	4	V
30203901	●	5/8 - 11 UNC STI	H4	Bottom (1.5P)	4.252	0.909	2.433	0.590	0.442	0.688	4	Steam Oxide
30203908	●	5/8 - 11 UNC STI	H4	Bottom (1.5P)	4.252	0.909	2.433	0.590	0.442	0.688	4	V
30203801	●	5/8 - 11 UNC STI	H4	Modified Bottom (2.5P)	4.252	0.909	2.433	0.590	0.442	0.688	4	Steam Oxide
30203808	●	5/8 - 11 UNC STI	H4	Modified Bottom (2.5P)	4.252	0.909	2.433	0.590	0.442	0.688	4	V
0148101	●	5/8 - 18 UNF STI	H3	Bottom (1.5P)	4.031	0.909	2.165	0.542	0.406	0.625	4	Steam Oxide
0148108	●	5/8 - 18 UNF STI	H3	Bottom (1.5P)	4.031	0.909	2.165	0.542	0.406	0.625	4	V
30204101	●	5/8 - 18 UNF STI	H3	Modified Bottom (2.5P)	4.031	0.909	2.165	0.542	0.406	0.625	4	Steam Oxide
30204108	●	5/8 - 18 UNF STI	H3	Modified Bottom (2.5P)	4.031	0.909	2.165	0.542	0.406	0.625	4	V
30204301	●	5/8 - 18 UNF STI	H4	Bottom (1.5P)	4.031	0.909	2.165	0.542	0.406	0.625	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 302 (Continued)

EXOTAP® VA-3 SFT STI, Spiral Fluted

SPIRAL FLUTE | HSSE | S/O | V | C/1.5P | C/2.5P | 45° | STI | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
30204308	●	5/8 - 18 UNF STI	H4	Bottom (1.5P)	4.031	0.909	2.165	0.542	0.406	0.625	4	V
30204201	●	5/8 - 18 UNF STI	H4	Modified Bottom (2.5P)	4.031	0.909	2.165	0.542	0.406	0.625	4	Steam Oxide
30204208	●	5/8 - 18 UNF STI	H4	Modified Bottom (2.5P)	4.031	0.909	2.165	0.542	0.406	0.625	4	V
30204501	●	3/4 - 10 UNC STI	H3	Bottom (1.5P)	4.689	1.000	2.654	0.697	0.523	0.750	4	Steam Oxide
30204508	●	3/4 - 10 UNC STI	H3	Bottom (1.5P)	4.689	1.000	2.654	0.697	0.523	0.750	4	V
30204401	●	3/4 - 10 UNC STI	H3	Modified Bottom (2.5P)	4.689	1.000	2.654	0.697	0.523	0.750	4	Steam Oxide
30204408	●	3/4 - 10 UNC STI	H3	Modified Bottom (2.5P)	4.689	1.000	2.654	0.697	0.523	0.750	4	V
30204701	●	3/4 - 10 UNC STI	H5	Bottom (1.5P)	4.689	1.000	2.654	0.697	0.523	0.750	4	Steam Oxide
30204708	●	3/4 - 10 UNC STI	H5	Bottom (1.5P)	4.689	1.000	2.654	0.697	0.523	0.750	4	V
30204601	●	3/4 - 10 UNC STI	H5	Modified Bottom (2.5P)	4.689	1.000	2.654	0.697	0.523	0.750	4	Steam Oxide
30204608	●	3/4 - 10 UNC STI	H5	Modified Bottom (2.5P)	4.689	1.000	2.654	0.697	0.523	0.750	4	V
30204901	●	3/4 - 16 UNF STI	H3	Bottom (1.5P)	4.467	1.000	2.433	0.652	0.489	0.688	4	Steam Oxide
30204908	●	3/4 - 16 UNF STI	H3	Bottom (1.5P)	4.467	1.000	2.433	0.652	0.489	0.688	4	V
30204801	●	3/4 - 16 UNF STI	H3	Modified Bottom (2.5P)	4.467	1.000	2.433	0.652	0.489	0.688	4	Steam Oxide
30204808	●	3/4 - 16 UNF STI	H3	Modified Bottom (2.5P)	4.467	1.000	2.433	0.652	0.489	0.688	4	V
0148201	●	3/4 - 16 UNF STI	H4	Bottom (1.5P)	4.467	1.000	2.433	0.652	0.489	0.688	4	Steam Oxide
0148208	●	3/4 - 16 UNF STI	H4	Bottom (1.5P)	4.467	1.000	2.433	0.652	0.489	0.688	4	V
30205101	●	3/4 - 16 UNF STI	H4	Modified Bottom (2.5P)	4.467	1.000	2.433	0.652	0.489	0.688	4	Steam Oxide
30205108	●	3/4 - 16 UNF STI	H4	Modified Bottom (2.5P)	4.467	1.000	2.433	0.652	0.489	0.688	4	V
30205301	●	7/8 - 9 UNC STI	H3	Bottom (1.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	Steam Oxide
30205308	●	7/8 - 9 UNC STI	H3	Bottom (1.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	V
30205201	●	7/8 - 9 UNC STI	H3	Modified Bottom (2.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	Steam Oxide
30205208	●	7/8 - 9 UNC STI	H3	Modified Bottom (2.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	V
30205501	●	7/8 - 9 UNC STI	H5	Bottom (1.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	Steam Oxide
30205508	●	7/8 - 9 UNC STI	H5	Bottom (1.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	V
30205401	●	7/8 - 9 UNC STI	H5	Modified Bottom (2.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	Steam Oxide
30205408	●	7/8 - 9 UNC STI	H5	Modified Bottom (2.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	V
30205701	●	7/8 - 14 UNF STI	H3	Bottom (1.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	Steam Oxide
30205708	●	7/8 - 14 UNF STI	H3	Bottom (1.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	V
30205601	●	7/8 - 14 UNF STI	H3	Modified Bottom (2.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	Steam Oxide
30205608	●	7/8 - 14 UNF STI	H3	Modified Bottom (2.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	V
0148301	●	7/8 - 14 UNF STI	H4	Bottom (1.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	Steam Oxide
0148308	●	7/8 - 14 UNF STI	H4	Bottom (1.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	V
30205901	●	7/8 - 14 UNF STI	H4	Modified Bottom (2.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	Steam Oxide
30205908	●	7/8 - 14 UNF STI	H4	Modified Bottom (2.5P)	5.130	1.110	3.012	0.800	0.600	0.813	4	V
30206301	●	1 - 8 UNC STI	H4	Bottom (1.5P)	5.752	1.252	3.075	1.021	0.766	1.000	4	Steam Oxide
30206308	●	1 - 8 UNC STI	H4	Bottom (1.5P)	5.752	1.252	3.075	1.021	0.766	1.000	4	V
30206201	●	1 - 8 UNC STI	H4	Modified Bottom (2.5P)	5.752	1.252	3.075	1.021	0.766	1.000	4	Steam Oxide
30206208	●	1 - 8 UNC STI	H4	Modified Bottom (2.5P)	5.752	1.252	3.075	1.021	0.766	1.000	4	V
30206501	●	1 - 8 UNC STI	H6	Bottom (1.5P)	5.752	1.252	3.075	1.021	0.766	1.000	4	Steam Oxide
30206508	●	1 - 8 UNC STI	H6	Bottom (1.5P)	5.752	1.252	3.075	1.021	0.766	1.000	4	V
30206401	●	1 - 8 UNC STI	H6	Modified Bottom (2.5P)	5.752	1.252	3.075	1.021	0.766	1.000	4	Steam Oxide
30206408	●	1 - 8 UNC STI	H6	Modified Bottom (2.5P)	5.752	1.252	3.075	1.021	0.766	1.000	4	V
30206701	●	1 - 12 UNF STI	H4	Bottom (1.5P)	5.441	1.252	3.075	0.896	0.672	0.875	4	Steam Oxide
30206708	●	1 - 12 UNF STI	H4	Bottom (1.5P)	5.441	1.252	3.075	0.896	0.672	0.875	4	V
30206601	●	1 - 12 UNF STI	H4	Modified Bottom (2.5P)	5.441	1.252	3.075	0.896	0.672	0.875	4	Steam Oxide
30206608	●	1 - 12 UNF STI	H4	Modified Bottom (2.5P)	5.441	1.252	3.075	0.896	0.672	0.875	4	V
30206901	●	1 - 12 UNF STI	H6	Bottom (1.5P)	5.441	1.252	3.075	0.896	0.672	0.875	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 302 (Continued)

EXOTAP® VA-3 SFT STI, Spiral Fluted

SPIRAL FLUTE | HSSE | S/O | V | C/1.5P | C/2.5P | 45° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
30206908	●	1 - 12 UNF STI	H6	Bottom (1.5P)	5.441	1.252	3.075	0.896	0.672	0.875	4	V
30206801	●	1 - 12 UNF STI	H6	Modified Bottom (2.5P)	5.441	1.252	3.075	0.896	0.672	0.875	4	Steam Oxide
30206808	●	1 - 12 UNF STI	H6	Modified Bottom (2.5P)	5.441	1.252	3.075	0.896	0.672	0.875	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

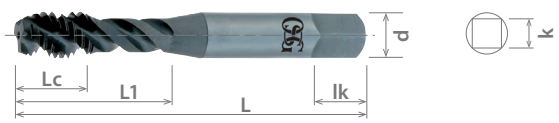
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 343STI

EXOTAP® VA-3 SFT STI

SPIRAL FLUTE | HSSE | S/O | V | C/2.5P | 45° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
34300101	●	M2 x 0.4 STI	D2	46.00	12.70	13.70	3.58	2.79	4.76	2	Steam Oxide
34300108	●	M2 x 0.4 STI	D2	46.00	12.70	13.70	3.58	2.79	4.76	2	V
34300201	●	M2.5 x 0.45 STI	D2	49.30	4.60	16.00	3.58	2.79	4.76	2	Steam Oxide
34300208	●	M2.5 x 0.45 STI	D2	49.30	4.60	16.00	3.58	2.79	4.76	2	V
34300301	●	M3 x 0.5 STI	D2	50.80	5.20	17.70	3.58	2.79	4.76	3	Steam Oxide
34300308	●	M3 x 0.5 STI	D2	50.80	5.20	17.70	3.58	2.79	4.76	3	V
34300401	●	M4 x 0.7 STI	D3	60.50	7.10	22.30	4.93	3.86	6.35	3	Steam Oxide
34300408	●	M4 x 0.7 STI	D3	60.50	7.10	22.30	4.93	3.86	6.35	3	V
34300501	●	M5 x 0.8 STI	D3	63.50	8.10	25.50	6.48	4.85	7.94	3	Steam Oxide
34300508	●	M5 x 0.8 STI	D3	63.50	8.10	25.50	6.48	4.85	7.94	3	V
34300601	●	M6 x 1 STI	D3	69.10	10.00	28.60	8.08	6.05	9.53	3	Steam Oxide
34300608	●	M6 x 1 STI	D3	69.10	10.00	28.60	8.08	6.05	9.53	3	V
34300701	●	M8 x 1.25 STI	D3	74.70	12.50	31.80	9.68	7.26	11.11	3	Steam Oxide
34300708	●	M8 x 1.25 STI	D3	74.70	12.50	31.80	9.68	7.26	11.11	3	V
34300801	●	M10 x 1.5 STI	D4	85.90	15.00	49.10	9.32	6.99	11.11	3	Steam Oxide
34300808	●	M10 x 1.5 STI	D4	85.90	15.00	49.10	9.32	6.99	11.11	3	V
34300901	●	M12 x 1.75 STI	D4	91.20	17.50	5.10	10.90	8.18	12.70	3	Steam Oxide
34300908	●	M12 x 1.75 STI	D4	91.20	17.50	5.10	10.90	8.18	12.70	3	V
34301001	●	M14 x 2 STI	D5	102.40	20.00	55.00	13.77	10.31	15.88	4	Steam Oxide
34301008	●	M14 x 2 STI	D5	102.40	20.00	55.00	13.77	10.31	15.88	4	V
34301101	●	M16 x 2 STI	D5	108.00	20.00	61.80	14.99	11.23	17.46	4	Steam Oxide
34301108	●	M16 x 2 STI	D5	108.00	20.00	61.80	14.99	11.23	17.46	4	V
34301201	●	M18 x 2.5 STI	D5	119.10	25.00	67.40	17.70	13.28	19.05	4	Steam Oxide
34301208	●	M18 x 2.5 STI	D5	119.10	25.00	67.40	17.70	13.28	19.05	4	V
34301301	●	M20 x 2.5 STI	D5	124.60	25.00	68.40	19.30	14.48	19.05	4	Steam Oxide
34301308	●	M20 x 2.5 STI	D5	124.60	25.00	68.40	19.30	14.48	19.05	4	V
34301401	●	M22 x 2.5 STI	D5	130.20	25.00	76.50	20.32	15.24	20.64	4	Steam Oxide
34301408	●	M22 x 2.5 STI	D5	130.20	25.00	76.50	20.32	15.24	20.64	4	V
34301501	●	M24 x 3 STI	D6	138.10	30.00	79.10	22.76	17.07	22.23	4	Steam Oxide
34301508	●	M24 x 3 STI	D6	138.10	30.00	79.10	22.76	17.07	22.23	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

HY-PRO® AL

High Performance Spiral Flute Tap for Aluminum

List 13039

HY-PRO® AL-SFT STI

SPIRAL FLUTE | HSSE | BR | V | 2 FLUTE | C/2.5P | 50° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Surface Treatment
1303900100	●	No. 2 - 56 UNC STI	H2	1.882	0.177	0.562	0.141	0.110	0.188	Bright
1303900108	●	No. 2 - 56 UNC STI	H2	1.882	0.177	0.562	0.141	0.110	0.188	V
1303900200	●	No. 4 - 40 UNC STI	H2	2.000	0.251	0.688	0.141	0.110	0.188	Bright
1303900208	●	No. 4 - 40 UNC STI	H2	2.000	0.251	0.688	0.141	0.110	0.188	V
1303900300	●	No. 6 - 32 UNC STI	H2	2.382	0.311	0.874	0.194	0.152	0.250	Bright
1303900308	●	No. 6 - 32 UNC STI	H2	2.382	0.311	0.874	0.194	0.152	0.250	V
1303900400	●	No. 8 - 32 UNC STI	H2	2.382	0.311	0.937	0.220	0.165	0.281	Bright
1303900408	●	No. 8 - 32 UNC STI	H2	2.382	0.311	0.937	0.220	0.165	0.281	V
1303900500	●	No. 10 - 32 UNF STI	H2	2.500	0.417	1.000	0.255	0.191	0.313	Bright
1303900508	●	No. 10 - 32 UNF STI	H2	2.500	0.417	1.000	0.255	0.191	0.313	V
1303900600	●	1/4 - 20 UNC STI	H3	2.720	0.500	1.125	0.318	0.238	0.375	Bright
1303900608	●	1/4 - 20 UNC STI	H3	2.720	0.500	1.125	0.318	0.238	0.375	V
1303900700	●	1/4 - 28 UNF STI	H3	2.720	0.500	1.125	0.318	0.238	0.375	Bright
1303900708	●	1/4 - 28 UNF STI	H3	2.720	0.500	1.125	0.318	0.238	0.375	V
1303900800	●	5/16 - 18 UNC STI	H3	2.941	0.555	1.251	0.381	0.286	0.438	Bright
1303900808	●	5/16 - 18 UNC STI	H3	2.941	0.555	1.251	0.381	0.286	0.438	V
1303900900	●	5/16 - 24 UNF STI	H3	2.941	0.555	1.251	0.381	0.286	0.438	Bright
1303900908	●	5/16 - 24 UNF STI	H3	2.941	0.555	1.251	0.381	0.286	0.438	V
1303901000	●	3/8 - 16 UNC STI	H3	3.382	0.625	1.933	0.367	0.275	0.438	Bright
1303901008	●	3/8 - 16 UNC STI	H3	3.382	0.625	1.933	0.367	0.275	0.438	V
1303901100	●	3/8 - 24 UNF STI	H3	3.161	0.625	1.712	0.323	0.242	0.406	Bright
1303901108	●	3/8 - 24 UNF STI	H3	3.161	0.625	1.712	0.323	0.242	0.406	V
1303901200	●	7/16 - 20 UNF STI	H4	3.382	0.712	1.933	0.367	0.275	0.438	Bright
1303901208	●	7/16 - 20 UNF STI	H4	3.382	0.712	1.933	0.367	0.275	0.438	V
1303901300	●	1/2 - 20 UNF STI	H4	3.591	0.767	1.972	0.429	0.322	0.500	Bright
1303901308	●	1/2 - 20 UNF STI	H4	3.591	0.767	1.972	0.429	0.322	0.500	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request.

HYT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									40-80 SFM	40-65 SFM						

○ Good ◎ Best

List S108

OSG GENERAL PURPOSE-SFT STI

SPIRAL FLUTE	HSS	BR	C/1.5P	50°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
8003000	●	No. 2 - 56 UNC STI	H2	1.882	0.188	0.574	0.141	0.110	0.188	2
10800100	●	No. 3 - 48 UNC STI	H2	1.941	0.208	0.625	0.141	0.110	0.188	2
8003600	●	No. 4 - 40 UNC STI	H2	2.000	0.251	0.688	0.141	0.110	0.188	2
10800200	●	No. 4 - 48 UNF STI	H2	2.000	0.251	0.688	0.141	0.110	0.188	3
8005400	●	No. 6 - 32 UNC STI	H2	2.382	0.314	0.885	0.194	0.152	0.250	3
8005700	●	No. 6 - 32 UNC STI	H3	2.382	0.314	0.885	0.194	0.152	0.250	3
10800300	●	No. 6 - 40 UNF STI	H2	2.130	0.314	0.755	0.168	0.131	0.250	3
8006900	●	No. 8 - 32 UNC STI	H2	2.382	0.311	0.940	0.220	0.165	0.281	3
8007200	●	No. 8 - 32 UNC STI	H3	2.382	0.311	0.940	0.220	0.165	0.281	3
10800400	●	No. 8 - 36 UNF STI	H2	2.382	0.311	0.937	0.220	0.165	0.281	3
8007800	●	No. 10 - 24 UNC STI	H2	2.500	0.417	1.000	0.255	0.191	0.313	3
8008100	●	No. 10 - 24 UNC STI	H3	2.500	0.417	1.000	0.255	0.191	0.313	3
8008700	●	No. 10 - 32 UNF STI	H2	2.500	0.417	1.000	0.255	0.191	0.313	3
8009000	●	No. 10 - 32 UNF STI	H3	2.500	0.417	1.000	0.255	0.191	0.313	3
8010900	●	1/4 - 20 UNC STI	H2	2.720	0.500	1.129	0.318	0.238	0.375	3
8011200	●	1/4 - 20 UNC STI	H3	2.720	0.500	1.129	0.318	0.238	0.375	3
8011800	●	1/4 - 28 UNF STI	H2	2.720	0.500	1.129	0.318	0.238	0.375	3
8012100	●	1/4 - 28 UNF STI	H3	2.720	0.500	1.129	0.318	0.238	0.375	3
8013000	●	5/16 - 18 UNC STI	H3	2.937	0.555	1.251	0.381	0.286	0.438	3
8013300	●	5/16 - 18 UNC STI	H4	2.937	0.555	1.251	0.381	0.286	0.438	3
8013600	●	5/16 - 24 UNF STI	H2	2.937	0.555	1.251	0.381	0.286	0.438	3
8013700	●	5/16 - 24 UNF STI	H3	2.937	0.555	1.251	0.381	0.286	0.438	3
8015400	●	3/8 - 16 UNC STI	H3	3.374	0.625	1.933	0.367	0.275	0.438	3
8015700	●	3/8 - 16 UNC STI	H4	3.374	0.625	1.933	0.367	0.275	0.438	3
8015800	●	3/8 - 24 UNF STI	H2	3.157	0.625	1.712	0.323	0.242	0.406	3
8015900	●	3/8 - 24 UNF STI	H3	3.157	0.625	1.712	0.323	0.242	0.406	3
8017000	●	7/16 - 14 UNC STI	H3	3.594	0.712	1.972	0.429	0.322	0.500	4
10800500	●	7/16 - 14 UNC STI	H4	3.594	0.712	1.972	0.429	0.322	0.500	4
8017400	●	7/16 - 20 UNF STI	H3	3.374	0.712	1.933	0.367	0.275	0.438	3
8017500	●	7/16 - 20 UNF STI	H4	3.374	0.712	1.933	0.367	0.275	0.438	3
8018000	●	1/2 - 13 UNC STI	H3	3.811	0.767	2.125	0.480	0.360	0.563	4
10800600	●	1/2 - 13 UNC STI	H4	3.811	0.767	2.125	0.480	0.360	0.563	4
8018400	●	1/2 - 20 UNF STI	H3	3.594	0.767	1.972	0.429	0.322	0.500	4
10800700	●	1/2 - 20 UNF STI	H4	3.594	0.767	1.972	0.429	0.322	0.500	4
10800800	●	9/16 - 12 UNC STI	H3	4.031	0.834	2.125	0.542	0.406	0.625	4
10800900	●	9/16 - 12 UNC STI	H4	4.031	0.834	2.125	0.542	0.406	0.625	4
10801000	●	9/16 - 18 UNF STI	H3	3.811	0.834	2.125	0.480	0.360	0.563	4
10801100	●	9/16 - 18 UNF STI	H4	3.811	0.834	2.125	0.480	0.360	0.563	4
10801200	●	5/8 - 11 UNC STI	H3	4.252	0.909	2.433	0.590	0.442	0.688	4
10801300	●	5/8 - 11 UNC STI	H4	4.252	0.909	2.433	0.590	0.442	0.688	4
10801400	●	5/8 - 18 UNF STI	H3	4.031	0.909	2.165	0.542	0.406	0.625	4
10801500	●	5/8 - 18 UNF STI	H4	4.031	0.909	2.165	0.542	0.406	0.625	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request.

STT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List S108 (Continued)

SPIRAL FLUTE | HSS | BR | C/1.5P | 50° | STI | PACKED 1 PIECE

OSG GENERAL PURPOSE-SFT STI



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
10801600	●	3/4 - 10 UNC STI	H3	4.689	1.000	2.653	0.697	0.523	0.750	4
10801700	●	3/4 - 10 UNC STI	H5	4.689	1.000	2.653	0.697	0.523	0.750	4
10801800	●	3/4 - 16 UNF STI	H3	4.469	1.000	2.433	0.652	0.489	0.688	4
10801900	●	3/4 - 16 UNF STI	H4	4.469	1.000	2.433	0.652	0.489	0.688	4
10802000	●	7/8 - 9 UNC STI	H3	5.126	1.110	3.110	0.800	0.600	0.813	4
10802100	●	7/8 - 9 UNC STI	H5	5.126	1.110	3.110	0.800	0.600	0.813	4
10802200	●	7/8 - 14 UNF STI	H3	5.126	1.110	3.110	0.800	0.600	0.813	4
10802300	●	7/8 - 14 UNF STI	H4	5.126	1.110	3.110	0.800	0.600	0.813	4
10802400	●	1 - 8 UNC STI	H4	5.752	1.251	3.075	1.021	0.766	1.000	4
10802500	●	1 - 8 UNC STI	H6	5.752	1.251	3.075	1.021	0.766	1.000	4
10802600	●	1 - 12 UNF STI	H4	5.437	1.251	3.075	0.896	0.672	0.875	4
10802700	●	1 - 12 UNF STI	H6	5.437	1.251	3.075	0.896	0.672	0.875	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request.

STT

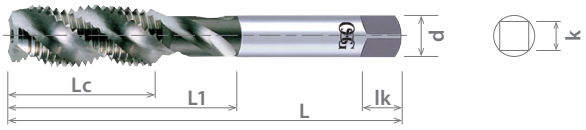
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List S109

OSG GENERAL PURPOSE-SFT STI

SPIRAL FLUTE	HSS	BR	C/2.5P	50°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
10900100	●	M2 x 0.4 STI	D2	46.00	12.70	-	3.58	2.79	4.76	2
10900200	●	M2.5 x 0.45 STI	D2	49.30	4.50	15.90	3.58	2.79	4.76	2
10900300	●	M3 x 0.5 STI	D2	50.80	5.00	17.50	3.58	2.79	4.76	3
10900400	●	M4 x 0.7 STI	D3	60.50	7.00	22.20	4.93	3.86	6.35	3
10900500	●	M5 x 0.8 STI	D3	63.50	8.00	25.40	6.48	4.85	7.94	3
10900600	●	M6 x 1 STI	D3	69.10	10.00	28.60	8.08	6.05	9.53	3
10900700	●	M8 x 1.25 STI	D3	74.70	12.50	31.80	9.68	7.26	11.11	3
10900800	●	M10 x 1.5 STI	D4	85.90	15.00	49.10	9.32	6.99	11.11	3
10900900	●	M12 x 1.75 STI	D4	91.20	17.50	51.00	10.90	8.18	12.70	3
10901000	●	M14 x 2 STI	D5	102.40	20.00	55.00	13.77	10.31	15.88	4
10901100	●	M16 x 2 STI	D5	108.00	20.00	61.80	14.99	11.23	17.46	4
10901200	●	M18 x 2.5 STI	D5	119.10	25.00	67.40	17.70	13.28	19.05	4
10901300	●	M20 x 2.5 STI	D5	124.60	25.00	68.40	19.30	14.48	19.05	4
10901400	●	M22 x 2.5 STI	D5	130.20	25.00	76.50	20.32	15.24	20.64	4
10901500	●	M24 x 3 STI	D6	138.10	30.00	79.10	22.76	17.07	22.23	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request.

STT

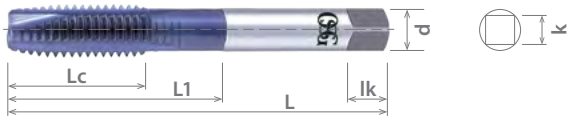
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 314Ti

EXOTAP® VC-10 V-HL-Ti-POT STI

SPIRAL POINT	VC10	V	C/4P	0°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
31440108	●	No. 2 - 56 UNC STI	H2	1.882	0.562	0.601	0.141	0.110	0.188	2
31440208	●	No. 4 - 40 UNC STI	H2	2.000	0.688	-	0.141	0.110	0.188	3
31440308	●	No. 6 - 32 UNC STI	H3	2.382	0.874	1.071	0.194	0.152	0.250	3
31440408	●	No. 8 - 32 UNC STI	H3	2.382	0.933	-	0.220	0.165	0.281	3
31440508	●	No. 10 - 32 UNF STI	H3	2.500	1.000	1.197	0.255	0.191	0.313	3
31440608	●	1/4 - 28 UNF STI	H3	2.720	0.696	1.122	0.318	0.238	0.375	3
31440708	●	5/16 - 24 UNF STI	H3	2.941	0.779	1.251	0.381	0.286	0.438	3
31440808	●	3/8 - 24 UNF STI	H3	3.161	0.874	1.307	0.323	0.242	0.406	3
31440908	●	7/16 - 20 UNF STI	H4	3.382	1.000	1.433	0.367	0.275	0.438	3
31441008	●	1/2 - 20 UNF STI	H4	3.591	1.078	1.551	0.429	0.322	0.500	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

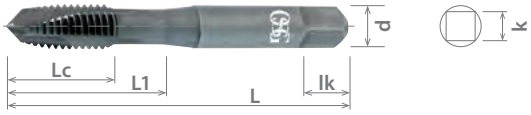
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○				○				○	◎	○	○		
			15-30 SFM				8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 314Ni

EXOTAP® VC-10 V-HL-Ni-POT STI

SPIRAL POINT | VC10 | V | 3 FLUTE | C/4P | 0° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)
31420108	●	No. 2 - 56 UNC STI	H2	1.933	0.562	0.602	0.141	0.110	0.188
31420208	●	No. 4 - 40 UNC STI	H2	2.059	0.688	-	0.141	0.110	0.188
31420308	●	No. 6 - 32 UNC STI	H3	2.457	0.874	1.070	0.194	0.152	0.250
31420408	●	No. 8 - 32 UNC STI	H3	2.461	0.933	-	0.220	0.165	0.281
31420508	●	No. 10 - 32 UNF STI	H3	2.579	1.000	1.196	0.255	0.191	0.313
31420608	●	1/4 - 28 UNF STI	H3	2.815	0.696	1.122	0.318	0.238	0.375
31420708	●	5/16 - 24 UNF STI	H3	3.055	0.779	1.251	0.381	0.286	0.438
31420808	●	3/8 - 24 UNF STI	H3	3.157	0.874	1.307	0.323	0.242	0.406
31420908	●	7/16 - 20 UNF STI	H4	3.374	1.000	1.433	0.367	0.275	0.438
31421008	●	1/2 - 20 UNF STI	H4	3.594	1.078	1.551	0.429	0.322	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

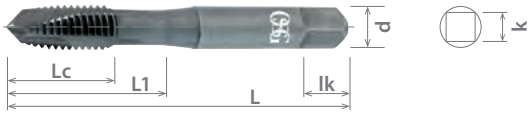
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
							○				◎	○	○	○		
							8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 314

EXOTAP® VC-10 POT STI

SPIRAL POINT | VC10 | S/O | V | C/5P | 0° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1714601	●	No. 2 - 56 UNC STI	H2	1.882	0.299	0.610	0.141	0.110	0.188	2	Steam Oxide
1714608	●	No. 2 - 56 UNC STI	H2	1.882	0.299	0.610	0.141	0.110	0.188	2	V
31400101	●	No. 3 - 48 UNC STI	H2	1.941	0.346	0.681	0.141	0.110	0.188	3	Steam Oxide
31400108	●	No. 3 - 48 UNC STI	H2	1.941	0.346	0.681	0.141	0.110	0.188	3	V
1714701	●	No. 4 - 40 UNC STI	H2	2.000	0.413	0.751	0.141	0.110	0.188	3	Steam Oxide
1714708	●	No. 4 - 40 UNC STI	H2	2.000	0.413	0.751	0.141	0.110	0.188	3	V
31400201	●	No. 4 - 48 UNF STI	H2	2.000	0.413	0.751	0.141	0.110	0.188	3	Steam Oxide
31400208	●	No. 4 - 48 UNF STI	H2	2.000	0.413	0.751	0.141	0.110	0.188	3	V
1714801	●	No. 6 - 32 UNC STI	H2	2.382	0.515	0.952	0.194	0.152	0.250	3	Steam Oxide
1714808	●	No. 6 - 32 UNC STI	H2	2.382	0.515	0.952	0.194	0.152	0.250	3	V
1714901	●	No. 6 - 32 UNC STI	H3	2.382	0.515	0.952	0.194	0.152	0.250	3	Steam Oxide
1714908	●	No. 6 - 32 UNC STI	H3	2.382	0.515	0.952	0.194	0.152	0.250	3	V
31400301	●	No. 6 - 40 UNF STI	H2	2.130	0.515	0.830	0.168	0.131	0.250	3	Steam Oxide
31400308	●	No. 6 - 40 UNF STI	H2	2.130	0.515	0.830	0.168	0.131	0.250	3	V
1715001	●	No. 8 - 32 UNC STI	H2	2.382	0.527	1.027	0.220	0.165	0.281	3	Steam Oxide
1715008	●	No. 8 - 32 UNC STI	H2	2.382	0.527	1.027	0.220	0.165	0.281	3	V
1715101	●	No. 8 - 32 UNC STI	H3	2.382	0.527	1.027	0.220	0.165	0.281	3	Steam Oxide
1715108	●	No. 8 - 32 UNC STI	H3	2.382	0.527	1.027	0.220	0.165	0.281	3	V
31400401	●	No. 8 - 36 UNF STI	H2	2.382	0.527	1.027	0.220	0.165	0.281	3	Steam Oxide
31400408	●	No. 8 - 36 UNF STI	H2	2.382	0.527	1.027	0.220	0.165	0.281	3	V
31400501	●	No. 10 - 24 UNC STI	H2	2.500	0.688	1.106	0.255	0.191	0.313	3	Steam Oxide
31400508	●	No. 10 - 24 UNC STI	H2	2.500	0.688	1.106	0.255	0.191	0.313	3	V
31400601	●	No. 10 - 24 UNC STI	H3	2.500	0.688	1.106	0.255	0.191	0.313	3	Steam Oxide
31400608	●	No. 10 - 24 UNC STI	H3	2.500	0.688	1.106	0.255	0.191	0.313	3	V
1715201	●	No. 10 - 32 UNF STI	H2	2.500	0.688	1.106	0.255	0.191	0.313	3	Steam Oxide
1715208	●	No. 10 - 32 UNF STI	H2	2.500	0.688	1.106	0.255	0.191	0.313	3	V
1715301	●	No. 10 - 32 UNF STI	H3	2.500	0.688	1.106	0.255	0.191	0.313	3	Steam Oxide
1715308	●	No. 10 - 32 UNF STI	H3	2.500	0.688	1.106	0.255	0.191	0.313	3	V
31400701	●	1/4 - 20 UNC STI	H2	2.720	0.842	1.267	0.318	0.238	0.375	3	Steam Oxide
31400708	●	1/4 - 20 UNC STI	H2	2.720	0.842	1.267	0.318	0.238	0.375	3	V
31400801	●	1/4 - 20 UNC STI	H3	2.720	0.842	1.267	0.318	0.238	0.375	3	Steam Oxide
31400808	●	1/4 - 20 UNC STI	H3	2.720	0.842	1.267	0.318	0.238	0.375	3	V
1715401	●	1/4 - 28 UNC STI	H2	2.720	0.838	1.263	0.318	0.238	0.375	3	Steam Oxide
1715408	●	1/4 - 28 UNC STI	H2	2.720	0.838	1.263	0.318	0.238	0.375	3	V
1715501	●	1/4 - 28 UNC STI	H3	2.720	0.838	1.263	0.318	0.238	0.375	3	Steam Oxide
1715508	●	1/4 - 28 UNC STI	H3	2.720	0.838	1.263	0.318	0.238	0.375	3	V
31400901	●	5/16 - 18 UNC STI	H2	2.941	0.956	1.429	0.381	0.286	0.438	3	Steam Oxide
31400908	●	5/16 - 18 UNC STI	H2	2.941	0.956	1.429	0.381	0.286	0.438	3	V
31401001	●	5/16 - 18 UNC STI	H3	2.941	0.956	1.429	0.381	0.286	0.438	3	Steam Oxide
31401008	●	5/16 - 18 UNC STI	H3	2.941	0.956	1.429	0.381	0.286	0.438	3	V
31401101	●	5/16 - 24 UNF STI	H2	2.941	0.952	1.425	0.381	0.286	0.438	3	Steam Oxide
31401108	●	5/16 - 24 UNF STI	H2	2.941	0.952	1.425	0.381	0.286	0.438	3	V
1715601	●	5/16 - 24 UNF STI	H3	2.941	0.952	1.251	0.381	0.286	0.438	3	Steam Oxide
1715608	●	5/16 - 24 UNF STI	H3	2.941	0.952	1.251	0.381	0.286	0.438	3	V
31401201	●	3/8 - 16 UNC STI	H3	3.382	0.874	1.307	0.367	0.275	0.438	3	Steam Oxide
31401208	●	3/8 - 16 UNC STI	H3	3.382	0.874	1.307	0.367	0.275	0.438	3	V
31401301	●	3/8 - 16 UNC STI	H4	3.382	0.874	1.307	0.367	0.275	0.438	3	Steam Oxide
31401308	●	3/8 - 16 UNC STI	H4	3.382	0.874	1.307	0.367	0.275	0.438	3	V
31401401	●	3/8 - 24 UNF STI	H2	3.382	0.874	1.307	0.323	0.242	0.406	3	Steam Oxide
31401408	●	3/8 - 24 UNF STI	H2	3.382	0.874	1.307	0.323	0.242	0.406	3	V
31401501	●	3/8 - 24 UNF STI	H3	3.382	0.874	1.307	0.323	0.242	0.406	3	Steam Oxide
31401508	●	3/8 - 24 UNF STI	H3	3.382	0.874	1.307	0.323	0.242	0.406	3	V
31401601	●	7/16 - 14 UNC STI	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 314 (Continued)

EXOTAP® VC-10 POT STI

SPIRAL POINT	VC10	S/0	V	C/5P	0°	STI	PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
31401608	●	7/16 - 14 UNC STI	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	V
31401701	●	7/16 - 14 UNC STI	H4	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide
31401708	●	7/16 - 14 UNC STI	H4	3.594	1.000	1.472	0.429	0.322	0.500	3	V
31401801	●	7/16 - 20 UNF STI	H3	3.382	1.000	1.433	0.367	0.275	0.438	3	Steam Oxide
31401808	●	7/16 - 20 UNF STI	H3	3.382	1.000	1.433	0.367	0.275	0.438	3	V
31401901	●	7/16 - 20 UNF STI	H4	3.382	1.000	1.433	0.367	0.275	0.438	3	Steam Oxide
31401908	●	7/16 - 20 UNF STI	H4	3.382	1.000	1.433	0.367	0.275	0.438	3	V
31402001	●	1/2 - 13 UNC STI	H3	3.811	1.078	1.551	0.480	0.360	0.563	3	Steam Oxide
31402008	●	1/2 - 13 UNC STI	H3	3.811	1.078	1.551	0.480	0.360	0.563	3	V
31402101	●	1/2 - 13 UNC STI	H4	3.811	1.078	1.551	0.480	0.360	0.563	3	Steam Oxide
31402108	●	1/2 - 13 UNC STI	H4	3.811	1.078	1.551	0.480	0.360	0.563	3	V
31402201	●	1/2 - 20 UNF STI	H3	3.591	1.078	1.551	0.429	0.322	0.500	3	Steam Oxide
31402208	●	1/2 - 20 UNF STI	H3	3.591	1.078	1.551	0.429	0.322	0.500	3	V
31402301	●	1/2 - 20 UNF STI	H4	3.591	1.078	1.551	0.429	0.322	0.500	3	Steam Oxide
31402308	●	1/2 - 20 UNF STI	H4	3.591	1.078	1.551	0.429	0.322	0.500	3	V
31402401	●	9/16 - 12 UNC STI	H3	4.031	1.165	1.677	0.542	0.406	0.625	4	Steam Oxide
31402408	●	9/16 - 12 UNC STI	H3	4.031	1.165	1.677	0.542	0.406	0.625	4	V
31402501	●	9/16 - 12 UNC STI	H4	4.031	1.165	1.677	0.542	0.406	0.625	4	Steam Oxide
31402508	●	9/16 - 12 UNC STI	H4	4.031	1.165	1.677	0.542	0.406	0.625	4	V
31402601	●	9/16 - 18 UNF STI	H3	3.811	1.165	1.677	0.480	0.360	0.563	4	Steam Oxide
31402608	●	9/16 - 18 UNF STI	H3	3.811	1.165	1.677	0.480	0.360	0.563	4	V
31402701	●	9/16 - 18 UNF STI	H4	3.811	1.165	1.677	0.480	0.360	0.563	4	Steam Oxide
31402708	●	9/16 - 18 UNF STI	H4	3.811	1.165	1.677	0.480	0.360	0.563	4	V
31402801	●	5/8 - 11 UNC STI	H3	4.252	1.271	1.822	0.590	0.442	0.688	4	Steam Oxide
31402808	●	5/8 - 11 UNC STI	H3	4.252	1.271	1.822	0.590	0.442	0.688	4	V
31402901	●	5/8 - 11 UNC STI	H4	4.252	1.271	1.822	0.590	0.442	0.688	4	Steam Oxide
31402908	●	5/8 - 11 UNC STI	H4	4.252	1.271	1.822	0.590	0.442	0.688	4	V
31403001	●	5/8 - 18 UNF STI	H3	4.031	1.271	1.783	0.542	0.406	0.625	4	Steam Oxide
31403008	●	5/8 - 18 UNF STI	H3	4.031	1.271	1.783	0.542	0.406	0.625	4	V
31403101	●	5/8 - 18 UNF STI	H4	4.031	1.271	1.783	0.542	0.406	0.625	4	Steam Oxide
31403108	●	5/8 - 18 UNF STI	H4	4.031	1.271	1.783	0.542	0.406	0.625	4	V
31403201	●	3/4 - 10 UNC STI	H3	4.689	1.401	1.992	0.697	0.523	0.750	4	Steam Oxide
31403208	●	3/4 - 10 UNC STI	H3	4.689	1.401	1.992	0.697	0.523	0.750	4	V
31403301	●	3/4 - 10 UNC STI	H5	4.689	1.401	1.992	0.697	0.523	0.750	4	Steam Oxide
31403308	●	3/4 - 10 UNC STI	H5	4.689	1.401	1.992	0.697	0.523	0.750	4	V
31403401	●	3/4 - 16 UNF STI	H3	4.469	1.401	1.952	0.652	0.489	0.688	4	Steam Oxide
31403408	●	3/4 - 16 UNF STI	H3	4.469	1.401	1.952	0.652	0.489	0.688	4	V
31403501	●	3/4 - 16 UNF STI	H4	4.469	1.401	1.952	0.652	0.489	0.688	4	Steam Oxide
31403508	●	3/4 - 16 UNF STI	H4	4.469	1.401	1.952	0.652	0.489	0.688	4	V
31403601	●	7/8 - 9 UNC STI	H3	5.126	1.555	2.145	0.800	0.600	0.813	4	Steam Oxide
31403608	●	7/8 - 9 UNC STI	H3	5.126	1.555	2.145	0.800	0.600	0.813	4	V
31403701	●	7/8 - 9 UNC STI	H5	5.126	1.555	2.145	0.800	0.600	0.813	4	Steam Oxide
31403708	●	7/8 - 9 UNC STI	H5	5.126	1.555	2.145	0.800	0.600	0.813	4	V
31403801	●	7/8 - 14 UNF STI	H3	5.126	1.555	2.145	0.800	0.600	0.813	4	Steam Oxide
31403808	●	7/8 - 14 UNF STI	H3	5.126	1.555	2.145	0.800	0.600	0.813	4	V
31403901	●	7/8 - 14 UNF STI	H4	5.126	1.555	2.145	0.800	0.600	0.813	4	Steam Oxide
31403908	●	7/8 - 14 UNF STI	H4	5.126	1.555	2.145	0.800	0.600	0.813	4	V
31404001	●	1 - 8 UNC STI	H4	5.752	1.751	2.381	1.021	0.766	1.000	4	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

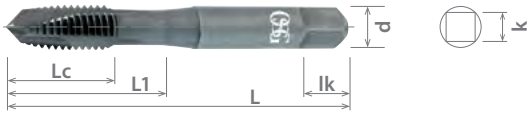
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 314 (Continued)

EXOTAP® VC-10 POT STI

SPIRAL POINT | VC10 | S/O | V | C/5P | 0° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
31404008	●	1 - 8 UNC STI	H4	5.752	1.751	2.381	1.021	0.766	1.000	4	V
31404101	●	1 - 8 UNC STI	H6	5.752	1.751	2.381	1.021	0.766	1.000	4	Steam Oxide
31404108	●	1 - 8 UNC STI	H6	5.752	1.751	2.381	1.021	0.766	1.000	4	V
31404201	●	1 - 12 UNF STI	H4	5.441	1.751	2.381	0.896	0.672	0.875	4	Steam Oxide
31404208	●	1 - 12 UNF STI	H4	5.441	1.751	2.381	0.896	0.672	0.875	4	V
31404301	●	1 - 12 UNF STI	H6	5.441	1.751	2.381	0.896	0.672	0.875	4	Steam Oxide
31404308	●	1 - 12 UNF STI	H6	5.441	1.751	2.381	0.896	0.672	0.875	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

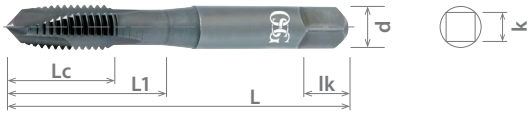
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 344STI

EXOTAP® VC-10 POT STI

SPIRAL POINT	VC10	S/O	V	C/5P	0°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
34400101	●	M2 x 0.4 STI	D2	48.59	12.65	-	3.58	2.79	4.76	2	Steam Oxide
34400108	●	M2 x 0.4 STI	D2	48.59	12.65	-	3.58	2.79	4.76	2	V
34400201	●	M2.5 x 0.45 STI	D2	49.30	6.30	15.90	3.58	2.79	4.76	2	Steam Oxide
34400208	●	M2.5 x 0.45 STI	D2	49.30	6.30	15.90	3.58	2.79	4.76	2	V
34400301	●	M3 x 0.5 STI	D2	50.80	7.21	17.70	3.58	2.79	4.76	3	Steam Oxide
34400308	●	M3 x 0.5 STI	D2	50.80	7.21	17.70	3.58	2.79	4.76	3	V
34400401	●	M4 x 0.7 STI	D3	60.50	9.93	22.35	4.93	3.86	6.35	3	Steam Oxide
34400408	●	M4 x 0.7 STI	D3	60.50	9.93	22.35	4.93	3.86	6.35	3	V
34400501	●	M5 x 0.8 STI	D3	63.50	11.38	25.58	6.48	4.85	7.94	3	Steam Oxide
34400508	●	M5 x 0.8 STI	D3	63.50	11.38	25.58	6.48	4.85	7.94	3	V
34400601	●	M6 x 1 STI	D3	69.09	14.22	28.83	8.08	6.05	9.53	3	Steam Oxide
34400608	●	M6 x 1 STI	D3	69.09	14.22	28.83	8.08	6.05	9.53	3	V
34400701	●	M8 x 1.25 STI	D3	74.70	17.91	32.00	9.68	7.26	11.11	3	Steam Oxide
34400708	●	M8 x 1.25 STI	D3	74.70	17.91	32.00	9.68	7.26	11.11	3	V
34400801	●	M10 x 1.5 STI	D4	85.90	21.01	32.00	9.32	6.99	11.11	3	Steam Oxide
34400808	●	M10 x 1.5 STI	D4	85.90	21.01	32.00	9.32	6.99	11.11	3	V
34400901	●	M12 x 1.75 STI	D4	91.21	24.51	36.50	10.90	8.18	12.70	3	Steam Oxide
34400908	●	M12 x 1.75 STI	D4	91.21	24.51	36.50	10.90	8.18	12.70	3	V
34401001	●	M14 x 2 STI	D5	102.39	27.99	41.00	13.77	10.31	15.88	4	Steam Oxide
34401008	●	M14 x 2 STI	D5	102.39	27.99	41.00	13.77	10.31	15.88	4	V
34401101	●	M16 x 2 STI	D5	108.00	27.99	42.01	14.99	11.23	17.46	4	Steam Oxide
34401108	●	M16 x 2 STI	D5	108.00	27.99	42.01	14.99	11.23	17.46	4	V
34401201	●	M18 x 2.5 STI	D5	119.10	35.00	49.00	17.70	13.28	19.05	4	Steam Oxide
34401208	●	M18 x 2.5 STI	D5	119.10	35.00	49.00	17.70	13.28	19.05	4	V
34401301	●	M20 x 2.5 STI	D5	124.61	35.00	50.01	19.30	14.48	19.05	4	Steam Oxide
34401308	●	M20 x 2.5 STI	D5	124.61	35.00	50.01	19.30	14.48	19.05	4	V
34401401	●	M22 x 2.5 STI	D5	130.20	35.00	50.01	20.32	15.24	20.64	4	Steam Oxide
34401408	●	M22 x 2.5 STI	D5	130.20	35.00	50.01	20.32	15.24	20.64	4	V
34401501	●	M24 x 3 STI	D6	138.10	42.01	57.99	22.76	17.07	22.23	4	Steam Oxide
34401508	●	M24 x 3 STI	D6	138.10	42.01	57.99	22.76	17.07	22.23	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			◎	○		○	◎				○	○	◎	○		
			15-30 SFM	10-25 SFM		12-45 SFM	8-20 SFM				8-15 SFM	8-15 SFM	15-35 SFM	10-20 SFM		

○ Good ◎ Best

List 301

EXOTAP® VA-3 POT STI

SPIRAL POINT | HSSE | S/O | V | C/4P | 0° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1712401	●	No. 2 - 56 UNC STI	H2	1.882	0.259	0.570	0.141	0.110	0.188	2	Steam Oxide
1712408	●	No. 2 - 56 UNC STI	H2	1.882	0.259	0.570	0.141	0.110	0.188	2	V
30100101	●	No. 3 - 48 UNC STI	H2	1.941	0.307	0.633	0.141	0.110	0.188	2	Steam Oxide
30100108	●	No. 3 - 48 UNC STI	H2	1.941	0.307	0.633	0.141	0.110	0.188	2	V
1712501	●	No. 4 - 40 UNC STI	H2	2.000	0.362	0.700	0.141	0.110	0.188	2	Steam Oxide
1712508	●	No. 4 - 40 UNC STI	H2	2.000	0.362	0.700	0.141	0.110	0.188	2	V
30100201	●	No. 4 - 48 UNF STI	H2	2.000	0.362	0.700	0.141	0.110	0.188	2	Steam Oxide
30100208	●	No. 4 - 48 UNF STI	H2	2.000	0.362	0.700	0.141	0.110	0.188	2	V
1712601	●	No. 6 - 32 UNC STI	H2	2.382	0.440	0.877	0.194	0.152	0.250	3	Steam Oxide
1712608	●	No. 6 - 32 UNC STI	H2	2.382	0.440	0.877	0.194	0.152	0.250	3	V
1712701	●	No. 6 - 32 UNC STI	H3	2.382	0.440	0.877	0.194	0.152	0.250	3	Steam Oxide
1712708	●	No. 6 - 32 UNC STI	H3	2.382	0.440	0.877	0.194	0.152	0.250	3	V
30100301	●	No. 6 - 40 UNF STI	H3	2.130	0.381	0.759	0.168	0.131	0.250	3	Steam Oxide
30100308	●	No. 6 - 40 UNF STI	H3	2.130	0.381	0.759	0.168	0.131	0.250	3	V
1712801	●	No. 8 - 32 UNC STI	H2	2.382	0.440	0.940	0.220	0.165	0.281	3	Steam Oxide
1712808	●	No. 8 - 32 UNC STI	H2	2.382	0.440	0.940	0.220	0.165	0.281	3	V
1712901	●	No. 8 - 32 UNC STI	H3	2.382	0.440	0.940	0.220	0.165	0.281	3	Steam Oxide
1712908	●	No. 8 - 32 UNC STI	H3	2.382	0.440	0.940	0.220	0.165	0.281	3	V
30100401	●	No. 8 - 36 UNF STI	H2	2.382	0.440	0.940	0.220	0.165	0.281	3	Steam Oxide
30100408	●	No. 8 - 36 UNF STI	H2	2.382	0.440	0.940	0.220	0.165	0.281	3	V
30100501	●	No. 10 - 24 UNC STI	H2	2.500	0.590	1.007	0.255	0.191	0.313	3	Steam Oxide
30100508	●	No. 10 - 24 UNC STI	H2	2.500	0.590	1.007	0.255	0.191	0.313	3	V
30100601	●	No. 10 - 24 UNC STI	H3	2.500	0.590	1.007	0.255	0.191	0.313	3	Steam Oxide
30100608	●	No. 10 - 24 UNC STI	H3	2.500	0.590	1.007	0.255	0.191	0.313	3	V
1713001	●	No. 10 - 32 UNF STI	H2	2.500	0.590	1.007	0.255	0.191	0.313	3	Steam Oxide
1713008	●	No. 10 - 32 UNF STI	H2	2.500	0.590	1.007	0.255	0.191	0.313	3	V
1713101	●	No. 10 - 32 UNF STI	H3	2.500	0.590	1.007	0.255	0.191	0.313	3	Steam Oxide
1713108	●	No. 10 - 32 UNF STI	H3	2.500	0.590	1.007	0.255	0.191	0.313	3	V
30100701	●	1/4 - 20 UNC STI	H2	2.720	0.708	1.133	0.318	0.238	0.375	3	Steam Oxide
30100708	●	1/4 - 20 UNC STI	H2	2.720	0.708	1.133	0.318	0.238	0.375	3	V
30100801	●	1/4 - 20 UNC STI	H3	2.720	0.708	1.133	0.318	0.238	0.375	3	Steam Oxide
30100808	●	1/4 - 20 UNC STI	H3	2.720	0.708	1.133	0.318	0.238	0.375	3	V
1713201	●	1/4 - 28 UNF STI	H2	2.720	0.708	1.133	0.318	0.238	0.375	3	Steam Oxide
1713208	●	1/4 - 28 UNF STI	H2	2.720	0.708	1.133	0.318	0.238	0.375	3	V
1713301	●	1/4 - 28 UNF STI	H3	2.720	0.708	1.133	0.318	0.238	0.375	3	Steam Oxide
1713308	●	1/4 - 28 UNF STI	H3	2.720	0.708	1.133	0.318	0.238	0.375	3	V
30100901	●	5/16 - 18 UNC STI	H3	2.941	0.791	1.263	0.381	0.286	0.438	3	Steam Oxide
30100908	●	5/16 - 18 UNC STI	H3	2.941	0.791	1.263	0.381	0.286	0.438	3	V
30101101	●	5/16 - 18 UNC STI	H4	2.941	0.791	1.263	0.381	0.286	0.438	3	Steam Oxide
30101108	●	5/16 - 18 UNC STI	H4	2.941	0.791	1.263	0.381	0.286	0.438	3	V
30101201	●	5/16 - 24 UNF STI	H2	2.941	0.791	1.263	0.381	0.286	0.438	3	Steam Oxide
30101208	●	5/16 - 24 UNF STI	H2	2.941	0.791	1.263	0.381	0.286	0.438	3	V
1713401	●	5/16 - 24 UNF STI	H3	2.941	0.791	1.263	0.381	0.286	0.438	3	Steam Oxide
1713408	●	5/16 - 24 UNF STI	H3	2.941	0.791	1.263	0.381	0.286	0.438	3	V
30101301	●	3/8 - 16 UNC STI	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
30101308	●	3/8 - 16 UNC STI	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	V
30101401	●	3/8 - 16 UNC STI	H4	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
30101408	●	3/8 - 16 UNC STI	H4	3.374	0.921	1.354	0.367	0.275	0.438	3	V
30101501	●	3/8 - 24 UNF STI	H2	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
30101508	●	3/8 - 24 UNF STI	H2	3.157	0.858	1.291	0.323	0.242	0.406	3	V
30101601	●	3/8 - 24 UNF STI	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	Steam Oxide
30101608	●	3/8 - 24 UNF STI	H3	3.157	0.858	1.291	0.323	0.242	0.406	3	V
30101701	●	7/16 - 14 UNC STI	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

List 301 (Continued)

EXOTAP® VA-3 POT STI

SPIRAL POINT | HSSE | S/O | V | C/4P | 0° | STI | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
30101708	●	7/16 - 14 UNC STI	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	V
30101801	●	7/16 - 14 UNC STI	H4	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide
30101808	●	7/16 - 14 UNC STI	H4	3.594	1.000	1.472	0.429	0.322	0.500	3	V
30101901	●	7/16 - 20 UNF STI	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
30101908	●	7/16 - 20 UNF STI	H3	3.374	0.921	1.354	0.367	0.275	0.438	3	V
30102101	●	7/16 - 20 UNF STI	H4	3.374	0.921	1.354	0.367	0.275	0.438	3	Steam Oxide
30102108	●	7/16 - 20 UNF STI	H4	3.374	0.921	1.354	0.367	0.275	0.438	3	V
30102201	●	1/2 - 13 UNC STI	H3	3.811	1.090	1.562	0.480	0.360	0.563	3	Steam Oxide
30102208	●	1/2 - 13 UNC STI	H3	3.811	1.090	1.562	0.480	0.360	0.563	3	V
30102301	●	1/2 - 13 UNC STI	H4	3.811	1.090	1.562	0.480	0.360	0.563	3	Steam Oxide
30102308	●	1/2 - 13 UNC STI	H4	3.811	1.090	1.562	0.480	0.360	0.563	3	V
30102401	●	1/2 - 20 UNF STI	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide
30102408	●	1/2 - 20 UNF STI	H3	3.594	1.000	1.472	0.429	0.322	0.500	3	V
30102501	●	1/2 - 20 UNF STI	H4	3.594	1.000	1.472	0.429	0.322	0.500	3	Steam Oxide
30102508	●	1/2 - 20 UNF STI	H4	3.594	1.000	1.472	0.429	0.322	0.500	3	V
30102601	●	9/16 - 12 UNC STI	H3	4.031	1.200	1.712	0.542	0.406	0.625	3	Steam Oxide
30102608	●	9/16 - 12 UNC STI	H3	4.031	1.200	1.712	0.542	0.406	0.625	3	V
30102701	●	9/16 - 12 UNC STI	H4	4.031	1.200	1.712	0.542	0.406	0.625	3	Steam Oxide
30102708	●	9/16 - 12 UNC STI	H4	4.031	1.200	1.712	0.542	0.406	0.625	3	V
30102801	●	9/16 - 18 UNF STI	H3	3.811	1.090	1.562	0.480	0.360	0.563	3	Steam Oxide
30102808	●	9/16 - 18 UNF STI	H3	3.811	1.090	1.562	0.480	0.360	0.563	3	V
30102901	●	9/16 - 18 UNF STI	H4	3.811	1.090	1.562	0.480	0.360	0.563	3	Steam Oxide
30102908	●	9/16 - 18 UNF STI	H4	3.811	1.090	1.562	0.480	0.360	0.563	3	V
30103101	●	5/8 - 11 UNC STI	H3	4.252	1.200	1.712	0.590	0.442	0.688	3	Steam Oxide
30103108	●	5/8 - 11 UNC STI	H3	4.252	1.200	1.712	0.590	0.442	0.688	3	V
30103201	●	5/8 - 11 UNC STI	H4	4.252	1.200	1.712	0.590	0.442	0.688	3	Steam Oxide
30103208	●	5/8 - 11 UNC STI	H4	4.252	1.200	1.712	0.590	0.442	0.688	3	V
30103301	●	5/8 - 18 UNF STI	H3	4.031	1.200	1.712	0.542	0.406	0.625	3	Steam Oxide
30103308	●	5/8 - 18 UNF STI	H3	4.031	1.200	1.712	0.542	0.406	0.625	3	V
30103401	●	5/8 - 18 UNF STI	H4	4.031	1.200	1.712	0.542	0.406	0.625	3	Steam Oxide
30103408	●	5/8 - 18 UNF STI	H4	4.031	1.200	1.712	0.542	0.406	0.625	3	V
30103501	●	3/4 - 10 UNC STI	H3	4.689	1.334	1.885	0.697	0.523	0.750	3	Steam Oxide
30103508	●	3/4 - 10 UNC STI	H3	4.689	1.334	1.885	0.697	0.523	0.750	3	V
30103601	●	3/4 - 10 UNC STI	H5	4.689	1.334	1.885	0.697	0.523	0.750	3	Steam Oxide
30103608	●	3/4 - 10 UNC STI	H5	4.689	1.334	1.885	0.697	0.523	0.750	3	V
30103701	●	3/4 - 16 UNF STI	H3	4.469	1.334	1.885	0.652	0.489	0.688	3	Steam Oxide
30103708	●	3/4 - 16 UNF STI	H3	4.469	1.334	1.885	0.652	0.489	0.688	3	V
30103801	●	3/4 - 16 UNF STI	H4	4.469	1.334	1.885	0.652	0.489	0.688	3	Steam Oxide
30103808	●	3/4 - 16 UNF STI	H4	4.469	1.334	1.885	0.652	0.489	0.688	3	V
30103901	●	7/8 - 9 UNC STI	H3	5.126	1.500	2.090	0.800	0.600	0.813	3	Steam Oxide
30103908	●	7/8 - 9 UNC STI	H3	5.126	1.500	2.090	0.800	0.600	0.813	3	V
30104101	●	7/8 - 9 UNC STI	H5	5.126	1.500	2.090	0.800	0.600	0.813	3	Steam Oxide
30104108	●	7/8 - 9 UNC STI	H5	5.126	1.500	2.090	0.800	0.600	0.813	3	V
30104201	●	7/8 - 14 UNF STI	H3	5.126	1.500	2.090	0.800	0.600	0.813	3	Steam Oxide
30104208	●	7/8 - 14 UNF STI	H3	5.126	1.500	2.090	0.800	0.600	0.813	3	V
30104301	●	7/8 - 14 UNF STI	H4	5.126	1.500	2.090	0.800	0.600	0.813	3	Steam Oxide
30104308	●	7/8 - 14 UNF STI	H4	5.126	1.500	2.090	0.800	0.600	0.813	3	V
30104401	●	1 - 8 UNC STI	H4	5.752	1.712	2.381	1.021	0.766	1.000	3	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 301 (Continued)

EXOTAP® VA-3 POT STI

SPIRAL POINT	HSSE	S/O	V	C/4P	0°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
30104408	●	1 - 8 UNC STI	H4	5.752	1.712	2.381	1.021	0.766	1.000	3	V
30104501	●	1 - 8 UNC STI	H6	5.752	1.712	2.381	1.021	0.766	1.000	3	Steam Oxide
30104508	●	1 - 8 UNC STI	H6	5.752	1.712	2.381	1.021	0.766	1.000	3	V
30104601	●	1 - 12 UNF STI	H4	5.437	1.712	2.303	0.896	0.672	0.875	3	Steam Oxide
30104608	●	1 - 12 UNF STI	H4	5.437	1.712	2.303	0.896	0.672	0.875	3	V
30104701	●	1 - 12 UNF STI	H6	5.437	1.712	2.303	0.896	0.672	0.875	3	Steam Oxide
30104708	●	1 - 12 UNF STI	H6	5.437	1.712	2.303	0.896	0.672	0.875	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

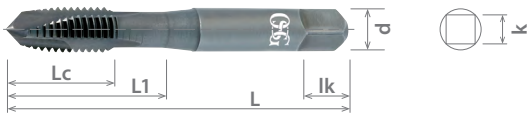
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

List 342STI

EXOTAP® VA-3 POT STI

SPIRAL POINT | HSSE | S/O | V | C/4P | 0° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes	Surface Treatment
34200101	●	M2 x 0.4 STI	D2	46.00	6.40	13.10	3.58	2.79	4.76	2	Steam Oxide
34200108	●	M2 x 0.4 STI	D2	46.00	6.40	13.10	3.58	2.79	4.76	2	V
34200201	●	M2.5 x 0.45 STI	D2	49.30	7.60	15.90	3.58	2.79	4.76	2	Steam Oxide
34200208	●	M2.5 x 0.45 STI	D2	49.30	7.60	15.90	3.58	2.79	4.76	2	V
34200301	●	M3 x 0.5 STI	D2	50.80	9.50	17.50	3.58	2.79	4.76	3	Steam Oxide
34200308	●	M3 x 0.5 STI	D2	50.80	9.50	17.50	3.58	2.79	4.76	3	V
34200401	●	M4 x 0.7 STI	D3	60.50	12.70	22.20	4.93	3.86	6.35	3	Steam Oxide
34200408	●	M4 x 0.7 STI	D3	60.50	12.70	22.20	4.93	3.86	6.35	3	V
34200501	●	M5 x 0.8 STI	D3	63.50	15.20	25.40	6.48	4.85	7.94	3	Steam Oxide
34200508	●	M5 x 0.8 STI	D3	63.50	15.20	25.40	6.48	4.85	7.94	3	V
34200601	●	M6 x 1 STI	D3	69.10	16.90	28.60	8.08	6.05	9.53	3	Steam Oxide
34200608	●	M6 x 1 STI	D3	69.10	16.90	28.60	8.08	6.05	9.53	3	V
34200701	●	M8 x 1.25 STI	D3	74.70	19.20	31.90	9.68	7.26	11.11	3	Steam Oxide
34200708	●	M8 x 1.25 STI	D3	74.70	19.20	31.90	9.68	7.26	11.11	3	V
34200801	●	M10 x 1.5 STI	D4	85.90	23.40	34.40	9.32	6.99	11.11	3	Steam Oxide
34200808	●	M10 x 1.5 STI	D4	85.90	23.40	34.40	9.32	6.99	11.11	3	V
34200901	●	M12 x 1.75 STI	D4	91.20	25.40	37.40	10.90	8.18	12.70	3	Steam Oxide
34200908	●	M12 x 1.75 STI	D4	91.20	25.40	37.40	10.90	8.18	12.70	3	V
34201001	●	M14 x 2 STI	D5	102.40	27.70	40.70	13.77	10.31	15.88	3	Steam Oxide
34201008	●	M14 x 2 STI	D5	102.40	27.70	40.70	13.77	10.31	15.88	3	V
34201101	●	M16 x 2 STI	D5	108.00	30.50	43.50	14.99	11.23	17.46	3	Steam Oxide
34201108	●	M16 x 2 STI	D5	108.00	30.50	43.50	14.99	11.23	17.46	3	V
34201201	●	M18 x 2.5 STI	D5	119.10	33.90	47.90	17.70	13.28	19.05	3	Steam Oxide
34201208	●	M18 x 2.5 STI	D5	119.10	33.90	47.90	17.70	13.28	19.05	3	V
34201301	●	M20 x 2.5 STI	D5	124.60	33.90	47.90	19.30	14.48	19.05	3	Steam Oxide
34201308	●	M20 x 2.5 STI	D5	124.60	33.90	47.90	19.30	14.48	19.05	3	V
34201401	●	M22 x 2.5 STI	D5	130.20	38.10	53.10	20.32	15.24	20.64	3	Steam Oxide
34201408	●	M22 x 2.5 STI	D5	130.20	38.10	53.10	20.32	15.24	20.64	3	V
34201501	●	M24 x 3 STI	D6	138.10	43.50	58.50	22.76	17.07	22.23	4	Steam Oxide
34201508	●	M24 x 3 STI	D6	138.10	43.50	58.50	22.76	17.07	22.23	4	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	○	○			◎	◎	○									
25-80 SFM	20-50 SFM	20-45 SFM			20-45 SFM	20-45 SFM	8-20 SFM									

○ Good ◎ Best

HY-PRO® AL

High Performance Spiral Flute Tap for Aluminum

List 11036

HY-PRO® AL-POT STI

SPIRAL POINT	HSSE	BR	V	C/4P	0°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1103600100	●	No. 2 - 56 UNC STI	H2	1.88	0.30	0.56	0.14	0.11	0.19	2	Bright
1103600108	●	No. 2 - 56 UNC STI	H2	1.88	0.30	0.56	0.14	0.11	0.19	2	V
1103600200	●	No. 4 - 40 UNC STI	H2	2.00	0.37	0.68	0.14	0.11	0.19	2	Bright
1103600208	●	No. 4 - 40 UNC STI	H2	2.00	0.37	0.68	0.14	0.11	0.19	2	V
1103600300	●	No. 6 - 32 UNC STI	H2	2.38	0.49	0.87	0.19	0.15	0.25	3	Bright
1103600308	●	No. 6 - 32 UNC STI	H2	2.38	0.49	0.87	0.19	0.15	0.25	3	V
1103600400	●	No. 8 - 32 UNC STI	H3	2.38	0.50	0.94	0.22	0.17	0.28	3	Bright
1103600408	●	No. 8 - 32 UNC STI	H3	2.38	0.50	0.94	0.22	0.17	0.28	3	V
1103600500	●	No. 10 - 32 UNF STI	H3	2.50	0.60	1.00	0.26	0.19	0.31	3	Bright
1103600508	●	No. 10 - 32 UNF STI	H3	2.50	0.60	1.00	0.26	0.19	0.31	3	V
1103600600	●	1/4 - 20 UNC STI	H3	2.72	0.67	1.13	0.32	0.24	0.38	3	Bright
1103600608	●	1/4 - 20 UNC STI	H3	2.72	0.67	1.13	0.32	0.24	0.38	3	V
1103600700	●	1/4 - 28 UNF STI	H3	2.72	0.67	1.13	0.32	0.24	0.38	3	Bright
1103600708	●	1/4 - 28 UNF STI	H3	2.72	0.67	1.13	0.32	0.24	0.38	3	V
1103600800	●	5/16 - 18 UNC STI	H3	2.94	0.42	1.24	0.38	0.29	0.44	3	Bright
1103600808	●	5/16 - 18 UNC STI	H3	2.94	0.42	1.24	0.38	0.29	0.44	3	V
1103600900	●	5/16 - 24 UNF STI	H3	2.94	0.75	1.24	0.38	0.29	0.44	3	Bright
1103600908	●	5/16 - 24 UNF STI	H3	2.94	0.75	1.24	0.38	0.29	0.44	3	V
1103601000	●	3/8 - 16 UNC STI	H3	3.38	0.92	1.35	0.37	0.28	0.44	3	Bright
1103601008	●	3/8 - 16 UNC STI	H3	3.38	0.92	1.35	0.37	0.28	0.44	3	V
1103601100	●	3/8 - 24 UNF STI	H3	3.16	0.86	1.29	0.32	0.24	0.41	3	Bright
1103601108	●	3/8 - 24 UNF STI	H3	3.16	0.86	1.29	0.32	0.24	0.41	3	V
1103601200	●	7/16 - 20 UNF STI	H4	3.38	0.92	1.35	0.37	0.28	0.44	3	Bright
1103601208	●	7/16 - 20 UNF STI	H4	3.38	0.92	1.35	0.37	0.28	0.44	3	V
1103601300	●	1/2 - 20 UNF STI	H4	3.59	1.00	1.47	0.43	0.32	0.50	3	Bright
1103601308	●	1/2 - 20 UNF STI	H4	3.59	1.00	1.47	0.43	0.32	0.50	3	V

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

HYT

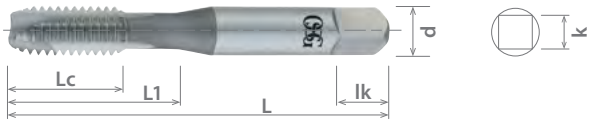
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 125

OSG GENERAL PURPOSE-POT STI

SPIRAL POINT	HSS	BR	C/4P	0°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
7002600	●	No. 2 - 56 UNC STI	H2	1.882	0.322	0.559	0.141	0.110	0.188	2	Bright
7003200	●	No. 3 - 48 UNC STI	H2	1.941	0.322	0.618	0.141	0.110	0.188	2	Bright
1820400	●	No. 4 - 40 UNC STI	H1	2.000	0.389	0.688	0.141	0.110	0.188	2	Bright
1824000	●	No. 4 - 40 UNC STI	H2	2.000	0.389	0.688	0.141	0.110	0.188	2	Bright
7004400	●	No. 4 - 48 UNF STI	H2	2.000	0.389	0.688	0.141	0.110	0.188	2	Bright
7005000	●	No. 5 - 40 UNC STI	H2	2.130	0.389	0.755	0.168	0.131	0.250	2	Bright
1824800	●	No. 6 - 32 UNC STI	H2	2.382	0.507	0.877	0.194	0.152	0.250	2	Bright
1830400	●	No. 6 - 32 UNC STI	H3	2.382	0.507	0.877	0.194	0.152	0.250	2	Bright
7007100	●	No. 6 - 40 UNF STI	H2	2.130	0.393	0.759	0.168	0.131	0.250	2	Bright
1825200	●	No. 8 - 32 UNC STI	H2	2.382	0.511	0.940	0.220	0.165	0.281	2	Bright
1830800	●	No. 8 - 32 UNC STI	H3	2.382	0.511	0.940	0.220	0.165	0.281	2	Bright
7008600	●	No. 8 - 36 UNF STI	H2	2.382	0.511	0.940	0.220	0.165	0.281	2	Bright
1825600	●	No. 10 - 24 UNC STI	H2	2.500	0.641	1.007	0.255	0.191	0.313	2	Bright
7009800	●	No. 10 - 24 UNC STI	H3	2.500	0.641	1.007	0.255	0.191	0.313	2	Bright
1825800	●	No. 10 - 32 UNF STI	H2	2.500	0.641	1.007	0.255	0.191	0.313	2	Bright
7010700	●	No. 10 - 32 UNF STI	H3	2.500	0.641	1.007	0.255	0.191	0.313	2	Bright
1826400	●	1/4 - 20 UNC STI	H2	2.720	0.700	1.129	0.318	0.238	0.375	3	Bright
1832000	●	1/4 - 20 UNC STI	H3	2.720	0.700	1.129	0.318	0.238	0.375	3	Bright
1826600	●	1/4 - 28 UNF STI	H2	2.720	0.700	1.129	0.318	0.238	0.375	3	Bright
1832200	●	1/4 - 28 UNF STI	H3	2.720	0.700	1.129	0.318	0.238	0.375	3	Bright
7014700	●	5/16 - 18 UNC STI	H3	2.941	0.763	1.251	0.381	0.286	0.438	3	Bright
7015300	●	5/16 - 18 UNC STI	H4	2.941	0.763	1.251	0.381	0.286	0.438	3	Bright
7015900	●	5/16 - 24 UNF STI	H2	2.941	0.763	1.251	0.381	0.286	0.438	3	Bright
7016200	●	5/16 - 24 UNF STI	H3	2.941	0.763	1.251	0.381	0.286	0.438	3	Bright
7017100	●	3/8 - 16 UNC STI	H3	3.382	0.940	1.374	0.367	0.275	0.438	3	Bright
7017400	●	3/8 - 16 UNC STI	H4	3.382	0.940	1.374	0.367	0.275	0.438	3	Bright
7018000	●	3/8 - 24 UNF STI	H2	3.161	0.881	1.314	0.323	0.242	0.406	3	Bright
7018300	●	3/8 - 24 UNF STI	H3	3.161	0.881	1.314	0.323	0.242	0.406	3	Bright
12500100	●	7/16 - 14 UNC STI	H3	3.591	1.000	1.472	0.429	0.322	0.500	3	Bright
12500200	●	7/16 - 14 UNC STI	H4	3.591	1.000	1.472	0.429	0.322	0.500	3	Bright
12500300	●	7/16 - 20 UNF STI	H3	3.382	0.940	1.374	0.367	0.275	0.438	3	Bright
12500400	●	7/16 - 20 UNF STI	H4	3.382	0.940	1.374	0.367	0.275	0.438	3	Bright
12500500	●	1/2 - 13 UNC STI	H3	3.811	1.090	1.562	0.480	0.360	0.563	3	Bright
12500600	●	1/2 - 13 UNC STI	H4	3.811	1.090	1.562	0.480	0.360	0.563	3	Bright
12500700	●	1/2 - 20 UNF STI	H3	3.591	1.000	1.472	0.429	0.322	0.500	3	Bright
12500800	●	1/2 - 20 UNF STI	H4	3.591	1.000	1.472	0.429	0.322	0.500	3	Bright
12500900	●	9/16 - 12 UNC STI	H3	4.031	1.090	1.562	0.542	0.406	0.625	3	Bright
12501000	●	9/16 - 12 UNC STI	H4	4.031	1.090	1.562	0.542	0.406	0.625	3	Bright
12501100	●	9/16 - 18 UNF STI	H3	3.811	1.090	1.562	0.480	0.360	0.563	3	Bright
12501200	●	9/16 - 18 UNF STI	H4	3.811	1.090	1.562	0.480	0.360	0.563	3	Bright
12501300	●	5/8 - 11 UNC STI	H3	4.252	1.220	1.712	0.590	0.442	0.688	3	Bright
12501400	●	5/8 - 11 UNC STI	H4	4.252	1.220	1.712	0.590	0.442	0.688	3	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

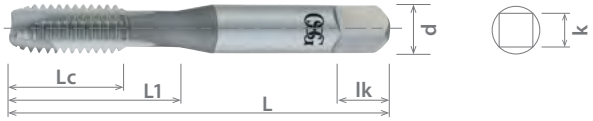
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 125 (Continued)

SPIRAL POINT | HSS | BR | C/4P | 0° | STI | PACKED 1 PIECE

OSG GENERAL PURPOSE-POT STI



EDP		Thread Size	Thread Limit	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
12501500	●	5/8 - 18 UNF STI	H3	4.031	1.090	1.562	0.542	0.406	0.625	3	Bright
12501600	●	5/8 - 18 UNF STI	H4	4.031	1.090	1.562	0.542	0.406	0.625	3	Bright
12501700	●	3/4 - 10 UNC STI	H3	4.689	1.334	1.885	0.697	0.523	0.750	3	Bright
12501800	●	3/4 - 10 UNC STI	H5	4.689	1.334	1.885	0.697	0.523	0.750	3	Bright
12501900	●	3/4 - 16 UNF STI	H3	4.469	1.417	1.771	0.652	0.489	0.688	3	Bright
12502000	●	3/4 - 16 UNF STI	H4	4.469	1.417	1.771	0.652	0.489	0.688	3	Bright
12502100	●	7/8 - 9 UNC STI	H3	5.130	1.500	2.090	0.800	0.600	0.813	3	Bright
12502200	●	7/8 - 9 UNC STI	H5	5.130	1.500	2.090	0.800	0.600	0.813	3	Bright
12502300	●	7/8 - 14 UNF STI	H3	5.130	1.500	2.090	0.800	0.600	0.813	3	Bright
12502400	●	7/8 - 14 UNF STI	H4	5.130	1.500	2.090	0.800	0.600	0.813	3	Bright
12502500	●	1 - 8 UNC STI	H4	5.752	1.712	2.381	1.021	0.766	1.000	4	Bright
12502600	●	1 - 8 UNC STI	H6	5.752	1.712	2.381	1.021	0.766	1.000	4	Bright
12502700	●	1 - 12 UNF STI	H4	5.441	1.712	2.303	0.896	0.672	0.875	4	Bright
12502800	●	1 - 12 UNF STI	H6	5.441	1.712	2.303	0.896	0.672	0.875	4	Bright

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

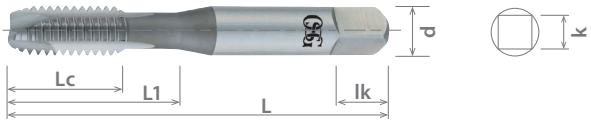
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 127

OSG GENERAL PURPOSE-POT STI

SPIRAL POINT	HSS	BR	C/4.5P	0°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
12700100	●	M2 x 0.4 STI	D2	46.00	6.40	13.10	3.58	2.79	4.76	2
12700200	●	M2.5 x 0.45 STI	D2	49.30	8.20	15.70	3.58	2.79	4.76	2
12700300	●	M3 x 0.5 STI	D2	50.80	10.00	17.50	3.58	2.79	4.76	2
12700400	●	M4 x 0.7 STI	D3	60.50	13.00	22.40	4.93	3.86	6.35	2
12700500	●	M5 x 0.8 STI	D3	63.50	16.30	25.70	6.48	4.85	7.94	2
12700600	●	M6 x 1 STI	D3	69.10	17.80	28.70	8.08	6.05	9.53	3
12700700	●	M8 x 1.25 STI	D3	74.70	19.40	31.80	9.68	7.26	11.11	3
12700800	●	M10 x 1.5 STI	D4	85.90	23.90	34.90	9.32	6.99	11.11	3
12700900	●	M12 x 1.75 STI	D4	91.20	25.40	37.40	10.90	8.18	12.70	3
12701000	●	M14 x 2 STI	D5	102.40	27.70	40.70	13.77	10.31	15.88	3
12701100	●	M16 x 2 STI	D5	108.00	31.00	43.50	14.99	11.23	17.46	3
12701200	●	M18 x 2.5 STI	D5	119.10	33.90	47.90	17.70	13.28	19.05	3
12701300	●	M20 x 2.5 STI	D5	124.60	33.90	47.90	19.30	14.48	19.05	3
12701400	●	M22 x 2.5 STI	D5	130.20	38.10	53.10	20.32	15.24	20.64	3
12701500	●	M24 x 3 STI	D6	138.10	43.50	58.50	22.76	17.07	22.23	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

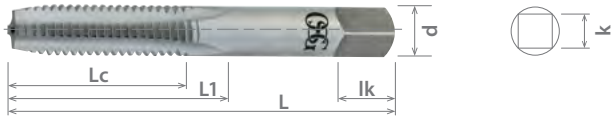
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 126

OSG GENERAL PURPOSE-HT STI

STRAIGHT FLUTE | HSS | BR | C/1.5P | C/4P | 0° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
6002700	●	No. 2 - 56 UNC STI	H2	Bottom (1.5P)	1.886	0.279	0.696	0.141	0.110	0.188	3
6002600	●	No. 2 - 56 UNC STI	H2	Plug (4P)	1.886	0.279	0.696	0.141	0.110	0.188	3
6003300	●	No. 3 - 48 UNC STI	H2	Bottom (1.5P)	1.941	0.314	0.748	0.141	0.110	0.188	3
6003200	●	No. 3 - 48 UNC STI	H2	Plug (4P)	1.941	0.314	0.748	0.141	0.110	0.188	3
6004600	●	No. 4 - 40 UNC STI	H1	Bottom (1.5P)	2.000	0.374	0.803	0.141	0.110	0.188	3
6004500	●	No. 4 - 40 UNC STI	H1	Plug (4P)	2.000	0.374	0.803	0.141	0.110	0.188	3
1804100	●	No. 4 - 40 UNC STI	H2	Bottom (1.5P)	2.000	0.374	0.803	0.141	0.110	0.188	3
1804000	●	No. 4 - 40 UNC STI	H2	Plug (4P)	2.000	0.374	0.803	0.141	0.110	0.188	3
12600200	●	No. 4 - 48 UNF STI	H2	Bottom (1.5P)	2.059	0.374	0.803	0.141	0.110	0.188	3
12600100	●	No. 4 - 48 UNF STI	H2	Plug (4P)	2.059	0.374	0.803	0.141	0.110	0.188	3
6006100	●	No. 5 - 40 UNC STI	H2	Bottom (1.5P)	2.197	0.374	0.933	0.168	0.131	0.250	3
6006000	●	No. 5 - 40 UNC STI	H2	Plug (4P)	2.197	0.374	0.933	0.168	0.131	0.250	3
6006700	●	No. 6 - 32 UNC STI	H2	Bottom (1.5P)	2.268	0.444	1.003	0.194	0.152	0.250	3
6006600	●	No. 6 - 32 UNC STI	H2	Plug (4P)	2.382	0.476	1.055	0.194	0.152	0.250	3
1810500	●	No. 6 - 32 UNC STI	H3	Bottom (1.5P)	2.382	0.476	1.055	0.194	0.152	0.250	3
1810400	●	No. 6 - 32 UNC STI	H3	Plug (4P)	2.382	0.476	1.055	0.194	0.152	0.250	3
6007600	●	No. 6 - 40 UNF STI	H2	Bottom (1.5P)	2.201	0.472	0.937	0.168	0.131	0.250	3
6007500	●	No. 6 - 40 UNF STI	H2	Plug (4P)	2.276	0.547	1.011	0.168	0.131	0.250	3
6008200	●	No. 8 - 32 UNC STI	H2	Bottom (1.5P)	2.465	0.468	1.114	0.220	0.165	0.281	3
6008100	●	No. 8 - 32 UNC STI	H2	Plug (4P)	2.555	0.559	1.204	0.220	0.165	0.281	3
1810900	●	No. 8 - 32 UNC STI	H3	Bottom (1.5P)	2.465	0.468	1.114	0.220	0.165	0.281	3
1810800	●	No. 8 - 32 UNC STI	H3	Plug (4P)	2.555	0.559	1.204	0.220	0.165	0.281	3
12600400	●	No. 8 - 36 UNF STI	H2	Bottom (1.5P)	2.465	0.468	1.114	0.220	0.165	0.281	3
12600300	●	No. 8 - 36 UNF STI	H2	Plug (4P)	2.555	0.559	1.204	0.220	0.165	0.281	3
1805700	●	No. 10 - 24 UNC STI	H2	Bottom (1.5P)	2.496	0.625	1.185	0.255	0.191	0.313	3
1805600	●	No. 10 - 24 UNC STI	H2	Plug (4P)	2.602	0.732	1.291	0.255	0.191	0.313	3
6010300	●	No. 10 - 24 UNC STI	H3	Bottom (1.5P)	2.575	0.625	1.185	0.255	0.191	0.313	3
6010200	●	No. 10 - 24 UNC STI	H3	Plug (4P)	2.602	0.732	1.291	0.255	0.191	0.313	3
1805900	●	No. 10 - 32 UNF STI	H2	Bottom (1.5P)	2.496	0.625	1.185	0.255	0.191	0.313	3
1805800	●	No. 10 - 32 UNF STI	H2	Plug (4P)	2.602	0.732	1.291	0.255	0.191	0.313	3
1811500	●	No. 10 - 32 UNF STI	H3	Bottom (1.5P)	2.496	0.625	1.185	0.255	0.191	0.313	3
1811400	●	No. 10 - 32 UNF STI	H3	Plug (4P)	2.602	0.732	1.291	0.255	0.191	0.313	3
6013300	●	1/4 - 20 UNC STI	H2	Bottom (1.5P)	2.720	0.751	1.322	0.318	0.238	0.375	3
6013200	●	1/4 - 20 UNC STI	H2	Plug (4P)	2.720	0.751	1.322	0.318	0.238	0.375	3
1812100	●	1/4 - 20 UNC STI	H3	Bottom (1.5P)	2.720	0.751	1.322	0.318	0.238	0.375	3
1812000	●	1/4 - 20 UNC STI	H3	Plug (4P)	2.720	0.751	1.322	0.318	0.238	0.375	4
1806700	●	1/4 - 28 UNF STI	H2	Bottom (1.5P)	2.720	0.751	1.322	0.318	0.238	0.375	3
1806600	●	1/4 - 28 UNF STI	H2	Plug (4P)	2.720	0.751	1.322	0.318	0.238	0.375	3
6014500	●	1/4 - 28 UNF STI	H3	Bottom (1.5P)	2.720	0.751	1.322	0.318	0.238	0.375	4
6014400	●	1/4 - 28 UNF STI	H3	Plug (4P)	2.720	0.751	1.322	0.318	0.238	0.375	3
1812500	●	5/16 - 18 UNC STI	H3	Bottom (1.5P)	2.937	0.834	1.413	0.381	0.286	0.438	4
1812400	●	5/16 - 18 UNC STI	H3	Plug (4P)	2.937	0.834	1.413	0.381	0.286	0.438	4
6015700	●	5/16 - 18 UNC STI	H4	Bottom (1.5P)	2.937	0.834	1.413	0.381	0.286	0.438	4
6015600	●	5/16 - 18 UNC STI	H4	Plug (4P)	2.937	0.834	1.413	0.381	0.286	0.438	4
12600600	●	5/16 - 24 UNF STI	H2	Bottom (1.5P)	2.937	0.834	1.413	0.381	0.286	0.438	4
12600500	●	5/16 - 24 UNF STI	H2	Plug (4P)	2.937	0.834	1.413	0.381	0.286	0.438	4
6016600	●	5/16 - 24 UNF STI	H3	Bottom (1.5P)	2.937	0.834	1.413	0.381	0.286	0.438	4
6016500	●	5/16 - 24 UNF STI	H3	Plug (4P)	2.937	0.834	1.413	0.381	0.286	0.438	4
1812900	●	3/8 - 16 UNC STI	H3	Bottom (1.5P)	3.374	0.937	1.811	0.367	0.275	0.438	4
1812800	●	3/8 - 16 UNC STI	H3	Plug (4P)	3.374	0.937	1.811	0.367	0.275	0.438	4
12600800	●	3/8 - 16 UNC STI	H4	Bottom (1.5P)	3.374	0.937	1.811	0.367	0.275	0.438	4
12600700	●	3/8 - 16 UNC STI	H4	Plug (4P)	3.374	0.937	1.811	0.367	0.275	0.438	4
6018400	●	3/8 - 24 UNF STI	H2	Bottom (1.5P)	3.157	0.937	1.688	0.323	0.242	0.406	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

List 126 (Continued)

OSG GENERAL PURPOSE-HT STI

STRAIGHT FLUTE | HSS | BR | C/1.5P | C/4P | 0° | STI | PACKED 1 PIECE

EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
6018300	●	3/8 - 24 UNF STI	H2	Plug (4P)	3.157	0.937	1.688	0.323	0.242	0.406	4
6018700	●	3/8 - 24 UNF STI	H3	Bottom (1.5P)	3.157	0.937	1.688	0.323	0.242	0.406	4
6018600	●	3/8 - 24 UNF STI	H3	Plug (4P)	3.157	0.937	1.688	0.323	0.242	0.406	4
6019600	●	7/16 - 14 UNC STI	H3	Bottom (1.5P)	3.594	1.070	1.940	0.429	0.322	0.500	4
1813200	●	7/16 - 14 UNC STI	H3	Plug (4P)	3.594	1.070	1.940	0.429	0.322	0.500	4
6019900	●	7/16 - 14 UNC STI	H4	Bottom (1.5P)	3.594	1.070	1.940	0.429	0.322	0.500	4
6019800	●	7/16 - 14 UNC STI	H4	Plug (4P)	3.594	1.070	1.940	0.429	0.322	0.500	4
1813500	●	7/16 - 20 UNF STI	H3	Bottom (1.5P)	3.374	1.070	1.811	0.367	0.275	0.438	4
1813400	●	7/16 - 20 UNF STI	H3	Plug (4P)	3.374	1.070	1.811	0.367	0.275	0.438	4
12601000	●	7/16 - 20 UNF STI	H4	Bottom (1.5P)	3.374	1.070	1.811	0.367	0.275	0.438	4
12600900	●	7/16 - 20 UNF STI	H4	Plug (4P)	3.374	1.070	1.811	0.367	0.275	0.438	4
6022000	●	1/2 - 13 UNC STI	H3	Bottom (1.5P)	3.811	1.153	2.000	0.480	0.360	0.563	4
1813600	●	1/2 - 13 UNC STI	H3	Plug (4P)	3.811	1.153	2.000	0.480	0.360	0.563	4
12601200	●	1/2 - 13 UNC STI	H4	Bottom (1.5P)	3.811	1.153	2.000	0.480	0.360	0.563	4
12601100	●	1/2 - 13 UNC STI	H4	Plug (4P)	3.811	1.153	2.000	0.480	0.360	0.563	4
1813900	●	1/2 - 20 UNF STI	H3	Bottom (1.5P)	3.594	1.153	1.940	0.429	0.322	0.500	4
1813800	●	1/2 - 20 UNF STI	H3	Plug (4P)	3.594	1.153	1.940	0.429	0.322	0.500	4
12601400	●	1/2 - 20 UNF STI	H4	Bottom (1.5P)	3.594	1.153	1.940	0.429	0.322	0.500	4
12601300	●	1/2 - 20 UNF STI	H4	Plug (4P)	3.594	1.153	1.940	0.429	0.322	0.500	4
12601600	●	9/16 - 12 UNC STI	H3	Bottom (1.5P)	4.031	1.165	2.165	0.542	0.406	0.625	4
12601500	●	9/16 - 12 UNC STI	H3	Plug (4P)	4.031	1.165	2.165	0.542	0.406	0.625	4
12601800	●	9/16 - 12 UNC STI	H4	Bottom (1.5P)	4.031	1.165	2.165	0.542	0.406	0.625	4
12601700	●	9/16 - 12 UNC STI	H4	Plug (4P)	4.031	1.165	2.165	0.542	0.406	0.625	4
12602000	●	9/16 - 18 UNF STI	H3	Bottom (1.5P)	3.811	1.165	2.125	0.480	0.360	0.563	4
12601900	●	9/16 - 18 UNF STI	H3	Plug (4P)	3.811	1.165	2.125	0.480	0.360	0.563	4
12602200	●	9/16 - 18 UNF STI	H4	Bottom (1.5P)	3.811	1.165	2.125	0.480	0.360	0.563	4
12602100	●	9/16 - 18 UNF STI	H4	Plug (4P)	3.811	1.165	2.125	0.480	0.360	0.563	4
12602400	●	5/8 - 11 UNC STI	H3	Bottom (1.5P)	4.252	1.271	2.433	0.590	0.442	0.688	4
12602300	●	5/8 - 11 UNC STI	H3	Plug (4P)	4.252	1.271	2.433	0.590	0.442	0.688	4
12602600	●	5/8 - 11 UNC STI	H4	Bottom (1.5P)	4.252	1.271	2.433	0.590	0.442	0.688	4
12602500	●	5/8 - 11 UNC STI	H4	Plug (4P)	4.252	1.271	2.433	0.590	0.442	0.688	4
12602800	●	5/8 - 18 UNF STI	H3	Bottom (1.5P)	4.031	1.271	2.165	0.542	0.406	0.625	4
12602700	●	5/8 - 18 UNF STI	H3	Plug (4P)	4.031	1.271	2.165	0.542	0.406	0.625	4
12603000	●	5/8 - 18 UNF STI	H4	Bottom (1.5P)	4.031	1.271	2.165	0.542	0.406	0.625	4
12602900	●	5/8 - 18 UNF STI	H4	Plug (4P)	4.031	1.271	2.165	0.542	0.406	0.625	4
12603200	●	3/4 - 10 UNC STI	H3	Bottom (1.5P)	4.689	1.401	2.653	0.697	0.523	0.750	4
12603100	●	3/4 - 10 UNC STI	H3	Plug (4P)	4.689	1.401	2.653	0.697	0.523	0.750	4
12603400	●	3/4 - 10 UNC STI	H5	Bottom (1.5P)	4.689	1.401	2.653	0.697	0.523	0.750	4
12603300	●	3/4 - 10 UNC STI	H5	Plug (4P)	4.689	1.401	2.653	0.697	0.523	0.750	4
12603600	●	3/4 - 16 UNF STI	H3	Bottom (1.5P)	4.469	1.401	2.433	0.652	0.489	0.688	4
12603500	●	3/4 - 16 UNF STI	H3	Plug (4P)	4.469	1.401	2.433	0.652	0.489	0.688	4
12603800	●	3/4 - 16 UNF STI	H4	Bottom (1.5P)	4.469	1.401	2.433	0.652	0.489	0.688	4
12603700	●	3/4 - 16 UNF STI	H4	Plug (4P)	4.469	1.401	2.433	0.652	0.489	0.688	4
12604000	●	7/8 - 9 UNC STI	H3	Bottom (1.5P)	5.126	1.555	3.011	0.800	0.600	0.813	4
12603900	●	7/8 - 9 UNC STI	H3	Plug (4P)	5.126	1.555	3.011	0.800	0.600	0.813	4
12604200	●	7/8 - 9 UNC STI	H5	Bottom (1.5P)	5.126	1.555	3.011	0.800	0.600	0.813	4
12604100	●	7/8 - 9 UNC STI	H5	Plug (4P)	5.126	1.555	3.011	0.800	0.600	0.813	4
12604400	●	7/8 - 14 UNF STI	H3	Bottom (1.5P)	5.126	1.555	3.011	0.800	0.600	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

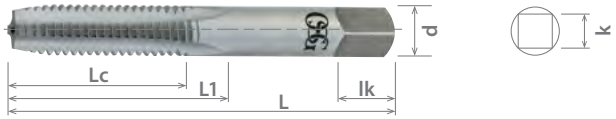
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 126 (Continued)

OSG GENERAL PURPOSE-HT STI

STRAIGHT FLUTE | HSS | BR | C/1.5P | C/4P | 0° | STI | PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Chamfer Type	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
12604300	●	7/8 - 14 UNF STI	H3	Plug (4P)	5.126	1.555	3.011	0.800	0.600	0.813	4
12604600	●	7/8 - 14 UNF STI	H4	Bottom (1.5P)	5.126	1.555	3.011	0.800	0.600	0.813	4
12604500	●	7/8 - 14 UNF STI	H4	Plug (4P)	5.126	1.555	3.011	0.800	0.600	0.813	4
12604800	●	1 - 8 UNC STI	H4	Bottom (1.5P)	5.752	1.751	3.074	1.021	0.766	1.000	4
12604700	●	1 - 8 UNC STI	H4	Plug (4P)	5.752	1.751	3.074	1.021	0.766	1.000	4
12605000	●	1 - 8 UNC STI	H6	Bottom (1.5P)	5.752	1.751	3.074	1.021	0.766	1.000	4
12604900	●	1 - 8 UNC STI	H6	Plug (4P)	5.752	1.751	3.074	1.021	0.766	1.000	4
12605200	●	1 - 12 UNF STI	H4	Bottom (1.5P)	5.437	1.751	3.074	0.896	0.672	0.875	4
12605100	●	1 - 12 UNF STI	H4	Plug (4P)	5.437	1.751	3.074	0.896	0.672	0.875	4
12605400	●	1 - 12 UNF STI	H6	Bottom (1.5P)	5.437	1.751	3.074	0.896	0.672	0.875	4
12605300	●	1 - 12 UNF STI	H6	Plug (4P)	5.437	1.751	3.074	0.896	0.672	0.875	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

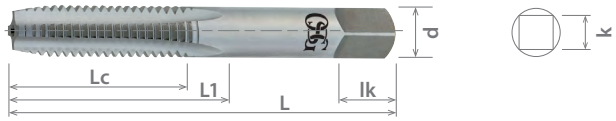
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 128

OSG GENERAL PURPOSE-HT STI

STRAIGHT FLUTE	HSS	BR	C/2.5P	STI	0°	STI	PACKED 1 PIECE



EDP		Thread Size	Thread Limit	Overall Length L (mm)	Thread Length Lc (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Square Width k (mm)	Square Length lk (mm)	Number of Flutes
12800100	●	M2 x 0.4 STI	D2	47.80	13.00	14.00	3.58	2.79	4.76	2
12800200	●	M2.5 x 0.45 STI	D2	49.30	6.70	16.30	3.58	2.79	4.76	2
12800300	●	M3 x 0.5 STI	D2	50.80	7.10	17.60	3.58	2.79	4.76	3
12800400	●	M4 x 0.7 STI	D3	60.50	10.30	22.70	4.93	3.86	6.35	3
12800500	●	M5 x 0.8 STI	D3	63.50	11.30	25.50	6.48	4.85	7.94	3
12800600	●	M6 x 1 STI	D3	69.10	14.00	28.60	8.08	6.05	9.53	3
12800700	●	M8 x 1.25 STI	D3	74.70	17.50	31.80	9.68	7.26	11.11	4
12800800	●	M10 x 1.5 STI	D4	85.90	21.00	49.10	9.32	6.99	11.11	4
12800900	●	M12 x 1.75 STI	D4	91.20	24.50	50.10	10.90	8.18	12.70	4
12801000	●	M14 x 2 STI	D5	102.40	28.00	55.00	13.77	10.31	15.88	4
12801100	●	M16 x 2 STI	D5	108.00	28.00	61.80	14.99	11.23	17.46	4
12801200	●	M18 x 2.5 STI	D5	119.10	35.00	67.40	17.70	13.28	19.05	4
12801300	●	M20 x 2.5 STI	D5	124.60	35.00	68.40	19.30	14.48	19.05	4
12801400	●	M22 x 2.5 STI	D5	130.20	35.00	76.50	20.32	15.24	20.64	4
12801500	●	M24 x 3 STI	D6	138.10	42.00	79.10	22.76	17.07	22.23	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
25-80 SFM	20-50 SFM	20-45 SFM						25-75 SFM	40-80 SFM	40-65 SFM						

○ Good ◎ Best

List 16570

A BRAND A-NPT, Interrupted Thread

A | SPIRAL FLUTE | HSSE | V | 40° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1657001008	●	1/16 - 27 NPT	3.543	0.689	1.417	0.313	0.234	0.375	3
1657002008	●	1/8 - 27 NPT	3.543	0.752	1.457	0.313	0.234	0.375	3
1657003008	●	1/8 - 27 NPT	3.543	0.752	1.457	0.438	0.328	0.375	3
1657004008	●	1/4 - 18 NPT	3.937	1.063	1.929	0.563	0.421	0.438	3
1657005008	●	3/8 - 18 NPT	3.937	1.063	1.969	0.700	0.531	0.500	4
1657006008	●	1/2 - 14 NPT	4.921	1.374	2.362	0.688	0.515	0.625	4
1657007008	●	3/4 - 14 NPT	5.511	1.374	2.913	0.906	0.679	0.688	4
1657008008	●	1 - 11.5 NPT	6.299	1.752	3.150	1.125	0.843	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

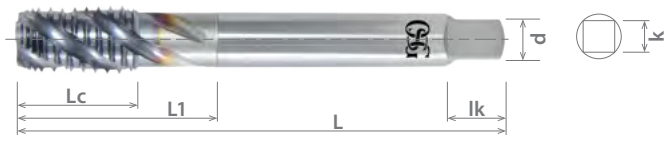
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○		○		○		○	◎			
5-35 SFM	5-35 SFM	5-35 SFM	5-20 SFM	5-20 SFM	5-20 SFM	5-20 SFM		5-20 SFM		5-35 SFM		5-10 SFM	5-20 SFM			

○ Good ◎ Best

List 16575

A BRAND A-LT-NPT, Long Shank, NPT, Interrupted Thread

SPIRAL FLUTE | HSSE | V | 40° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1657501008	●	1/16 - 27 NPT	4.000	0.689	1.614	0.313	0.234	0.375	3
1657502008	●	1/16 - 27 NPT	6.000	0.689	2.402	0.313	0.234	0.375	3
1657503008	●	1/8 - 27 NPT	4.000	0.752	1.614	0.313	0.234	0.375	3
1657504008	●	1/8 - 27 NPT	6.000	0.752	2.402	0.313	0.234	0.375	3
1657505008	●	1/8 - 27 NPT	4.000	0.752	1.614	0.438	0.328	0.375	3
1657506008	●	1/8 - 27 NPT	6.000	0.752	2.402	0.438	0.328	0.375	3
1657507008	●	1/4 - 18 NPT	4.000	1.063	1.929	0.563	0.421	0.438	3
1657508008	●	1/4 - 18 NPT	6.000	1.063	2.402	0.563	0.421	0.438	3
1657509008	●	3/8 - 18 NPT	4.000	1.063	1.969	0.700	0.531	0.500	4
1657510008	●	3/8 - 18 NPT	6.000	1.063	2.402	0.700	0.531	0.500	4
1657511008	●	1/2 - 14 NPT	4.000	1.374	2.362	0.688	0.515	0.625	4
1657512008	●	1/2 - 14 NPT	6.000	1.374	2.402	0.688	0.515	0.625	4
1657513008	●	3/4 - 14 NPT	4.000	1.374	2.504	0.906	0.679	0.688	4
1657514008	●	3/4 - 14 NPT	6.000	1.374	2.913	0.906	0.679	0.688	4
1657515008	●	1 - 11.5 NPT	4.000	1.752	2.504	1.125	0.843	0.813	4
1657516008	●	1 - 11.5 NPT	6.000	1.752	3.150	1.125	0.843	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○		○		○		○	◎			
5-35 SFM	5-35 SFM	5-35 SFM	5-20 SFM	5-20 SFM	5-20 SFM	5-20 SFM		5-20 SFM		5-35 SFM		5-10 SFM	5-20 SFM			

○ Good ◎ Best

List 16590

A BRAND A-NPS

SPIRAL FLUTE | HSSE | V | 40° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1659001008	●	1/16 - 27 NPS	3.543	0.551	1.417	0.313	0.234	0.375	3
1659002008	●	1/8 - 27 NPS	3.543	0.551	1.457	0.313	0.234	0.375	3
1659003008	●	1/8 - 27 NPS	3.543	0.551	1.457	0.438	0.328	0.375	3
1659004008	●	1/4 - 18 NPS	3.937	0.748	1.929	0.563	0.421	0.438	3
1659005008	●	3/8 - 18 NPS	3.937	0.827	1.969	0.700	0.531	0.500	4
1659006008	●	1/2 - 14 NPS	4.921	1.024	2.362	0.688	0.515	0.625	4
1659007008	●	3/4 - 14 NPS	5.511	1.102	2.913	0.906	0.679	0.688	4
1659008008	●	1 - 11.5 NPS	6.299	1.299	3.150	1.125	0.843	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○		○		◎		○	◎			
5-35 SFM	5-35 SFM	5-35 SFM	5-20 SFM	5-20 SFM	5-20 SFM	5-20 SFM		5-20 SFM		5-35 SFM		5-10 SFM	5-20 SFM			

○ Good ◎ Best

List 16585

A BRAND A-BSPT, Interrupted Thread

A | SPIRAL FLUTE | HSSE | V | 40° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1658501008	●	1/8 - 28 BSPT	3.543	0.591	1.457	0.313	0.234	0.375	3
1658502008	●	1/4 - 19 BSPT	3.937	0.748	1.929	0.563	0.421	0.438	3
1658503008	●	3/8 - 19 BSPT	3.937	0.827	1.969	0.700	0.531	0.500	4
1658504008	●	1/2 - 14 BSPT	4.921	1.024	2.362	0.688	0.515	0.625	4
1658505008	●	3/4 - 14 BSPT	5.511	1.102	2.913	0.906	0.679	0.688	4
1658506008	●	1 - 11 BSPT	6.299	1.299	3.150	1.125	0.843	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

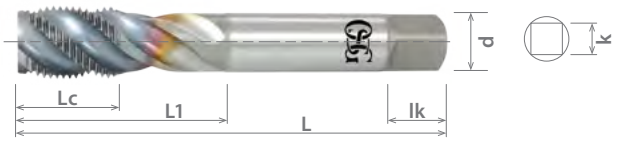
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○		○		◎		○	◎			
5-35 SFM	5-35 SFM	5-35 SFM	5-20 SFM	5-20 SFM	5-20 SFM	5-20 SFM		5-20 SFM		5-35 SFM		5-10 SFM	5-20 SFM			

○ Good ◎ Best

List 16580

A | SPIRAL FLUTE | HSSE | V | 40° | PACKED 1 PIECE

A BRAND A-BSPP-RP, Made to RP Spec.



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1658001008	●	1/8 - 28 BSPP	3.543	0.591	1.457	0.313	0.234	0.375	3
1658002008	●	1/4 - 19 BSPP	3.937	0.748	1.929	0.563	0.421	0.438	3
1658003008	●	3/8 - 19 BSPP	3.937	0.827	1.969	0.700	0.531	0.500	4
1658004008	●	1/2 - 14 BSPP	4.921	1.024	2.362	0.688	0.515	0.625	4
1658005008	●	3/4 - 14 BSPP	5.511	1.102	2.913	0.906	0.679	0.688	4
1658006008	●	1 - 11 BSPP	6.299	1.299	3.150	1.125	0.843	0.813	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

ATP

Note: A Brand A-BSPP-RP is made to a ISO-7 R(p) standards - cylindrical female with internal threads rather than ISO 228, therefore the pitch diameter tolerance of ISO-7 extends lower than that of ISO 228 which can lead to tight or non-gaging fit. Please contact our customer service department should you require assistance.

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	○	○	○		○		◎		○	◎			
5-35 SFM	5-35 SFM	5-35 SFM	5-20 SFM	5-20 SFM	5-20 SFM	5-20 SFM		5-20 SFM		5-35 SFM		5-10 SFM	5-20 SFM			

○ Good ◎ Best

List 308

EXOPIPE, NPT

SPIRAL FLUTE | HSSE | S/O | TiN | 15° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1735001	●	1/16 - 27 NPT	2.126	0.689	0.925	0.313	0.234	0.375	4	Steam Oxide
1735005	●	1/16 - 27 NPT	2.126	0.689	0.925	0.313	0.234	0.375	4	TiN
1735101	●	1/8 - 27 NPT	2.126	0.752	0.988	0.438	0.328	0.375	4	Steam Oxide
1735201	●	1/8 - 27 NPT	2.126	0.752	-	0.313	0.234	0.375	4	Steam Oxide
1735105	●	1/8 - 27 NPT	2.126	0.752	0.988	0.438	0.328	0.375	4	TiN
1735205	●	1/8 - 27 NPT	2.126	0.752	-	0.313	0.234	0.375	4	TiN
1735301	●	1/4 - 18 NPT	2.437	1.091	1.346	0.563	0.421	0.438	4	Steam Oxide
1735305	●	1/4 - 18 NPT	2.437	1.091	1.346	0.563	0.421	0.438	4	TiN
1735401	●	3/8 - 18 NPT	2.563	1.091	1.346	0.700	0.531	0.500	4	Steam Oxide
1735405	●	3/8 - 18 NPT	2.563	1.091	1.346	0.700	0.531	0.500	4	TiN
1735501	●	1/2 - 14 NPT	3.126	1.409	-	0.688	0.515	0.625	4	Steam Oxide
1735505	●	1/2 - 14 NPT	3.126	1.409	-	0.688	0.515	0.625	4	TiN
1744805	●	3/4 - 14 NPT	3.252	1.374	-	0.906	0.679	0.688	4	TiN
1735601	●	3/4 - 14 NPT	3.252	1.374	-	0.906	0.679	0.688	5	Steam Oxide
1744905	●	1 - 11.5 NPT	3.752	1.752	-	1.125	0.843	0.813	4	TiN
1735701	●	1 - 11.5 NPT	3.752	1.752	-	1.125	0.843	0.813	5	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

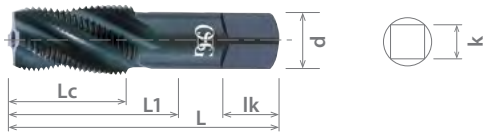
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○				◎	◎	◎									
15-40 SFM	10-25 SFM				10-25 SFM	10-25 SFM	8-12 SFM									

○ Good ◎ Best

List 318

SPIRAL FLUTE | HSSE | S/O | TiN | 15° | PACKED 1 PIECE

EXOPIPE®, NPTF



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1737501	●	1/16 - 27 NPTF	2.126	0.688	0.925	0.313	0.234	0.375	4	Steam Oxide
1737505	●	1/16 - 27 NPTF	2.126	0.688	0.925	0.313	0.234	0.375	4	TiN
1737601	●	1/8 - 27 NPTF	2.126	0.751	0.988	0.438	0.328	0.375	4	Steam Oxide
1737701	●	1/8 - 27 NPTF	2.126	0.751	-	0.313	0.234	0.375	4	Steam Oxide
1737605	●	1/8 - 27 NPTF	2.126	0.751	0.988	0.438	0.328	0.375	4	TiN
1737705	●	1/8 - 27 NPTF	2.126	0.751	-	0.313	0.234	0.375	4	TiN
1737801	●	1/4 - 18 NPTF	2.437	1.090	1.346	0.563	0.421	0.438	4	Steam Oxide
1737805	●	1/4 - 18 NPTF	2.437	1.090	1.346	0.563	0.421	0.438	4	TiN
1737901	●	3/8 - 18 NPTF	2.563	1.090	1.346	0.700	0.531	0.500	4	Steam Oxide
1737905	●	3/8 - 18 NPTF	2.563	1.090	1.346	0.700	0.531	0.500	4	TiN
1738001	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	4	Steam Oxide
1738005	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	4	TiN
1739905	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	4	TiN
1738101	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	5	Steam Oxide
1744605	●	1 - 11.5 NPTF	3.752	1.751	-	1.125	0.843	0.813	4	TiN
1738201	●	1 - 11.5 NPTF	3.752	1.751	-	1.125	0.843	0.813	5	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

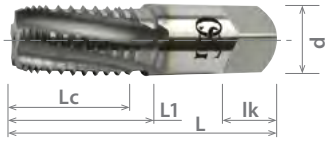
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○				◎	◎	◎									
15-40 SFM	10-25 SFM				10-25 SFM	10-25 SFM	8-12 SFM									

○ Good ◎ Best

List 12053

HY-PRO NPT, Interrupted Threads

SPIRAL FLUTE | HSSE | V | 10° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1205300108	●	1/8 - 27 NPT	2.126	0.751	-	0.313	0.234	0.375	3
1205300208	●	1/8 - 27 NPT	2.126	0.751	1.007	0.438	0.328	0.375	3
1205300308	●	1/4 - 18 NPT	2.441	1.062	1.318	0.563	0.421	0.438	3
1205300408	●	3/8 - 18 NPT	2.563	1.062	1.318	0.700	0.531	0.500	5
1205300508	●	1/2 - 14 NPT	3.126	1.374	-	0.688	0.515	0.625	5
1205300608	●	3/4 - 14 NPT	3.252	1.374	-	0.906	0.679	0.688	5
1205300708	●	1 - 11.5 NPT	3.752	1.751	-	1.125	0.843	0.813	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

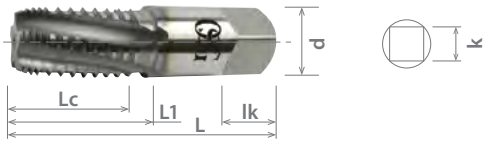
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	◎	○	○	○	○					○	○		
15-40 SFM	10-25 SFM	10-20 SFM	10-25 SFM	10-15 SFM	10-25 SFM	10-25 SFM	8-12 SFM	15-50 SFM					10-20 SFM	8-12 SFM		

○ Good ◎ Best

List 12054

SPIRAL FLUTE	HSSE	V	10°	PACKED 1 PIECE

HY-PRO NPTF, Interrupted Threads



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1205400108	●	1/8 - 27 NPT	2.126	0.751	-	0.313	0.234	0.375	3
1205400208	●	1/8 - 27 NPT	2.126	0.751	1.007	0.438	0.328	0.375	3
1205400308	●	1/4 - 18 NPT	2.441	1.062	1.318	0.563	0.421	0.438	3
1205400408	●	3/8 - 18 NPT	2.563	1.062	1.318	0.700	0.531	0.500	5
1205400508	●	1/2 - 14 NPT	3.126	1.374	-	0.688	0.515	0.625	5
1205400608	●	3/4 - 14 NPT	3.252	1.374	-	0.906	0.679	0.688	5
1205400708	●	1 - 11.5 NPT	3.752	1.751	-	1.125	0.843	0.813	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYT

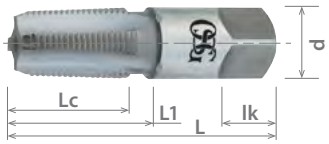
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	◎	◎	◎	◎	○	○	○	○					○	○		
15-40 SFM	10-25 SFM	10-20 SFM	10-25 SFM	10-15 SFM	10-25 SFM	10-25 SFM	8-12 SFM	15-50 SFM					10-20 SFM	8-12 SFM		

○ Good ◎ Best

List 328

EXOTAP-MOLD® NPT/ANPT

STRAIGHT FLUTE	HSS-Co	BR	0°	PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1736000	●	1/8 - 27 NPT, ANPT	2.126	0.751	0.992	0.438	0.328	0.375	4
1736100	●	1/4 - 18 NPT, ANPT	2.437	1.062	1.318	0.563	0.421	0.438	4
1736200	●	3/8 - 18 NPT, ANPT	2.563	1.062	1.318	0.700	0.531	0.500	4
1736300	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	4
1736400	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings are available upon request.

EXT

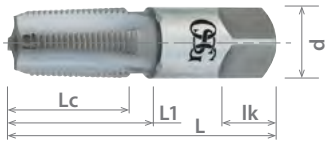
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	○	○	○						◎	○		
15-40 SFM	10-25 SFM	10-20 SFM	10-25 SFM	10-15 SFM	10-25 SFM	10-25 SFM	8-12 SFM						10-20 SFM	8-12 SFM		

○ Good ◎ Best

List 108

OSG GENERAL PURPOSE-NPT/ANPT

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | 0° | PACKED 1 PIECE



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1310000	●	1/16 - 27 NPT, ANPT	2.126	0.688	0.925	0.313	0.234	0.375	4	Bright
1310001	●	1/16 - 27 NPT, ANPT	2.126	0.688	0.925	0.313	0.234	0.375	4	Steam Oxide
1310008	●	1/16 - 27 NPT, ANPT	2.126	0.688	0.925	0.313	0.234	0.375	4	TiCN
1310005	●	1/16 - 27 NPT, ANPT	2.126	0.688	0.925	0.313	0.234	0.375	4	TiN
1310100	●	1/8 - 27 NPT, ANPT	2.126	0.751	-	0.438	0.328	0.375	4	Bright
1310200	●	1/8 - 27 NPT, ANPT	2.126	0.751	0.925	0.313	0.234	0.375	4	Bright
1310101	●	1/8 - 27 NPT, ANPT	2.126	0.751	-	0.438	0.328	0.375	4	Steam Oxide
1310201	●	1/8 - 27 NPT, ANPT	2.126	0.751	0.925	0.313	0.234	0.375	4	Steam Oxide
1310108	●	1/8 - 27 NPT, ANPT	2.126	0.751	-	0.438	0.328	0.375	4	TiCN
1310208	●	1/8 - 27 NPT, ANPT	2.126	0.751	0.925	0.313	0.234	0.375	4	TiCN
1310105	●	1/8 - 27 NPT, ANPT	2.126	0.751	-	0.438	0.328	0.375	4	TiN
1310205	●	1/8 - 27 NPT, ANPT	2.126	0.751	0.925	0.313	0.234	0.375	4	TiN
1310300	●	1/4 - 18 NPT, ANPT	2.437	1.062	1.318	0.563	0.421	0.438	4	Bright
1310301	●	1/4 - 18 NPT, ANPT	2.437	1.062	1.318	0.563	0.421	0.438	4	Steam Oxide
1310308	●	1/4 - 18 NPT, ANPT	2.437	1.062	1.318	0.563	0.421	0.438	4	TiCN
1310305	●	1/4 - 18 NPT, ANPT	2.437	1.062	1.318	0.563	0.421	0.438	4	TiN
1310400	●	3/8 - 18 NPT, ANPT	2.563	1.062	1.318	0.700	0.531	0.500	4	Bright
1310401	●	3/8 - 18 NPT, ANPT	2.563	1.062	1.318	0.700	0.531	0.500	4	Steam Oxide
1310408	●	3/8 - 18 NPT, ANPT	2.563	1.062	1.318	0.700	0.531	0.500	4	TiCN
1310405	●	3/8 - 18 NPT, ANPT	2.563	1.062	1.318	0.700	0.531	0.500	4	TiN
1310500	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	4	Bright
1310501	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	4	Steam Oxide
1310508	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	4	TiCN
1310505	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	4	TiN
1310600	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	5	Bright
1310601	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	5	Steam Oxide
1310608	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	5	TiCN
1310605	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	5	TiN
1310700	●	1 - 11.5 NPT, ANPT	3.752	1.751	-	1.125	0.843	0.813	5	Bright
1310701	●	1 - 11.5 NPT, ANPT	3.752	1.751	-	1.125	0.843	0.813	5	Steam Oxide
1310708	●	1 - 11.5 NPT, ANPT	3.752	1.751	-	1.125	0.843	0.813	5	TiCN
1310705	●	1 - 11.5 NPT, ANPT	3.752	1.751	-	1.125	0.843	0.813	5	TiN
1310800	●	1- 1/4 - 11.5 NPT, ANPT	4.000	1.751	-	1.313	0.984	0.938	5	Bright
1310801	●	1- 1/4 - 11.5 NPT, ANPT	4.000	1.751	-	1.313	0.984	0.938	5	Steam Oxide
1310808	●	1- 1/4 - 11.5 NPT, ANPT	4.000	1.751	-	1.313	0.984	0.938	5	TiCN
1310900	●	1- 1/2 - 11.5 NPT, ANPT	4.252	1.751	-	1.500	1.125	1.000	7	Bright
1310901	●	1- 1/2 - 11.5 NPT, ANPT	4.252	1.751	-	1.500	1.125	1.000	7	Steam Oxide
1310908	●	1- 1/2 - 11.5 NPT, ANPT	4.252	1.751	-	1.500	1.125	1.000	7	TiCN
1311000	●	2 - 11.5 NPT, ANPT	4.500	1.751	-	1.875	1.406	1.125	7	Bright
1311001	●	2 - 11.5 NPT, ANPT	4.500	1.751	-	1.875	1.406	1.125	7	Steam Oxide
1311008	●	2 - 11.5 NPT, ANPT	4.500	1.751	-	1.875	1.406	1.125	7	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

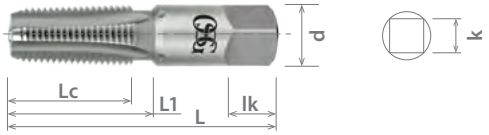
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
15-40 SFM	10-25 SFM	10-20 SFM						15-50 SFM	15-40 SFM	20-35 SFM						

○ Good ◎ Best

List 108AL

STRAIGHT FLUTE | HSS | BR | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-NPT, For Aluminum



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1311100	●	1/8 - 27 NPT	2.126	0.752	0.988	0.438	0.328	0.375	4
1311200	●	1/4 - 18 NPT	2.437	1.063	1.319	0.563	0.421	0.438	4
1311400	●	3/8 - 18 NPT	2.563	1.063	1.319	0.700	0.531	0.500	4
1311800	●	1/2 - 14 NPT	3.126	1.374	-	0.688	0.515	0.625	4
1311500	●	3/4 - 14 NPT	3.252	1.374	-	0.906	0.679	0.688	5
1311600	●	1 - 11.5 NPT	3.752	1.752	-	1.125	0.843	0.813	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

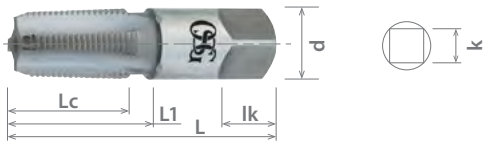
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						
									15-40 SFM	20-35 SFM						

○ Good ◎ Best

List 118

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | TiN | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-NPTF



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1312500	●	1/16 - 27 NPTF	2.126	0.688	0.885	0.313	0.234	0.375	4	Bright
1312501	●	1/16 - 27 NPTF	2.126	0.688	0.885	0.313	0.234	0.375	4	Steam Oxide
1312508	●	1/16 - 27 NPTF	2.126	0.688	0.885	0.313	0.234	0.375	4	TiCN
1312505	●	1/16 - 27 NPTF	2.126	0.688	0.885	0.313	0.234	0.375	4	TiN
1312600	●	1/8 - 27 NPTF	2.126	0.751	0.948	0.438	0.328	0.375	4	Bright
1312700	●	1/8 - 27 NPTF	2.126	0.751	0.948	0.313	0.234	0.375	4	Bright
1312601	●	1/8 - 27 NPTF	2.126	0.751	0.948	0.438	0.328	0.375	4	Steam Oxide
1312701	●	1/8 - 27 NPTF	2.126	0.751	0.948	0.313	0.234	0.375	4	Steam Oxide
1312608	●	1/8 - 27 NPTF	2.126	0.751	0.948	0.438	0.328	0.375	4	TiCN
1312708	●	1/8 - 27 NPTF	2.126	0.751	0.948	0.313	0.234	0.375	4	TiCN
1312605	●	1/8 - 27 NPTF	2.126	0.751	0.948	0.438	0.328	0.375	4	TiN
1312705	●	1/8 - 27 NPTF	2.126	0.751	0.948	0.313	0.234	0.375	4	TiN
1312800	●	1/4 - 18 NPTF	2.437	1.062	1.279	0.563	0.421	0.438	4	Bright
1312801	●	1/4 - 18 NPTF	2.437	1.062	1.279	0.563	0.421	0.438	4	Steam Oxide
1312808	●	1/4 - 18 NPTF	2.437	1.062	1.279	0.563	0.421	0.438	4	TiCN
1312805	●	1/4 - 18 NPTF	2.437	1.062	1.279	0.563	0.421	0.438	4	TiN
1312900	●	3/8 - 18 NPTF	2.563	1.062	1.279	0.700	0.531	0.500	4	Bright
1312901	●	3/8 - 18 NPTF	2.563	1.062	1.279	0.700	0.531	0.500	4	Steam Oxide
1312908	●	3/8 - 18 NPTF	2.563	1.062	1.279	0.700	0.531	0.500	4	TiCN
1312905	●	3/8 - 18 NPTF	2.563	1.062	1.279	0.700	0.531	0.500	4	TiN
1313000	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	4	Bright
1313001	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	4	Steam Oxide
1313008	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	4	TiCN
1313005	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	4	TiN
1313100	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	5	Bright
1313101	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	5	Steam Oxide
1313108	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	5	TiCN
1313105	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	5	TiN
1313200	●	1 - 11.5 NPTF	3.752	1.751	-	1.125	0.843	0.813	5	Bright
1313201	●	1 - 11.5 NPTF	3.752	1.751	-	1.125	0.843	0.813	5	Steam Oxide
1313208	●	1 - 11.5 NPTF	3.752	1.751	-	1.125	0.843	0.813	5	TiCN
1313300	●	1- 1/4 - 11.5 NPTF	4.000	1.751	-	1.313	0.984	0.938	5	Bright
1313301	●	1- 1/4 - 11.5 NPTF	4.000	1.751	-	1.313	0.984	0.938	5	Steam Oxide
1313308	●	1- 1/4 - 11.5 NPTF	4.000	1.751	-	1.313	0.984	0.938	5	TiCN
1313400	●	1- 1/2 - 11.5 NPTF	4.252	1.751	-	1.500	1.125	1.000	7	Bright
1313401	●	1- 1/2 - 11.5 NPTF	4.252	1.751	-	1.500	1.125	1.000	7	Steam Oxide
1313408	●	1- 1/2 - 11.5 NPTF	4.252	1.751	-	1.500	1.125	1.000	7	TiCN
1313500	●	2 - 11.5 NPTF	4.500	1.751	-	1.875	1.406	1.125	7	Bright
1313501	●	2 - 11.5 NPTF	4.500	1.751	-	1.875	1.406	1.125	7	Steam Oxide
1313508	●	2 - 11.5 NPTF	4.500	1.751	-	1.875	1.406	1.125	7	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

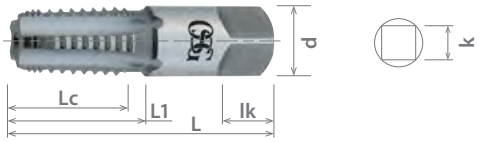
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
15-40 SFM	10-25 SFM	10-20 SFM						15-50 SFM	15-40 SFM	20-35 SFM						

○ Good ◎ Best

List 108G

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-NPT/NPTF/ANPT, Interrupted Thread



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1315100	●	1/8 - 27 NPT, ANPT	2.126	0.752	0.988	0.438	0.328	0.375	5	Bright
1315200	●	1/8 - 27 NPT, ANPT	2.126	0.752	-	0.313	0.234	0.375	5	Bright
3310100	●	1/8 - 27 NPTF	2.126	0.752	0.988	0.438	0.328	0.375	5	Bright
3310500	●	1/8 - 27 NPTF	2.126	0.752	-	0.313	0.234	0.375	5	Bright
1315101	●	1/8 - 27 NPT, ANPT	2.126	0.752	0.988	0.438	0.328	0.375	5	Steam Oxide
1315201	●	1/8 - 27 NPT, ANPT	2.126	0.752	-	0.313	0.234	0.375	5	Steam Oxide
3310101	●	1/8 - 27 NPTF	2.126	0.752	0.988	0.438	0.328	0.375	5	Steam Oxide
3310501	●	1/8 - 27 NPTF	2.126	0.752	-	0.313	0.234	0.375	5	Steam Oxide
1315108	●	1/8 - 27 NPT, ANPT	2.126	0.752	0.988	0.438	0.328	0.375	5	TiCN
1315208	●	1/8 - 27 NPT, ANPT	2.126	0.752	-	0.313	0.234	0.375	5	TiCN
3310108	●	1/8 - 27 NPTF	2.126	0.752	0.988	0.438	0.328	0.375	5	TiCN
3310508	●	1/8 - 27 NPTF	2.126	0.752	-	0.313	0.234	0.375	5	TiCN
1315300	●	1/4 - 18 NPT, ANPT	2.437	1.063	1.319	0.563	0.421	0.438	5	Bright
3310900	●	1/4 - 18 NPTF	2.437	1.063	1.319	0.563	0.421	0.438	5	Bright
1315301	●	1/4 - 18 NPT, ANPT	2.437	1.063	1.319	0.563	0.421	0.438	5	Steam Oxide
3310901	●	1/4 - 18 NPTF	2.437	1.063	1.319	0.563	0.421	0.438	5	Steam Oxide
1315308	●	1/4 - 18 NPT, ANPT	2.437	1.063	1.319	0.563	0.421	0.438	5	TiCN
3310908	●	1/4 - 18 NPTF	2.437	1.063	1.319	0.563	0.421	0.438	5	TiCN
1311300	●	3/8 - 18 NPTF	2.563	1.063	1.319	0.700	0.531	0.500	5	Bright
1315400	●	3/8 - 18 NPT, ANPT	2.563	1.063	1.319	0.700	0.531	0.500	5	Bright
1311301	●	3/8 - 18 NPTF	2.563	1.063	1.319	0.700	0.531	0.500	5	Steam Oxide
1315401	●	3/8 - 18 NPT, ANPT	2.563	1.063	1.319	0.700	0.531	0.500	5	Steam Oxide
1311308	●	3/8 - 18 NPTF	2.563	1.063	1.319	0.700	0.531	0.500	5	TiCN
1315408	●	3/8 - 18 NPT, ANPT	2.563	1.063	1.319	0.700	0.531	0.500	5	TiCN
1311700	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	5	Bright
1315500	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	5	Bright
1311701	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	5	Steam Oxide
1315501	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	5	Steam Oxide
1311708	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	5	TiCN
1315508	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	5	TiCN
1312100	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	5	Bright
1315600	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	5	Bright
1312101	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	5	Steam Oxide
1315601	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	5	Steam Oxide
1312108	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	5	TiCN
1315608	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	5	TiCN
1315700	●	1 - 11.5 NPT, ANPT	3.752	1.752	-	1.125	0.843	0.813	5	Bright
3312500	●	1 - 11.5 NPTF	3.752	1.752	-	1.125	0.843	0.813	5	Bright
1315701	●	1 - 11.5 NPT, ANPT	3.752	1.752	-	1.125	0.843	0.813	5	Steam Oxide
3312501	●	1 - 11.5 NPTF	3.752	1.752	-	1.125	0.843	0.813	5	Steam Oxide
1315708	●	1 - 11.5 NPT, ANPT	3.752	1.752	-	1.125	0.843	0.813	5	TiCN
3312508	●	1 - 11.5 NPTF	3.752	1.752	-	1.125	0.843	0.813	5	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

CONTINUED ›

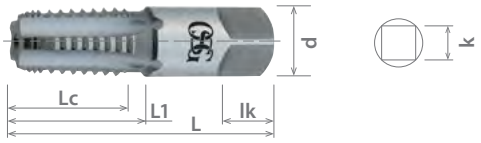
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
15-40 SFM	10-25 SFM	10-20 SFM						15-50 SFM	15-40 SFM	20-35 SFM						

○ Good ◎ Best

List 108G (Continued)

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-NPT/NPTF/ANPT, Interrupted Thread



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
3312900	●	1- 1/4 - 11.5 NPTF	4.000	1.752	-	1.313	0.984	0.938	5	Bright
1315800	●	1- 1/4 - 11.5 NPT, ANPT	4.000	1.752	-	1.313	0.984	0.938	5	Bright
1315801	●	1- 1/4 - 11.5 NPT, ANPT	4.000	1.752	-	1.313	0.984	0.938	5	Steam Oxide
3312901	●	1- 1/4 - 11.5 NPTF	4.000	1.752	-	1.313	0.984	0.938	5	Steam Oxide
1315808	●	1- 1/4 - 11.5 NPT, ANPT	4.000	1.752	-	1.313	0.984	0.938	5	TiCN
3312908	●	1- 1/4 - 11.5 NPTF	4.000	1.752	-	1.313	0.984	0.938	5	TiCN
1315900	●	1- 1/2 - 11.5 NPT, ANPT	4.252	1.752	-	1.500	1.125	1.000	7	Bright
1315901	●	1- 1/2 - 11.5 NPT, ANPT	4.252	1.752	-	1.500	1.125	1.000	7	Steam Oxide
1315908	●	1- 1/2 - 11.5 NPT, ANPT	4.252	1.752	-	1.500	1.125	1.000	7	TiCN
1316000	●	2 - 11.5 NPT, ANPT	4.500	1.752	-	1.875	1.406	1.125	7	Bright
1316001	●	2 - 11.5 NPT, ANPT	4.500	1.752	-	1.875	1.406	1.125	7	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

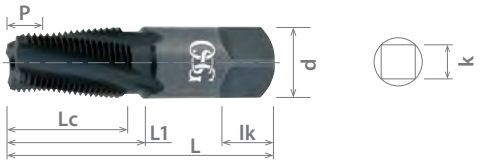
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
15-40 SFM	10-25 SFM	10-20 SFM						15-50 SFM	15-40 SFM	20-35 SFM						

○ Good ◎ Best

List S125

STRAIGHT FLUTE | HSS | BR | S/O | TiCN | 15° | PACKED 1 PIECE

OSG GENERAL PURPOSE-NPT/NPTF SHORT PROJECTION



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Projection P (Inch)	Number of Flutes	Surface Treatment
1250500	●	1/8 - 27 NPT, ANPT	2.126	0.751	0.988	0.438	0.328	0.375	0.234	4	Bright
1250600	●	1/8 - 27 NPTF	2.126	0.751	0.988	0.438	0.328	0.375	0.234	4	Bright
1250501	●	1/8 - 27 NPT, ANPT	2.126	0.751	0.988	0.438	0.328	0.375	0.234	4	Steam Oxide
1250601	●	1/8 - 27 NPTF	2.126	0.751	0.988	0.438	0.328	0.375	0.234	4	Steam Oxide
1250508	●	1/8 - 27 NPT, ANPT	2.126	0.751	0.988	0.438	0.328	0.375	0.234	4	TiCN
1250608	●	1/8 - 27 NPTF	2.126	0.751	0.988	0.438	0.328	0.375	0.234	4	TiCN
1251300	●	1/4 - 18 NPT, ANPT	2.437	1.062	1.318	0.563	0.421	0.438	0.375	4	Bright
1251400	●	1/4 - 18 NPTF	2.437	1.062	1.318	0.563	0.421	0.438	0.375	4	Bright
1251301	●	1/4 - 18 NPT, ANPT	2.437	1.062	1.318	0.563	0.421	0.438	0.375	4	Steam Oxide
1251401	●	1/4 - 18 NPTF	2.437	1.062	1.318	0.563	0.421	0.438	0.375	4	Steam Oxide
1251308	●	1/4 - 18 NPT, ANPT	2.437	1.062	1.318	0.563	0.421	0.438	0.375	4	TiCN
1251408	●	1/4 - 18 NPTF	2.437	1.062	1.318	0.563	0.421	0.438	0.375	4	TiCN
1251700	●	3/8 - 18 NPT, ANPT	2.563	1.062	1.318	0.700	0.531	0.500	0.375	4	Bright
1251800	●	3/8 - 18 NPTF	2.563	1.062	1.318	0.700	0.531	0.500	0.375	4	Bright
1251701	●	3/8 - 18 NPT, ANPT	2.563	1.062	1.318	0.700	0.531	0.500	0.375	4	Steam Oxide
1251801	●	3/8 - 18 NPTF	2.563	1.062	1.318	0.700	0.531	0.500	0.375	4	Steam Oxide
1251708	●	3/8 - 18 NPT, ANPT	2.563	1.062	1.318	0.700	0.531	0.500	0.375	4	TiCN
1251808	●	3/8 - 18 NPTF	2.563	1.062	1.318	0.700	0.531	0.500	0.375	4	TiCN
1252100	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	0.468	4	Bright
1252200	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	0.468	4	Bright
1252101	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	0.468	4	Steam Oxide
1252201	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	0.468	4	Steam Oxide
1252108	●	1/2 - 14 NPT, ANPT	3.126	1.374	-	0.688	0.515	0.625	0.468	4	TiCN
1252208	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	0.468	4	TiCN
1252500	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	0.453	5	Bright
1252600	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	0.453	5	Bright
1252501	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	0.453	5	Steam Oxide
1252601	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	0.453	5	Steam Oxide
1252508	●	3/4 - 14 NPT, ANPT	3.252	1.374	-	0.906	0.679	0.688	0.453	5	TiCN
1252608	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	0.453	5	TiCN
1252900	●	1 - 11.5 NPT, ANPT	3.752	1.751	-	1.125	0.843	0.813	0.578	5	Bright
1253000	●	1 - 11.5 NPTF	3.752	1.751	-	1.125	0.843	0.813	0.578	5	Bright
1252901	●	1 - 11.5 NPT, ANPT	3.752	1.751	-	1.125	0.843	0.813	0.578	5	Steam Oxide
1253001	●	1 - 11.5 NPTF	3.752	1.751	-	1.125	0.843	0.813	0.578	5	Steam Oxide
1252908	●	1 - 11.5 NPT, ANPT	3.752	1.751	-	1.125	0.843	0.813	0.578	5	TiCN
1253008	●	1 - 11.5 NPTF	3.752	1.751	-	1.125	0.843	0.813	0.578	5	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

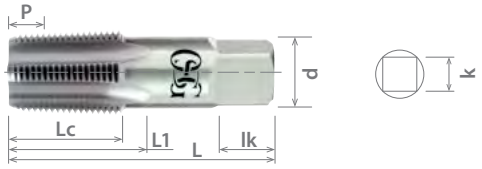
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○						○	○	○							
10-25 SFM	10-20 SFM						15-50 SFM	15-40 SFM	20-35 SFM							

○ Good ◎ Best

List 12006

STRAIGHT FLUTE | HSS | BR | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-NPTF SHORT PROJECTION



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Projection P (Inch)	Number of Flutes
1200600100	●	1/8 - 27 NPTF	2.126	0.752	0.988	0.438	0.328	0.375	0.204	4
1200600600	●	1/8 - 27 NPTF	2.126	0.752	0.988	0.438	0.328	0.375	0.167	4
1200600200	●	1/4 - 18 NPTF	2.437	1.063	1.319	0.563	0.421	0.438	0.306	4
1200600700	●	1/4 - 18 NPTF	2.437	1.063	1.319	0.563	0.421	0.438	0.251	4
1200600300	●	3/8 - 18 NPTF	2.563	1.063	1.319	0.700	0.531	0.500	0.306	4
1200600800	●	3/8 - 18 NPTF	2.563	1.063	1.319	0.700	0.531	0.500	0.251	4
1200600400	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	0.393	4
1200600900	●	1/2 - 14 NPTF	3.126	1.374	-	0.688	0.515	0.625	0.322	4
1200600500	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	0.393	5
1200601000	●	3/4 - 14 NPTF	3.252	1.374	-	0.906	0.679	0.688	0.322	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

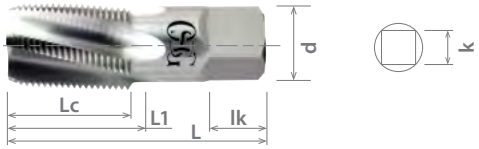
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
15-40 SFM	10-25 SFM	10-20 SFM						15-50 SFM	15-40 SFM	20-35 SFM						

○ Good ◎ Best

List 12007

SPIRAL FLUTE | HSS | BR | 15° | PACKED 1 PIECE

OSG GENERAL PURPOSE-NPT



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes
1200700200	●	1/8 - 27 NPT	2.126	0.751	0.948	0.438	0.328	0.375	4
1200700400	●	1/4 - 18 NPT	2.437	1.062	1.279	0.563	0.421	0.438	4
1200700500	●	3/8 - 18 NPT	2.563	1.062	1.279	0.700	0.531	0.500	4
1200700600	●	1/2 - 14 NPT	3.126	1.374	-	0.688	0.515	0.625	4
1200700700	●	3/4 - 14 NPT	3.252	1.374	-	0.906	0.679	0.688	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

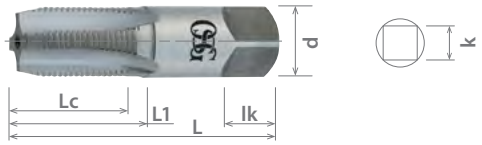
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
15-40 SFM	10-25 SFM	10-20 SFM						15-50 SFM	15-40 SFM	20-35 SFM						

○ Good ◎ Best

List 109

STRAIGHT FLUTE | HSS | BR | S/O | 0° | PACKED 1 PIECE

OSG GENERAL PURPOSE-NPS/NPSF



EDP		Thread Size	Overall Length L (Inch)	Thread Length Lc (Inch)	Neck Length L1 (Inch)	Shank Diameter d (Inch)	Square Width k (Inch)	Square Length lk (Inch)	Number of Flutes	Surface Treatment
1330100	●	1/8 - 27 NPS	2.126	0.752	0.949	0.438	0.328	0.375	4	Bright
1330200	●	1/8 - 27 NPS	2.126	0.752	-	0.313	0.234	0.375	4	Bright
1332600	●	1/8 - 27 NPSF	2.126	0.752	0.949	0.438	0.328	0.375	4	Bright
1332700	●	1/8 - 27 NPSF	2.126	0.752	-	0.313	0.234	0.375	4	Bright
1330101	●	1/8 - 27 NPS	2.126	0.752	0.949	0.438	0.328	0.375	4	Steam Oxide
1330201	●	1/8 - 27 NPS	2.126	0.752	-	0.313	0.234	0.375	4	Steam Oxide
1332601	●	1/8 - 27 NPSF	2.126	0.752	0.949	0.438	0.328	0.375	4	Steam Oxide
1332701	●	1/8 - 27 NPSF	2.126	0.752	-	0.313	0.234	0.375	4	Steam Oxide
1330300	●	1/4 - 18 NPS	2.437	1.063	1.260	0.563	0.421	0.438	4	Bright
1332800	●	1/4 - 18 NPSF	2.437	1.063	1.260	0.563	0.421	0.438	4	Bright
1330301	●	1/4 - 18 NPS	2.437	1.063	1.260	0.563	0.421	0.438	4	Steam Oxide
1332801	●	1/4 - 18 NPSF	2.437	1.063	1.260	0.563	0.421	0.438	4	Steam Oxide
1330400	●	3/8 - 18 NPS	2.563	1.063	1.260	0.700	0.531	0.500	4	Bright
1332900	●	3/8 - 18 NPSF	2.563	1.063	1.260	0.700	0.531	0.500	4	Bright
1330401	●	3/8 - 18 NPS	2.563	1.063	1.260	0.700	0.531	0.500	4	Steam Oxide
1332901	●	3/8 - 18 NPSF	2.563	1.063	1.260	0.700	0.531	0.500	4	Steam Oxide
1330500	●	1/2 - 14 NPS	3.126	1.374	-	0.688	0.515	0.625	4	Bright
1333000	●	1/2 - 14 NPSF	3.126	1.374	-	0.688	0.515	0.625	4	Bright
1330501	●	1/2 - 14 NPS	3.126	1.374	-	0.688	0.515	0.625	4	Steam Oxide
1333001	●	1/2 - 14 NPSF	3.126	1.374	-	0.688	0.515	0.625	4	Steam Oxide
1330600	●	3/4 - 14 NPS	3.252	1.374	-	0.906	0.679	0.688	5	Bright
1333100	●	3/4 - 14 NPSF	3.252	1.374	-	0.906	0.679	0.688	5	Bright
1330601	●	3/4 - 14 NPS	3.252	1.374	-	0.906	0.679	0.688	5	Steam Oxide
1333101	●	3/4 - 14 NPSF	3.252	1.374	-	0.906	0.679	0.688	5	Steam Oxide
1330700	●	1 - 11.5 NPS	3.752	1.752	-	1.125	0.843	0.813	5	Bright
1333200	●	1 - 11.5 NPSF	3.752	1.752	-	1.125	0.843	0.813	5	Bright
1333201	●	1 - 11.5 NPSF	3.752	1.752	-	1.125	0.843	0.813	5	Steam Oxide
1330701	●	1 - 11.5 NPS	3.752	1.752	-	1.125	0.843	0.813	5	Steam Oxide

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings are available upon request.

STT

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○						○	○	○						
15-40 SFM	10-25 SFM	10-20 SFM						15-50 SFM	15-40 SFM	20-35 SFM						

○ Good ◎ Best

List 134

ROUND DIES | HSS | BR | PACKED 1 PIECE

OSG ROUND DIE, Solid Round Dies, Special Alloy Tool Steel



EDP		Thread Size	Major Diameter (Inch)	Outside Diameter (Inch)	Thickness T (Inch)
2723000	●	No. 0 - 80 UNF	0.060	0.625	0.250
2726000	●	No. 0 - 80 UNF	0.060	0.813	0.250
2700100	●	1/16 - 64 UNC	0.063	0.813	0.250
2726200	●	No. 1 - 64 UNC	0.073	0.813	0.250
2723300	●	No. 1 - 72 UNF	0.073	0.625	0.250
2726300	●	No. 1 - 72 UNF	0.073	0.813	0.250
2723400	●	No. 2 - 56 UNC	0.086	0.625	0.250
2726400	●	No. 2 - 56 UNC	0.086	0.813	0.250
2723500	●	No. 2 - 64 UNF	0.086	0.625	0.250
2726500	●	No. 2 - 64 UNF	0.086	0.813	0.250
2700200	●	3/32 - 48 UNC	0.094	0.813	0.250
2726600	●	No. 3 - 48 UNC	0.099	0.813	0.250
2723700	●	No. 3 - 56 UNF	0.099	0.625	0.250
2726700	●	No. 3 - 56 UNF	0.099	0.813	0.250
2726900	●	No. 4 - 36 UNS	0.112	0.813	0.250
2724000	●	No. 4 - 40 UNC	0.112	0.625	0.250
2727000	●	No. 4 - 40 UNC	0.112	0.813	0.250
2724100	●	No. 4 - 48 UNF	0.112	0.625	0.250
2727100	●	No. 4 - 48 UNF	0.112	0.813	0.250
2700300	●	1/8 - 40 UNC	0.125	0.813	0.250
2724200	●	No. 5 - 40 UNC	0.125	0.625	0.250
2727200	●	No. 5 - 40 UNC	0.125	0.813	0.250
2727300	●	No. 5 - 44 UNF	0.125	0.813	0.250
2724400	●	No. 6 - 32 UNC	0.138	0.625	0.250
2727400	●	No. 6 - 32 UNC	0.138	0.813	0.250
2728800	●	No. 6 - 32 UNC	0.138	1.000	0.375
2724600	●	No. 6 - 40 UNF	0.138	0.625	0.250
2727600	●	No. 6 - 40 UNF	0.138	0.813	0.250
2700400	●	5/32 - 32 UNC	0.156	0.813	0.250
2700500	●	5/32 - 36 UNF	0.156	0.813	0.250
2724700	●	No. 8 - 32 UNC	0.164	0.625	0.250
2727700	●	No. 8 - 32 UNC	0.164	0.813	0.250
2729100	●	No. 8 - 32 UNC	0.164	1.000	0.375
2727800	●	No. 8 - 36 UNF	0.164	0.813	0.250
2700600	●	3/16 - 24 UNC	0.188	0.813	0.250
2702400	●	3/16 - 24 UNC	0.188	1.000	0.375
2700700	●	3/16 - 32 UNF	0.188	0.813	0.250
2702500	●	3/16 - 32 UNF	0.188	1.000	0.375
2728000	●	No. 10 - 24 UNC	0.190	0.813	0.250
2729400	●	No. 10 - 24 UNC	0.190	1.000	0.375
2728200	●	No. 10 - 32 UNF	0.190	0.813	0.250
2729600	●	No. 10 - 32 UNF	0.190	1.000	0.375
2728300	●	No. 12 - 24 UNC	0.216	0.813	0.250
2729700	●	No. 12 - 24 UNC	0.216	1.000	0.375
2728400	●	No. 12 - 28 UNF	0.216	0.813	0.250
2700800	●	7/32 - 24 UNC	0.219	0.813	0.250
2701000	●	1/4 - 20 UNC	0.250	0.813	0.250
2702800	●	1/4 - 20 UNC	0.250	1.000	0.375
2704100	●	1/4 - 20 UNC	0.250	1.313	0.438
2706100	●	1/4 - 20 UNC	0.250	1.500	0.500
2710000	●	1/4 - 20 UNC	0.250	2.000	0.625

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

CONTINUED ›

List 134 (Continued)

ROUND DIES | HSS | BR | PACKED 1 PIECE

OSG ROUND DIE, Solid Round Dies, Special Alloy Tool Steel



EDP		Thread Size	Major Diameter (Inch)	Outside Diameter (Inch)	Thickness T (Inch)
2702900	●	1/4 - 24 UNS	0.250	1.000	0.375
2701200	●	1/4 - 28 UNF	0.250	0.813	0.250
2703000	●	1/4 - 28 UNF	0.250	1.000	0.375
2704300	●	1/4 - 28 UNF	0.250	1.313	0.438
2706300	●	1/4 - 28 UNF	0.250	1.500	0.500
2710100	●	1/4 - 28 UNF	0.250	2.000	0.625
2703100	●	1/4 - 32 UNEF	0.250	1.000	0.375
2701400	●	5/16 - 18 UNC	0.313	0.813	0.250
2703200	●	5/16 - 18 UNC	0.313	1.000	0.375
2704500	●	5/16 - 18 UNC	0.313	1.313	0.438
2706500	●	5/16 - 18 UNC	0.313	1.500	0.500
2710400	●	5/16 - 18 UNC	0.313	2.000	0.625
2701500	●	5/16 - 24 UNF	0.313	0.813	0.250
2703300	●	5/16 - 24 UNF	0.313	1.000	0.375
2704600	●	5/16 - 24 UNF	0.313	1.313	0.438
2706600	●	5/16 - 24 UNF	0.313	1.500	0.500
2710500	●	5/16 - 24 UNF	0.313	2.000	0.625
2703400	●	5/16 - 32 UNEF	0.313	1.000	0.375
2703500	●	3/8 - 16 UNC	0.375	1.000	0.375
2704800	●	3/8 - 16 UNC	0.375	1.313	0.438
2706800	●	3/8 - 16 UNC	0.375	1.500	0.500
2710700	●	3/8 - 16 UNC	0.375	2.000	0.625
2703600	●	3/8 - 24 UNF	0.375	1.000	0.375
2704900	●	3/8 - 24 UNF	0.375	1.313	0.438
2706900	●	3/8 - 24 UNF	0.375	1.500	0.500
2710800	●	3/8 - 24 UNF	0.375	2.000	0.625
2703700	●	7/16 - 14 UNC	0.438	1.000	0.375
2705000	●	7/16 - 14 UNC	0.438	1.313	0.438
2707000	●	7/16 - 14 UNC	0.438	1.500	0.500
2710900	●	7/16 - 14 UNC	0.438	2.000	0.625
2703800	●	7/16 - 20 UNF	0.438	1.000	0.375
2705100	●	7/16 - 20 UNF	0.438	1.313	0.438
2707100	●	7/16 - 20 UNF	0.438	1.500	0.500
2711000	●	7/16 - 20 UNF	0.438	2.000	0.625
2705200	●	1/2 - 13 UNC	0.500	1.313	0.438
2707200	●	1/2 - 13 UNC	0.500	1.500	0.500
2711100	●	1/2 - 13 UNC	0.500	2.000	0.625
2705300	●	1/2 - 20 UNF	0.500	1.313	0.438
2707300	●	1/2 - 20 UNF	0.500	1.500	0.500
2711200	●	1/2 - 20 UNF	0.500	2.000	0.625
2707400	●	9/16 - 12 UNC	0.563	1.500	0.500
2711300	●	9/16 - 12 UNC	0.563	2.000	0.625
2707500	●	9/16 - 18 UNF	0.563	1.500	0.500
2711400	●	9/16 - 18 UNF	0.563	2.000	0.625
2707600	●	5/8 - 11 UNC	0.625	1.500	0.500
2711500	●	5/8 - 11 UNC	0.625	2.000	0.625
2713400	●	5/8 - 11 UNC	0.625	2.500	0.750
2707700	●	5/8 - 18 UNF	0.625	1.500	0.500
2711600	●	5/8 - 18 UNF	0.625	2.000	0.625
2711700	●	11/16 - 11 UNS	0.688	2.000	0.625
2711800	●	11/16 - 16 UN	0.688	2.000	0.625
2712000	●	3/4 - 10 UNC	0.750	2.000	0.625
2713800	●	3/4 - 10 UNC	0.750	2.500	0.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

List 134 (Continued)

ROUND DIES | HSS | BR | PACKED 1 PIECE

OSG ROUND DIE, Solid Round Dies, Special Alloy Tool Steel

EDP		Thread Size	Major Diameter (Inch)	Outside Diameter (Inch)	Thickness T (Inch)
2712100	●	3/4 - 16 UNF	0.750	2.000	0.625
2713900	●	3/4 - 16 UNF	0.750	2.500	0.750
2712200	●	7/8 - 9 UNC	0.875	2.000	0.625
2714000	●	7/8 - 9 UNC	0.875	2.500	0.750
2712300	●	7/8 - 14 UNF	0.875	2.000	0.625
2714100	●	7/8 - 14 UNF	0.875	2.500	0.750
2714200	●	1 - 8 UNC	1.000	2.500	0.750
2715000	●	1 - 8 UNC	1.000	3.000	1.000
2714300	●	1 - 12 UNF	1.000	2.500	0.750
2715100	●	1 - 12 UNF	1.000	3.000	1.000
2714400	●	1 - 14 UNS	1.000	2.500	0.750
2715200	●	1 - 14 UNS	1.000	3.000	1.000
2715300	●	1- 1/8 - 7 UNC	1.125	3.000	1.000
2715400	●	1- 1/8 - 12 UNF	1.125	3.000	1.000
2715500	●	1- 1/4 - 7 UNC	1.250	3.000	1.000
2715600	●	1- 1/4 - 12 UNF	1.250	3.000	1.000
2715700	●	1- 3/8 - 6 UNC	1.375	3.000	1.000
2715800	●	1- 3/8 - 12 UNF	1.375	3.000	1.000
2715900	●	1- 1/2 - 6 UNC	1.500	3.000	1.000
2716000	●	1- 1/2 - 12 UNF	1.500	3.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

List 134P

ROUND DIES | HSS | BR | PACKED 1 PIECE

OSG ROUND DIE, Adjustable Round Split Dies, Taper Pipe



EDP		Thread Size	Major Diameter (Inch)	Outside Diameter (Inch)	Thickness T (Inch)
2734000	●	1/8 - 27 NPT	0.125	1.000	0.375
2734100	●	1/8 - 27 NPT	0.125	1.500	0.500
2734200	●	1/4 - 18 NPT	0.250	1.500	0.500
2734400	●	1/4 - 18 NPT	0.250	2.000	0.625
2734300	●	3/8 - 18 NPT	0.375	1.500	0.500
2734500	●	3/8 - 18 NPT	0.375	2.000	0.625
2734600	●	1/2 - 14 NPT	0.500	2.000	0.625

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

List 135

ROUND DIES | HSS | BR | PACKED 1 PIECE

OSG ROUND DIE, Adjustable Round Split Dies



EDP		Thread Size	Major Diameter (mm)	Outside Diameter (mm)	Thickness T (mm)
46011	●	M2 x 0.4	2.00	20.00	7.00
46015	●	M2.3 x 0.4	2.30	20.00	7.00
46017	●	M2.5 x 0.45	2.50	20.00	7.00
46020	●	M2.6 x 0.45	2.60	20.00	7.00
46023	●	M3 x 0.5	3.00	20.00	7.00
46064	●	M3.5 x 0.6	3.50	25.00	9.00
46029	●	M4 x 0.7	4.00	20.00	7.00
46068	●	M4 x 0.7	4.00	25.00	9.00
46070	●	M4.5 x 0.75	4.50	25.00	9.00
46034	●	M5 x 0.8	5.00	20.00	7.00
46074	●	M5 x 0.8	5.00	25.00	9.00
46080	●	M6 x 0.75	6.00	25.00	9.00
46038	●	M6 x 1	6.00	20.00	7.00
46079	●	M6 x 1	6.00	25.00	9.00
46082	●	M7 x 1	7.00	25.00	9.00
46087	●	M8 x 0.75	8.00	25.00	9.00
46086	●	M8 x 1	8.00	25.00	9.00
46085	●	M8 x 1.25	8.00	25.00	9.00
46089	●	M9 x 1.25	9.00	25.00	9.00
46144	●	M10 x 1	10.00	38.00	13.00
46143	●	M10 x 1.25	10.00	38.00	13.00
46093	●	M10 x 1.5	10.00	25.00	9.00
46142	●	M10 x 1.5	10.00	38.00	13.00
46147	●	M11 x 1.5	11.00	38.00	13.00
46155	●	M12 x 1	12.00	38.00	13.00
46154	●	M12 x 1.25	12.00	38.00	13.00
46153	●	M12 x 1.5	12.00	38.00	13.00
46152	●	M12 x 1.75	12.00	38.00	13.00
1351120	●	M12 x 1.75	12.00	25.00	9.00
46165	●	M14 x 1.25	14.00	38.00	13.00
46164	●	M14 x 1.5	14.00	38.00	13.00
46163	●	M14 x 2	14.00	38.00	13.00
46230	●	M16 x 1	16.00	50.00	16.00
46228	●	M16 x 1.5	16.00	50.00	16.00
46227	●	M16 x 2	16.00	50.00	16.00
46241	●	M18 x 1.5	18.00	50.00	16.00
46239	●	M18 x 2.5	18.00	50.00	16.00
46253	●	M20 x 1.5	20.00	50.00	16.00
46251	●	M20 x 2.5	20.00	50.00	16.00
46265	●	M22 x 1.5	22.00	50.00	16.00
46263	●	M22 x 2.5	22.00	50.00	16.00
46279	●	M24 x 1.5	24.00	50.00	16.00
46276	●	M24 x 3	24.00	50.00	16.00
46331	●	M26 x 1.5	26.00	57.00	20.00
46329	●	M26 x 3	26.00	57.00	20.00
46341	●	M28 x 1.5	28.00	57.00	20.00
46347	●	M30 x 1.5	30.00	57.00	20.00
46344	●	M30 x 3.5	30.00	57.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

STT

List 15001

THREAD GAGES | HSS | BR | PACKED 1 PIECE

OSG THREAD GAGE-CLASS 2B, Go/NoGo



EDP		Gage Size	Class of Fit	Gage Length		Pitch Diameter	
				Go (Inch)	No-Go (Inch)	Go (Inch)	No-Go (Inch)
1500100100	●	No. 2 - 56 UNC	2B	0.250	0.188	0.074	0.077
1500100200	●	No. 2 - 64 UNF	2B	0.250	0.188	0.076	0.079
1500100300	●	No. 3 - 48 UNC	2B	0.250	0.188	0.086	0.089
1500100400	●	No. 3 - 56 UNF	2B	0.250	0.188	0.087	0.090
1500100500	●	No. 4 - 40 UNC	2B	0.313	0.219	0.096	0.099
1500100600	●	No. 4 - 48 UNF	2B	0.313	0.219	0.099	0.102
1500100700	●	No. 5 - 40 UNC	2B	0.313	0.219	0.109	0.112
1500100800	●	No. 5 - 44 UNF	2B	0.313	0.219	0.110	0.113
1500100900	●	No. 6 - 32 UNC	2B	0.313	0.219	0.118	0.121
1500101000	●	No. 6 - 40 UNF	2B	0.313	0.219	0.122	0.125
1500101100	●	No. 8 - 32 UNC	2B	0.406	0.281	0.144	0.148
1500101200	●	No. 8 - 36 UNF	2B	0.406	0.281	0.146	0.150
1500101300	●	No. 10 - 24 UNC	2B	0.406	0.281	0.163	0.167
1500101400	●	No. 10 - 32 UNF	2B	0.406	0.281	0.170	0.174
1500101500	●	No. 12 - 24 UNC	2B	0.406	0.281	0.189	0.193
1500101600	●	No. 12 - 28 UNF	2B	0.406	0.281	0.193	0.197
1500101700	●	1/4 - 20 UNC	2B	0.500	0.313	0.218	0.222
1500101800	●	1/4 - 28 UNF	2B	0.500	0.313	0.227	0.231
1500101900	●	5/16 - 18 UNC	2B	0.500	0.313	0.276	0.282
1500102000	●	5/16 - 24 UNF	2B	0.500	0.313	0.285	0.290
1500102100	●	3/8 - 16 UNC	2B	0.750	0.375	0.334	0.340
1500102200	●	3/8 - 24 UNF	2B	0.750	0.375	0.348	0.353
1500102300	●	7/16 - 14 UNC	2B	0.750	0.375	0.391	0.397
1500102400	●	7/16 - 20 UNF	2B	0.750	0.375	0.405	0.410
1500102500	●	1/2 - 13 UNC	2B	0.750	0.375	0.450	0.457
1500102600	●	1/2 - 20 UNF	2B	0.750	0.375	0.468	0.473
1500102700	●	9/16 - 12 UNC	2B	0.875	0.500	0.508	0.515
1500102800	●	9/16 - 18 UNF	2B	0.875	0.500	0.526	0.532
1500102900	●	5/8 - 11 UNC	2B	0.875	0.500	0.566	0.573
1500103000	●	5/8 - 18 UNF	2B	0.875	0.500	0.589	0.595
1500103100	●	3/4 - 10 UNC	2B	0.875	0.500	0.685	0.693
1500103200	●	3/4 - 16 UNF	2B	0.875	0.500	0.709	0.716
1500103300	●	7/8 - 9 UNC	2B	1.000	0.625	0.803	0.811
1500103400	●	7/8 - 14 UNF	2B	1.000	0.625	0.829	0.836
1500103500	●	1 - 8 UNC	2B	1.000	0.625	0.919	0.928
1500103600	●	1 - 12 UNF	2B	1.000	0.625	0.946	0.954
1500103700	●	1 - 14 UNS	2B	1.000	0.625	0.954	0.961
1500103800	●	1- 1/8 - 7 UNC	2B	1.000	0.625	1.032	1.042
1500103900	●	1- 1/8 - 12 UNF	2B	1.000	0.625	1.071	1.079
1500104000	●	1- 1/4 - 7 UNC	2B	1.250	0.750	1.157	1.167
1500104100	●	1- 1/4 - 12 UNF	2B	1.000	0.750	1.196	1.204
1500104200	●	1- 3/8 - 6 UNC	2B	1.250	0.750	1.267	1.277
1500104300	●	1- 3/8 - 12 UNF	2B	1.000	0.750	1.321	1.329
1500104400	●	1- 1/2 - 6 UNC	2B	1.250	0.750	1.392	1.402
1500104500	●	1- 1/2 - 12 UNF	2B	1.000	0.750	1.446	1.454

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

Note: OSG Inch Thread Plug Gages are manufactured to Class X tolerances per ANSI B1.2 (Unified Inch Screw Threads). OSG Thread Gages are made from High Speed Steel (HSS) to 64 HRC. Short Form Certificates of Conformance are available with gages for no charge.

Long Form Certificates available upon request.

List 15002

OSG THREAD GAGE-CLASS 6H, Go/NoGo

THREAD GAGES | HSS | BR | PACKED 1 PIECE



EDP		Gage Size	Class of Fit	Gage Length		Pitch Diameter	
				Go (mm)	No-Go (mm)	Go (mm)	No-Go (mm)
1500200100	●	M3 x 0.5	6H	7.90	5.60	2.68	2.78
1500200200	●	M3.5 x 0.6	6H	7.90	5.60	3.11	3.22
1500200300	●	M4 x 0.7	6H	10.30	7.10	3.55	3.66
1500200400	●	M5 x 0.8	6H	10.30	7.10	4.48	4.61
1500200500	●	M6 x 0.75	6H	12.70	7.90	5.51	5.65
1500200600	●	M6 x 1	6H	12.70	7.90	5.35	5.50
1500200700	●	M7 x 1	6H	12.70	7.90	6.35	6.50
1500200800	●	M8 x 1	6H	12.70	7.90	7.35	7.50
1500200900	●	M8 x 1.25	6H	12.70	7.90	7.19	7.35
1500201000	●	M10 x 1	6H	19.00	9.50	9.35	9.50
1500201100	●	M10 x 1.25	6H	19.00	9.50	9.19	9.35
1500201200	●	M10 x 1.5	6H	19.00	9.50	9.03	9.21
1500201300	●	M12 x 1.25	6H	19.00	9.50	11.19	11.37
1500201400	●	M12 x 1.5	6H	19.00	9.50	11.03	11.22
1500201500	●	M12 x 1.75	6H	19.00	9.50	10.86	11.06
1500201600	●	M14 x 1.5	6H	22.20	12.70	13.03	13.22
1500201700	●	M14 x 2	6H	22.20	12.70	12.70	12.91
1500201800	●	M16 x 1.5	6H	22.20	12.70	15.03	15.22
1500201900	●	M16 x 2	6H	22.20	12.70	14.70	14.91
1500202000	●	M18 x 1.5	6H	22.20	12.70	17.03	17.22
1500202100	●	M18 x 2.5	6H	22.20	12.70	16.38	16.60
1500202200	●	M20 x 1.5	6H	22.20	12.70	19.03	19.22
1500202300	●	M20 x 2.5	6H	22.20	12.70	18.38	18.60
1500202400	●	M22 x 1.5	6H	25.40	15.90	21.03	21.22
1500202500	●	M22 x 2.5	6H	25.40	15.90	20.38	20.60
1500202600	●	M24 x 1.5	6H	25.40	15.90	23.03	23.23
1500202700	●	M24 x 2	6H	25.40	15.90	22.70	22.93
1500202800	●	M24 x 3	6H	25.40	15.90	22.05	22.32

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

Note: OSG Metric Thread Plug Gages are manufactured to Class X tolerances per ANSI B1.16M (Metric M Series Screw Threads). OSG Thread Gages are made from High Speed Steel (HSS) to 64 HRC. Short Form Certificates of Conformance are available with gages for no charge.

Long Form Certificates available upon request.

List 15003

THREAD GAGES | HSS | BR | TiN | PACKED 1 PIECE

OSG THREAD GAGE-CLASS 3B, Go/NoGo



EDP		Gage Size	Class of Fit	Gage Length		Pitch Diameter		Surface Treatment
				Go (Inch)	No-Go (Inch)	Go (Inch)	No-Go (Inch)	
1500300100	●	No. 2 - 56 UN(J)C	3B	0.236	0.197	0.074	0.077	Bright
1500300200	●	No. 4 - 40 UN(J)C	3B	0.315	0.236	0.096	0.098	Bright
1500300305	●	No. 6 - 32 UN(J)C	3B	0.315	0.236	0.118	0.120	TiN
1500300405	●	No. 8 - 32 UN(J)C	3B	0.394	0.276	0.144	0.147	TiN
1500300505	●	No. 10 - 32 UN(J)F	3B	0.394	0.276	0.170	0.173	TiN
1500300605	●	1/4 - 20 UN(J)C	3B	0.512	0.315	0.218	0.221	TiN
1500300705	●	1/4 - 28 UN(J)F	3B	0.512	0.315	0.227	0.230	TiN
1500300805	●	5/16 - 18 UN(J)C	3B	0.512	0.315	0.276	0.280	TiN
1500300905	●	5/16 - 24 UN(J)F	3B	0.512	0.315	0.285	0.289	TiN
1500301005	●	3/8 - 24 UN(J)F	3B	0.748	0.394	0.348	0.352	TiN
1500301105	●	7/16 - 20 UN(J)F	3B	0.748	0.394	0.405	0.409	TiN
1500301205	●	1/2 - 20 UN(J)F	3B	0.748	0.394	0.468	0.472	TiN
1500301305	●	9/16 - 18 UN(J)F	3B	0.866	0.512	0.526	0.531	TiN
1500301405	●	5/8 - 18 UN(J)F	3B	0.866	0.512	0.589	0.593	TiN
1500301505	●	3/4 - 16 UN(J)F	3B	0.866	0.512	0.709	0.714	TiN
1500301605	●	7/8 - 14 UN(J)F	3B	0.984	0.630	0.829	0.834	TiN
1500301705	●	1 - 12 UN(J)F	3B	0.984	0.630	0.946	0.952	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXT

THREADING
Technical



Tap and Screw Thread Terminology

Allowance: The minimum clearance or maximum interference which is intended between mating parts.

Angle of Thread: The angle included between the flanks of a thread measured in an axial plane.

Back Taper: A slight taper on the threaded portion of the tap, making the pitch diameter near the shank smaller than that at the chamfer.

Basic: The theoretical or nominal standard size from which all variations are made.

Chamfer: The tapered and relieved cutting teeth at the front end of the threaded section. Common types of chamfer are taper (8 to 10 threads long), plug (3 to 5 threads), semi (or modified) bottom (2.5 to 3 threads), and bottoming (1-1/2 threads).

Crest: The top surface joining the two sides or flanks of a thread.

Cutting Face: The leading side of the land.

Flute: The longitudinal channels formed on a tap to create cutting edges on the thread profile.

Heel: The following side of the land.

Height of Thread: In profile, distance between crest and bottom section of thread measured to the axis.

Hook Face: A concave cutting face of the land. This may be varied for different materials and conditions.

Interrupted Thread: Alternate teeth are removed in the thread helix on a tap having an odd number of flutes.

Land: Threaded sections between the flutes of a tap.

Lead of Thread: The distance a screw thread advances axially in one turn.

Major Diameter: The largest diameter of the screw or nut on a straight screw thread.

Minor Diameter: The smallest diameter of the screw or nut on a straight screw thread.

Neck: The reduced diameter, on some taps, between the threaded portion and the shank.

Pitch: The distance from a point on one thread to a corresponding point on the next thread, measured parallel to the axis of rotation.

Pitch Diameter: On a straight screw thread, the diameter of an imaginary cylinder where the width of the thread and the width of the space between threads is equal.

Point Diameter: The diameter at the leading end of the chamfered portion.

Rake Angle: The angle of the cutting face of the land in relation to an axial plane intersecting the cutting face at the major diameter.

Relief: The removal of metal behind the cutting edge to provide clearance between the part being threaded and a portion of the threaded land. Also, see back taper.

- **Chamfer Relief**: The gradual decrease in land height from cutting edge to heel on the chamfered portion of the tap land to provide radial clearance for the cutting edge.
- **Con-eccentric Relief**: Radial relief in the thread form starting back of a concentric margin.
- **Eccentric Thread Relief**: Radial relief in the thread form starting at the cutting edge and continuing to the heel.

Root: The bottom surface joining the flanks of two adjacent threads.

Side or Flank Thread: The surface of the thread which connects the crest to the root.

Shank: The portion of the tap by which it is held.

Spiral Point: An oblique cutting edge ground into the lands to provide a shear cutting action on the first few threads.

Square: The squared end of the tap shank by which the tap is driven.

Thread: The helical formed portion of the tap which produces the pitch in a pre-existing hole.

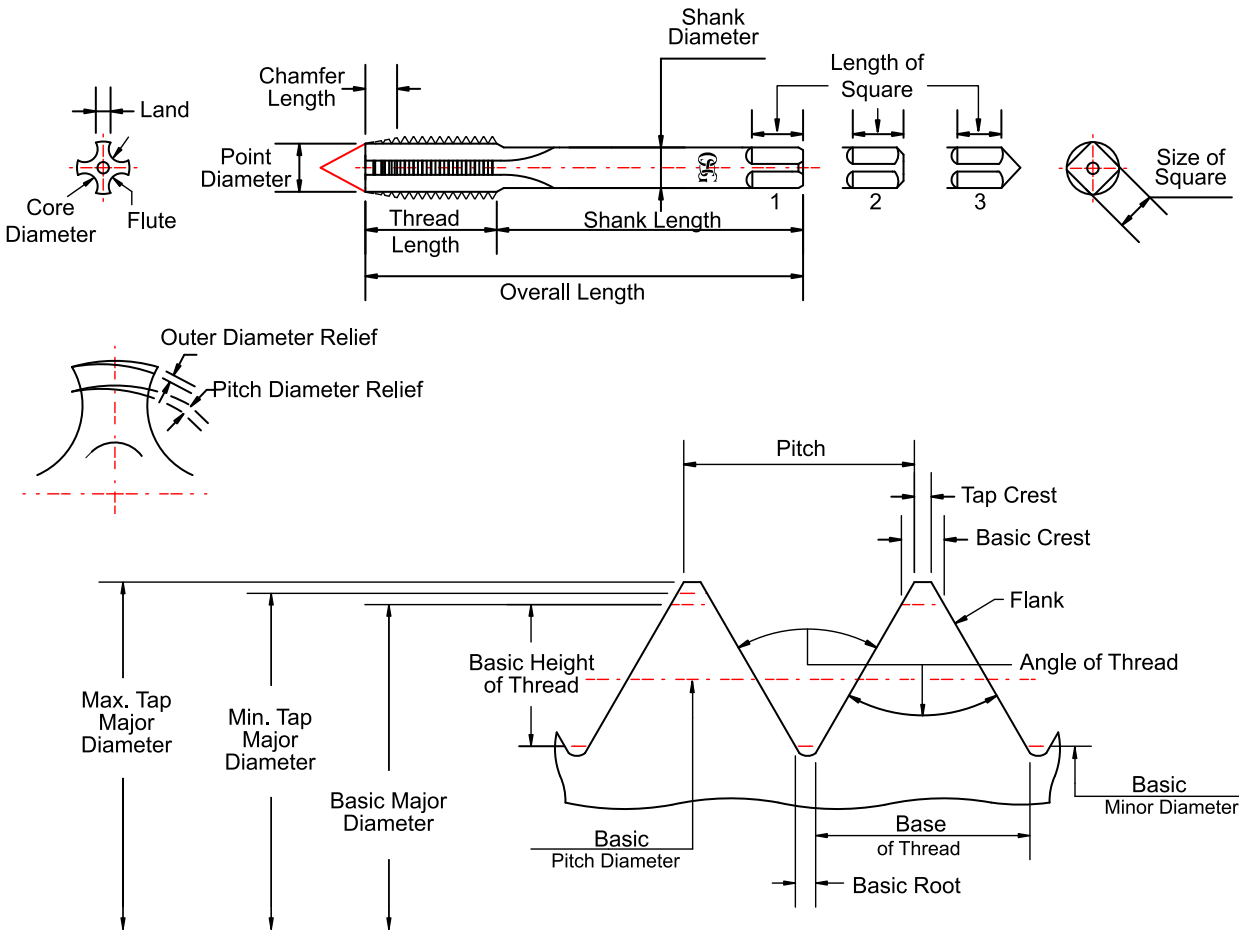
Thread Lead Angle: The angle made by the helix of the thread at the pitch diameter, with a plane perpendicular to the axis.

Threads per Inch: The number of threads in one inch of length.

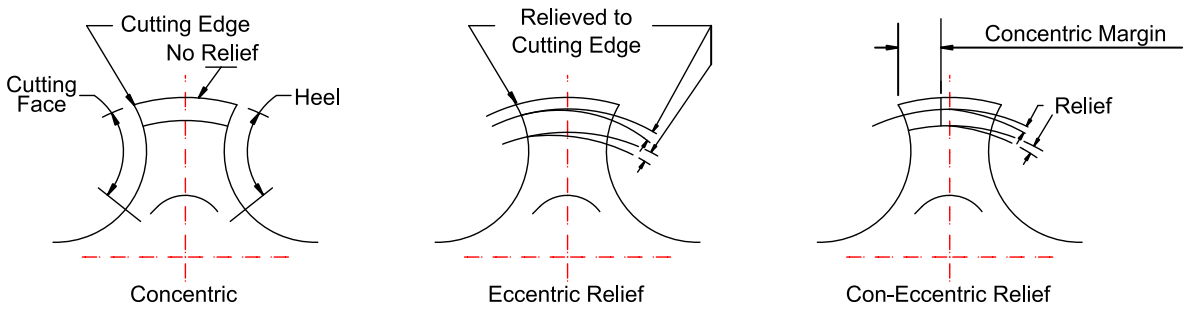
Thread:

Single:	A thread in which lead is equal to pitch.
Double:	A thread in which lead is equal to twice the pitch.
Triple:	A thread in which lead is equal to triple the pitch.

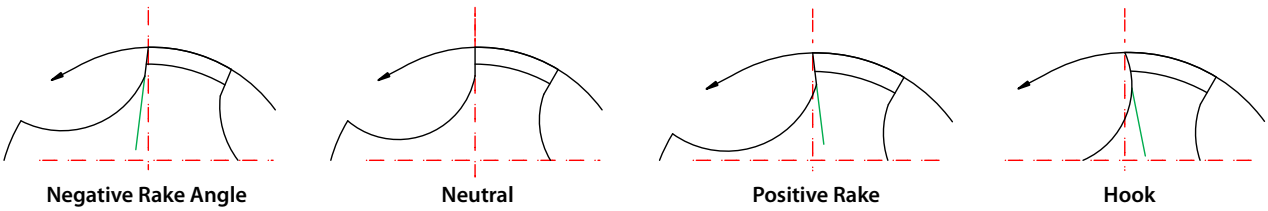
Illustration of Tap Terms



Relief Styles



Cutting Angles



Tapping Speed Guide

SFM to RPM Conversion charts

Surface Footage	Conversion Table - Surface Feet Per Minute (SFM) to Revolutions Per Minute (RPM) - Inch														
	5	10	15	20	25	30	40	50	60	70	80	90	100	125	150
Tap Size	Revolutions Per Minute														
0	318	637	955	1273	1592	1910	2547	3183	3820	4457	5093	5730	6367	7958	9550
1	262	523	785	1047	1308	1570	2093	2616	3140	3663	4186	4710	5233	6541	7849
2	222	444	666	888	1110	1333	1777	2221	2665	3109	3553	3998	4442	5552	6663
3	193	386	579	772	965	1158	1543	1929	2315	2701	3087	3473	3859	4823	5788
4	171	341	512	682	853	1023	1364	1705	2046	2388	2729	3070	3411	4263	5116
5	153	306	458	611	764	917	1222	1528	1834	2139	2445	2750	3056	3820	4584
6	138	277	415	554	692	830	1107	1384	1661	1938	2214	2491	2768	3460	4152
8	116	233	349	466	582	699	932	1165	1398	1630	1863	2086	2329	2912	3494
10	101	201	302	402	503	603	804	1005	1206	1407	1608	1809	2011	2513	3016
12	88	177	265	354	442	531	707	884	1061	1238	1415	1592	1769	2211	2653
1/4	76	153	229	306	382	458	611	764	917	1070	1222	1375	1528	1910	2292
5/16	61	122	183	244	306	367	489	611	733	856	978	1100	1222	1528	1834
3/8	51	102	153	204	255	306	407	509	611	713	815	917	1019	1273	1528
7/16	44	87	131	175	218	262	349	437	524	611	699	786	873	1091	1310
1/2	38	76	115	153	191	229	306	382	458	535	611	688	764	955	1146
9/16	34	68	102	136	170	204	272	340	407	475	543	611	679	849	1019
5/8	31	61	92	122	153	183	244	306	367	428	489	550	611	764	914
3/4	25	51	76	102	127	153	204	255	306	357	407	458	509	637	764
7/8	22	44	65	87	109	131	175	218	262	306	349	393	437	546	655
1	19	38	57	76	96	115	153	191	229	267	306	344	382	478	573
1 1/8	17	34	51	68	85	102	136	170	204	238	272	306	340	424	509
1 1/4	15	31	46	61	76	92	122	153	183	214	244	275	306	382	458
1 3/8	14	28	42	56	69	83	111	139	167	194	222	250	278	347	417
1 1/2	13	25	38	51	64	76	102	127	153	178	204	229	255	318	382
1 5/8	12	24	35	47	59	71	94	118	141	165	188	212	235	294	353
1 3/4	11	22	33	44	55	65	87	109	131	153	175	196	218	273	327
2	10	19	29	38	48	57	76	96	115	134	153	172	191	239	287
2 1/8	9	18	27	36	45	54	72	90	108	126	144	162	180	225	270

Surface Footage	Conversion Table - Surface Feet Per Minute (SFM) to Revolutions Per Minute (RPM) - Metric														
	5	10	15	20	25	30	40	50	60	70	80	90	100	125	150
Tap Size	Revolutions Per Minute														
M2	243	485	728	970	1213	1455	1941	2426	2911	3396	3881	4366	4851	6064	7277
M3	162	323	485	647	809	970	1294	1617	1941	2264	2587	2911	3234	4043	4851
M4	121	243	364	485	606	728	970	1213	1455	1698	1941	2183	2426	3032	3639
M5	97	194	291	388	485	582	776	970	1164	1358	1552	1747	1941	2426	2911
M6	81	162	243	323	404	485	647	809	970	1132	1294	1455	1617	2021	2426
M8	61	121	182	243	303	364	485	606	728	849	970	1092	1213	1516	1819
M10	49	97	146	194	243	291	388	485	582	679	776	873	970	1213	1455
M12	40	81	121	162	202	243	323	404	485	566	647	728	809	1011	1213
M14	35	69	104	139	173	208	277	347	416	485	554	624	693	866	1040
M16	30	61	91	121	152	182	243	303	364	424	485	546	606	758	910
M18	27	54	81	108	135	162	216	270	323	377	431	485	539	674	809
M20	24	49	73	97	121	146	194	243	291	340	388	437	485	606	728
M24	20	40	61	81	101	121	162	202	243	283	323	364	404	505	606
M27	18	36	54	72	90	108	144	180	216	252	287	323	359	449	539
M30	16	32	49	65	81	97	129	162	194	226	259	291	323	404	485
M33	15	29	44	59	74	88	118	147	176	206	235	265	294	368	441
M36	13	27	40	54	67	81	108	135	162	189	216	243	270	337	404
M39	12	25	37	50	62	75	100	124	149	174	199	224	249	311	373
M42	12	23	35	46	58	69	92	116	139	162	185	208	231	289	347
M45	11	22	32	43	54	65	86	108	129	151	172	194	216	270	323
M48	10	20	30	40	51	61	81	101	121	142	162	182	202	253	303
M56	9	17	26	35	43	52	69	87	104	121	139	156	173	217	260

Formulas

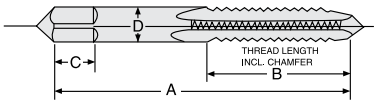
SFM (Surface Feet per Minute) = 0.262 x RPM x D

RPM (Revolutions Per Minute) = (3.82 x SFM) / D

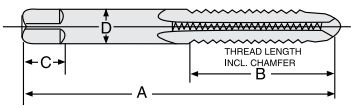
Note: D = Diameter (Must be in inches)

ANSI General Tap Dimensions (USCTI Table 302)

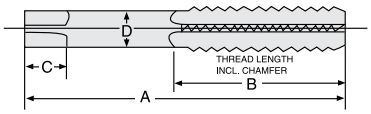
Blank Style 1



Blank Style 2



Blank Style 3



Nominal Diameter Range (Inch)		Mach. Screw Size No.	Nominal Fractional Diameter Inches	Nominal Metric Diameter Millimeters	Style	Tap Dimensions (Inch)				
Over	To (Incl.)					Overall Length A	Thread Length B	Square Length C	Shank Diameter D	Size of Square
0.052	0.065	0	1/16	–	1	1 5/8	5/16	3/16	0.141	0.110
0.065	0.078	1	–	M1.8	1	1 11/16	3/8	3/16	0.141	0.110
0.078	0.091	2	–	M2, M2.2	1	1 3/4	7/16	3/16	0.141	0.110
0.091	0.104	3	3/32	M2.5	1	1 13/16	1/2	3/16	0.141	0.110
0.104	0.117	4	–	–	1	1 7/8	9/16	3/16	0.141	0.110
0.117	0.130	5	1/8	M3, M3.15	1	1 15/16	5/8	3/16	0.141	0.110
0.130	0.145	6	–	M3.5	1	2	11/16	3/16	0.141	0.110
0.145	0.171	8	5/32	M4	1	2 1/8	3/4	1/4	0.168	0.131
0.171	0.197	10	3/16	M4.5, M5	1	2 3/8	7/8	1/4	0.194	0.152
0.197	0.223	12	7/32	–	1	2 3/8	15/16	9/32	0.220	0.165
0.223	0.260	14	1/4	M6, M6.3	2	2 1/2	1	5/16	0.255	0.191
0.260	0.323	–	5/16	M7, M8	2	2 23/32	1 1/8	3/8	0.318	0.238
0.323	0.385	–	3/8	M10	2	2 15/16	1 1/4	7/16	0.381	0.286
0.385	0.448	–	7/16	–	3	3 5/32	1 7/16	13/32	0.323	0.242
0.448	0.510	–	1/2	M12, M12.5	3	3 3/8	1 21/32	7/16	0.367	0.275
0.510	0.573	–	9/16	M14	3	3 19/32	1 21/32	1/2	0.429	0.322
0.573	0.635	–	5/8	M16	3	3 13/16	1 13/16	9/16	0.480	0.360
0.635	0.709	–	11/16	M18	3	4 1/32	1 13/16	5/8	0.542	0.406
0.709	0.760	–	3/4	–	3	4 1/4	2	11/16	0.590	0.442
0.760	0.823	–	13/16	M20	3	4 15/32	2	11/16	0.652	0.489
0.823	0.885	–	7/8	M22	3	4 11/16	2 7/32	3/4	0.697	0.523
0.885	0.948	–	15/16	M24	3	4 29/32	2 7/32	3/4	0.760	0.570
0.948	1.010	–	1	M25	3	5 1/8	2 1/2	13/16	0.800	0.600
1.010	1.073	–	1 1/16	M27	3	5 1/8	2 1/2	7/8	0.896	0.672
1.073	1.135	–	1 1/8	–	3	5 7/16	2 9/16	7/8	0.896	0.672
1.135	1.198	–	1 3/16	M30	3	5 7/16	2 9/16	1	1.021	0.766
1.198	1.260	–	1 1/4	–	3	5 3/4	2 9/16	1	1.021	0.766
1.260	1.323	–	1 5/16	M33	3	5 3/4	2 9/16	1 1/16	1.108	0.831
1.323	1.385	–	1 3/8	–	3	6 1/16	3	1 1/16	1.108	0.831
1.385	1.448	–	1 7/16	M36	3	6 1/16	3	1 1/8	1.233	0.925
1.448	1.510	–	1 1/2	–	3	6 3/8	3	1 1/8	1.233	0.925
1.510	1.635	–	1 5/8	M39	3	6 11/16	3 3/16	1 1/8	1.305	0.979
1.635	1.760	–	1 3/4	M42	3	7	3 3/16	1 1/4	1.430	1.072
1.760	1.885	–	1 7/8	–	3	7 5/16	3 9/16	1 1/4	1.519	1.139
1.885	2.010	–	2	M48	3	7 5/8	3 9/16	1 3/8	1.644	1.233
2.010	2.135	–	2 1/8	–	3	8	3 9/16	1 3/8	1.769	1.327
2.135	2.260	–	2 1/4	M56	3	8 1/4	3 9/16	1 7/16	1.894	1.420
2.260	2.385	–	2 3/8	–	3	8 1/2	4	1 7/16	2.019	1.514
2.385	2.510	–	2 1/2	–	3	8 3/4	4	1 1/2	2.100	1.575
2.510	2.635	–	2 5/8	M64	3	8 3/4	4	1 1/2	2.250	1.669
2.635	2.760	–	2 3/4	–	3	9 1/4	4	1 9/16	2.350	1.762
2.760	2.885	–	2 7/8	M72	3	9 1/4	4	1 9/16	2.475	1.856
2.885	3.010	–	3	–	3	9 3/4	4 9/16	1 5/8	2.543	1.907
3.010	3.135	–	3 1/8	–	3	9 3/4	4 9/16	1 5/8	2.668	2.001
3.135	3.260	–	3 1/4	M80	3	10	4 9/16	1 3/4	2.793	2.095
3.260	3.385	–	3 3/8	–	3	10	4 9/16	1 3/4	2.883	2.162
3.385	3.510	–	3 1/2	–	3	10 1/4	4 15/16	2	3.008	2.256
3.510	3.635	–	3 5/8	M90	3	10 1/4	4 15/16	2	3.133	2.350
3.635	3.760	–	3 3/4	–	3	10 1/2	5 5/16	2 1/8	3.217	2.413
3.760	3.885	–	3 7/8	–	3	10 1/2	5 5/16	2 1/8	3.342	2.506
3.885	4.010	–	4	M100	3	10 3/4	5 5/16	2 1/2	3.467	2.600

Note: Unless otherwise specified, all OSG taps conform to the dimensions listed above in USCTI Table 302.

Spiral Pointed and Spiral Fluted, JIS (Table 350)

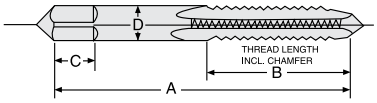
Diameter	Pitch	General Dimensions (Metric)					Ground Thread Limits Class	Pitch Diameter Limit		
		Overall Length A	Length of Thread B	Length of Square C	Shank Diam. D	Size of Square E		Basic	Min.	Max.
M2	0.4	40	15	5	3	2.5	2	1.740	1.750	1.770
M2.3	0.4	42	15	5	3	2.5	2	2.040	2.050	2.070
M2.6	0.45	44	16	5	3	2.5	2	2.308	2.318	2.333
M3	0.5	46	18	6	4	3.2	2	2.675	2.685	2.700
M3.5	0.6	48	18	6	4	3.2	2	3.110	3.120	3.135
M4	0.7	52	20	7	5	4	2	3.545	3.555	3.575
M4.5	0.75	55	20	7	5	4	2	4.013	4.023	4.043
M5	0.8	60	22	7	5.5	4.5	2	4.480	4.490	4.510
M6	0.75	62	20	7	6	4.5	2	5.513	5.523	5.543
	1	62	24	7	6	4.5	2	5.350	5.360	5.380
M7	1	65	6	8	6.2	5	2	6.350	6.360	6.380
M8	0.75	62	20	8	6.2	5	2	7.513	7.525	7.550
	1	70	30	8	6.2	5	2	7.350	7.360	7.380
	1.25	70	30	8	6.2	5	2	7.188	7.198	7.223
M9	1.25	72	30	8	7	5.5	2	8.188	8.198	8.223
M10	1	70	30	8	7	5.5	2	9.350	9.362	9.387
	1.25	75	32	8	7	5.5	2	9.188	9.198	9.223
	1.5	75	32	8	7	5.5	2	9.026	9.041	9.066
M11	1.5	80	38	9	8	6	2	10.026	10.041	10.066
M12	1	70	30	9	8.5	6.5	2	11.350	11.365	11.395
	1.25	80	38	9	8.5	6.5	2	11.188	11.203	11.233
	1.5	82	38	9	8.5	6.5	2	11.026	11.041	11.071
	1.75	82	38	9	8.5	6.5	2	10.863	10.878	10.908
M14	1.25	80	38	11	10.5	8	2	13.188	13.203	13.233
	1.5	88	42	11	10.5	8	2	13.026	13.041	13.071
	2	88	42	11	10.5	8	2	12.701	12.716	12.746
M16	1	75	30	13	12.5	10	2	15.350	15.365	15.395
	1.5	95	45	13	12.5	10	2	15.026	15.041	15.071
	2	95	45	13	12.5	10	2	14.701	14.716	14.746
M18	1.5	95	45	14	14	11	2	17.026	17.041	17.071
	2	95	45	14	14	11	2	16.701	16.716	16.751
	2.5	100	48	14	14	11	2	16.376	16.396	16.431
M20	1.5	95	45	15	15	12	2	19.026	19.041	19.076
	2.5	100	48	15	15	12	2	18.376	19.396	18.431
M22	1.5	95	45	16	17	13	2	21.026	21.041	21.076
	2.5	115	55	16	17	13	2	20.376	20.396	20.431
M24	1.5	95	45	18	19	15	2	23.026	23.041	23.076
	3	120	58	18	19	15	2	22.051	22.071	22.111
M26	1.5	95	45	18	20	15	2	25.026	25.041	25.076
	3	130	62	18	20	15	2	24.051	24.071	24.076
M28	1.5	105	45	20	21	17	2	27.026	27.041	27.076
M30	1.5	105	45	20	23	17	2	29.026	29.041	29.076
	3.5	135	65	20	23	17	2	27.727	27.747	27.787
M32	1.5	105	45	22	24	19	2	31.026	31.041	31.076
M33	1.5	110	45	22	25	19	2	32.026	32.041	32.076
M34	1.5	110	45	24	26	21	2	33.026	33.041	33.076
M36	1.5	110	45	24	28	21	2	35.026	35.041	35.076

Note: Dimensions are in millimeters

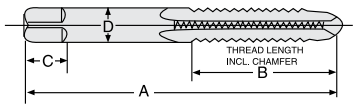
Screw Thread Inserts General Tap Dimensions - Inch

(USCTI Table 322)

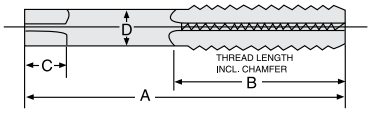
Blank Style 1



Blank Style 2



Blank Style 3

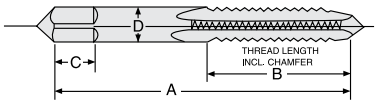


Nominal SIze	Threads Per Inch		Blank Design No.	Tap Dimensions (Inch)					Table 302 Blank Equivalent
	UNC	UNF		A	B	C	D	Size of Square	
1	64	–	1	1.810	0.500	0.190	0.141	0.110	No. 3
2	56	–	1	1.880	0.560	0.190	0.141	0.110	No. 4
	–	64	1	1.880	0.560	0.190	0.141	0.110	No. 4
3	48	–	1	1.940	0.630	0.190	0.141	0.110	No. 5
	–	56	1	1.940	0.630	0.190	0.141	0.110	No. 5
4	40	–	1	2.000	0.690	0.190	0.141	0.110	No. 6
	–	48	1	2.000	0.690	0.190	0.141	0.110	No. 6
5	40	–	1	2.130	0.750	0.250	0.168	0.131	No. 8
6	32	–	1	2.380	0.880	0.250	0.194	0.152	No. 10
	–	40	1	2.130	0.750	0.250	0.168	0.131	No. 8
8	32	–	1	2.380	0.940	0.280	0.220	0.165	No. 12
	–	36	1	2.380	0.940	0.280	0.220	0.165	No. 12
10	24	–	2	2.500	1.000	0.310	0.255	0.191	1/4
	–	32	2	2.500	1.000	0.310	0.255	0.191	1/4
12	12	–	2	2.720	1.130	0.380	0.318	0.238	5/16
1/4	20	–	2	2.720	1.130	0.380	0.318	0.238	5/16
	–	28	2	2.720	1.130	0.380	0.318	0.238	5/16
5/16	18	–	2	2.940	1.250	0.440	0.381	0.286	3/8
	–	24	2	2.940	1.250	0.440	0.381	0.286	3/8
3/8	16	–	3	3.380	1.660	0.440	0.367	0.275	1/2
	–	24	3	3.160	1.440	0.410	0.323	0.242	7/16
7/16	14	–	3	3.590	1.660	0.500	0.429	0.322	9/16
	–	20	3	3.380	1.660	0.440	0.367	0.275	1/2
1/2	13	–	3	3.810	1.810	0.560	0.480	0.360	5/8
	–	20	3	3.590	1.660	0.500	0.429	0.322	9/16
9/16	12	–	3	4.030	1.810	0.630	0.542	0.406	11/16
	–	18	3	3.810	1.810	0.560	0.480	0.360	5/8
5/8	11	–	3	4.250	2.000	0.690	0.590	0.442	3/4
	–	18	3	4.030	1.810	0.630	0.542	0.406	11/16
3/4	10	–	3	4.690	2.220	0.750	0.697	0.523	7/8
	–	16	3	4.470	2.000	0.690	0.652	0.489	13/16
7/8	9	–	3	5.130	2.500	0.810	0.800	0.600	1"
	–	14	3	5.130	2.500	0.810	0.800	0.600	1"
1	8	–	3	5.750	2.560	1.000	1.021	0.766	1 1/4
	–	12	3	5.440	2.560	0.880	0.896	0.672	1 1/8

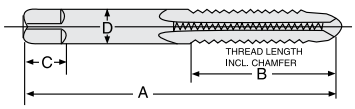
These taps are oversize to the extent that the internal thread they produce will accommodate a helical coil screw thread insert, which, at final assembly, will accept a screw thread of the normal size and pitch.

Screw Thread Inserts General Tap Dimensions - Metric (USCTI Table 322A)

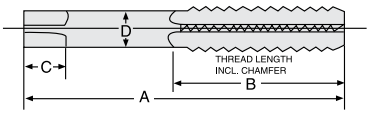
Blank Style 1



Blank Style 2



Blank Style 3



Nominal SIze	Pitch		Blank Design No.	Tap Dimensions (Inch)					Table 302 Blank Equivalent
	M	MF		A	B	C	D	Size of Square	
M2.2	0.45	–	1	1.880	0.560	0.190	0.141	0.110	No. 4
M2.5	0.45	–	1	1.940	0.630	0.190	0.141	0.110	No. 5
M3	0.5	–	1	2.000	0.690	0.190	0.141	0.110	No. 6
M3.5	0.6	–	1	2.130	0.750	0.250	0.117	0.131	No. 8
M4	0.7	–	1	2.380	0.880	0.250	0.194	0.152	No. 10
M5	0.8	–	2	2.500	1.000	0.310	0.255	0.191	1/4
M6	1	–	2	2.720	1.130	0.380	0.318	0.238	5/16
M7	1	–	2	2.940	1.250	0.440	0.381	0.286	3/8
M8	1.25	–	2	2.940	1.250	0.440	0.381	0.286	3/8
	–	1	2	2.940	1.250	0.440	0.381	0.286	3/8
M10	1.5	–	3	3.380	1.660	0.440	0.367	0.275	1/2
	–	1.25	3	3.380	1.660	0.440	0.367	0.275	1/2
	–	1	3	3.160	1.440	0.410	0.323	0.242	7/16
M12	1.75	–	3	3.590	1.660	0.500	0.429	0.322	9/16
	–	1.5	3	3.590	1.660	0.500	0.429	0.322	9/16
	–	1.25	3	3.590	1.660	0.500	0.429	0.322	9/16
M14	2	–	3	4.030	1.810	0.630	0.542	0.406	11/16
	–	1.5	3	3.810	1.810	0.560	0.480	0.360	5/8
M16	2	–	3	4.250	2.000	0.690	0.590	0.442	3/4
	–	1.5	3	4.030	1.810	0.630	0.542	0.406	11/16
M18	2.5	–	3	4.690	2.220	0.750	0.697	0.523	7/8
	–	2	3	4.470	2.000	0.690	0.652	0.489	13/16
	–	1.5	3	4.470	2.000	0.690	0.652	0.489	13/16
M20	2.5	–	3	4.910	2.220	0.750	0.760	0.570	15/16
	–	2	3	4.910	2.220	0.750	0.760	0.570	15/16
	–	1.5	3	4.690	2.220	0.750	0.697	0.523	7/8
M22	2.5	–	3	5.130	2.500	0.810	0.800	0.600	1"
	–	2	3	5.130	2.500	0.810	0.800	0.600	1"
	–	1.5	3	4.910	2.220	0.750	0.760	0.570	15/16
M24	3	–	3	5.440	2.560	0.880	0.896	0.672	1 1/8
	–	2	3	5.130	2.500	0.880	0.896	0.672	1 1/16

These taps are oversize to the extent that the internal thread they produce will accommodate a helical coil screw thread insert, which, at final assembly, will accept a screw thread of the normal size and pitch.

Classes and Tap Recommendations

Size	Threads Per Inch		Basic Pitch Dia.	Unified Classes of Fit						American National Classes of Thread					
				CLASS 2B (For General Applications)			CLASS 3B (For Closer Fits)			CLASS 2			CLASS 3		
	NC UNC	NF UNF	All Classes Minimum	Pitch Diam. Max.	Rec. Cut Taps	Rec. Form Taps	Pitch Diam. Max.	Rec. Cut Taps	Rec. Form Taps	Pitch Diam. Max.	Rec. Cut Taps	Rec. Form Taps	Pitch Diam. Max.	Rec. Cut Taps	Rec. Form Taps
0	-	80	0.0519	0.0542	H2	H3	0.0536	H1	H3	0.0536	H1	H3	0.0532	H1	H2
1	64	-	0.0629	0.0655	H2	H3	0.0648	H1	H3	0.0648	H1	H3	0.0643	H1	H2
1	-	72	0.0640	0.0665	H2	H3	0.0659	H1	H3	0.0658	H1	H3	0.0653	H1	H2
2	56	-	0.0744	0.0772	H2	H4	0.0765	H1	H3	0.0764	H1	H3	0.0759	H1	H2
2	-	64	0.0759	0.0786	H2	H4	0.0779	H1	H3	0.0778	H1	H3	0.0773	H1	H2
3	48	-	0.0855	0.0885	H2	H4	0.0877	H1	H3	0.0877	H1	H3	0.0871	H1	H3
3	-	56	0.0874	0.0902	H2	H4	0.0895	H1	H3	0.0894	H1	H3	0.0889	H1	H2
4	40	-	0.0958	0.0991	H2	H5	0.0982	H2	H4	0.0982	H2	H4	0.0975	H1	H3
4	-	48	0.0985	0.1016	H2	H5	0.1007	H1	H3	0.1007	H1	H3	0.1001	H1	H3
5	40	-	0.1088	0.1121	H2	H5	0.1112	H2	H4	0.1112	H2	H4	0.1105	H1	H3
5	-	44	0.1102	0.1134	H2	H5	0.1125	H1	H3	0.1125	H1	H3	0.1118	H1	H3
6	32	-	0.1177	0.1214	H3	H5	0.1204	H2	H4	0.1204	H2	H4	0.1196	H1	H3
6	-	40	0.1218	0.1252	H2	H4	0.1242	H2	H4	0.1242	H2	H4	0.1235	H1	H3
8	32	-	0.1437	0.1475	H3	H5	0.1464	H2	H4	0.1464	H2	H4	0.1456	H1	H3
8	-	36	0.1460	0.1496	H2	H5	0.1485	H2	H4	0.1485	H2	H4	0.1478	H1	H3
10	24	-	0.1629	0.1672	H3	H6	0.1661	H3	H5	0.1662	H3	H5	0.1653	H1	H4
10	-	32	0.1697	0.1736	H3	H6	0.1726	H2	H4	0.1724	H2	H4	0.1716	H1	H3
12	24	-	0.1889	0.1933	H3	H7	0.1922	H3	H5	0.1922	H3	H5	0.1913	H1	H4
12	-	28	0.1928	0.1970	H3	H7	0.1959	H2	H5	0.1959	H3	H5	0.1950	H1	H3
1/4	20	-	0.2175	0.2224	H5	H6	0.2211	H3	H5	0.2211	H3	H5	0.2201	H2	H4
1/4	-	28	0.2268	0.2311	H4	H6	0.2300	H3	H5	0.2299	H3	H5	0.2290	H1	H3
5/16	18	-	0.2764	0.2817	H5	H7	0.2803	H3	H6	0.2805	H3	H6	0.2794	H2	H4
5/16	-	24	0.2854	0.2902	H4	H7	0.2890	H3	H5	0.2885	H3	H5	0.2878	H1	H4
3/8	16	-	0.3344	0.3401	H5	H7	0.3387	H3	H6	0.3389	H3	H6	0.3376	H2	H5
3/8	-	24	0.3479	0.3528	H4	H7	0.3516	H3	H5	0.3512	H3	H5	0.3503	H1	H4
7/16	14	-	0.3911	0.3972	H5	H8	0.3957	H3	H6	0.3960	H5	H6	0.3947	H3	H5
7/16	-	20	0.4050	0.4104	H5	H8	0.4091	H3	H5	0.4086	H3	H5	0.4076	H1	H4
1/2	13	-	0.4500	0.4565	H5	H8	0.4548	H3	H7	0.4552	H5	H7	0.4537	H3	H5
1/2	-	20	0.4675	0.4731	H5	H8	0.4717	H3	H6	0.4711	H3	H5	0.4701	H1	H4
9/16	12	-	0.5084	0.5152	H5	H9	0.5135	H3	H7	0.5140	H5	H8	0.5124	H3	H6
9/16	-	18	0.5264	0.5323	H5	H9	0.5308	H3	H6	0.5305	H3	H6	0.5294	H2	H4
5/8	11	-	0.5660	0.5732	H5	H10	0.5714	H3	H8	0.5719	H5	H7	0.5702	H3	H6
5/8	-	18	0.5889	0.5949	H5	H8	0.5934	H3	H6	0.5930	H3	H6	0.5919	H2	H4
3/4	10	-	0.6850	0.6927	H5	H10	0.6907	H5	H8	0.6914	H5	H9	0.6895	H3	H6
3/4	-	16	0.7094	0.7159	H5	H10	0.7143	H3	H9	0.7139	H3	H6	0.7126	H2	H5
7/8	9	-	0.8028	0.8110	H6	H11	0.8089	H4	H8	0.8098	H6	H10	0.8077	H4	H7
7/8	-	14	0.8286	0.8356	H6	H10	0.8339	H4	H7	0.8335	H4	H7	0.8322	H2	H5
1	8	-	0.9188	0.9276	H6	H11	0.9254	H4	H9	0.9264	H4	H10	0.9242	H4	H8
1	-	12	0.9459	0.9535	H6	H11	0.9516	H4	H8	0.9515	H4	H8	0.9499	H4	H6
1	-	14	0.9536	0.9609	H6	H11	0.9590	H4	H8	0.9585	H4	H7	0.9572	H4	H5
1-1/8	7	-	1.0322	1.0416	H8	H13	1.0393	H4	H10	1.0407	H4	H12	1.0381	H4	H8
1-1/8	-	12	1.0709	1.0787	H6	H11	1.0768	H4	H8	1.0765	H4	H8	1.0749	H4	H6
1-1/4	7	-	1.1572	1.1668	H8	H13	1.1644	H4	H10	1.1657	H4	H12	1.1631	H4	H8
1-1/4	-	12	1.1959	1.2039	H6	H11	1.2019	H4	H8	1.2015	H4	H8	1.1999	H4	H6
1-3/8	6	-	1.2667	1.2771	H8	H14	1.2745	H4	H11	1.2768	H4	H13	1.2738	H4	H10
1-3/8	-	12	1.3209	1.3291	H6	H11	1.3270	H4	H8	1.3265	H4	H8	1.3249	H4	H6
1-1/2	6	-	1.3917	1.4022	H8	H15	1.3996	H4	H12	1.4018	H4	H14	1.3988	H4	H10
1-1/2	-	12	1.4459	1.4542	H6	H11	1.4522	H4	H9	1.4515	H4	H8	1.4499	H4	H6
1-1/2	-	8	1.4188	1.4283	H7	H13	1.4259	H5	H10	1.4278	H7	H13	1.4251	H5	H9
1-5/8	-	8	1.5438	1.5535	H8	H13	1.5510	H6	H10	1.5531	H7	H14	1.5503	H5	H9
1-3/4	5	-	1.6201	1.6317	H9	H15	1.6288	H7	H12	1.6317	H9	H16	1.6283	H7	H11
1-3/4	-	8	1.6688	1.6786	H8	H13	1.6762	H6	H10	1.6785	H8	H14	1.6756	H5	H9
1-7/8	-	8	1.7938	1.8037	H8	H13	1.8013	H6	H10	1.8038	H8	H14	1.8008	H6	H10
2	4.5	-	1.8557	1.8681	H10	H17	1.8650	H7	H13	1.8684	H10	H17	1.8646	H7	H12
2	-	8	1.9188	1.9289	H8	H14	1.9289	H6	H14	1.9292	H8	H14	1.9261	H6	H10

ISO Metric Threads					
CLASS 6H (For Commercial Threads)					
Size mm	Pitch mm	Pitch Dia. Limits (Inch)			
		Min.	Max.	Rec. Cut Taps	Rec. Form Taps
M1.6	0.35	0.0541	0.0574	D3	D5
M2	0.4	0.0686	0.0720	D3	D5
M2.5	0.45	0.0870	0.0906	D3	D5
M3	0.5	0.1054	0.1092	D3	D5
M3.5	0.6	0.1225	0.1268	D4	D6
M4	0.7	0.1396	0.1442	D4	D6
M5	0.8	0.1764	0.1812	D4	D7
M6	1.0	0.2107	0.2165	D5	D8
M8	1.25	0.2830	0.2892	D5	D9
M10	1.5	0.3554	0.3624	D6	D10
M12	1.75	0.4277	0.4335	D6	D8
M14	2.0	0.5001	0.5083	D7	D11
M16	2.0	0.5788	0.5871	D7	D11
M20	2.5	0.7235	0.7322	D7	D12
M24	3.0	0.8682	0.8785	D8	D14
M30	3.5	1.0917	1.1026	D9	D15
M36	4.0	1.3151	1.3268	D9	D16
M39	4.0	1.4331	1.4450	D9	D16
M42	4.5	1.5385	1.5509	D10	D17
M42	3.0	1.5768	1.5873	D8	D14
M42	2.0	1.6024	1.6112	D7	D12
M42	1.5	1.6152	1.6231	D6	D11
M45	4.5	1.6566	1.6690	D10	D17
M45	3.0	1.6949	1.7054	D8	D14
M48	5.0	1.7619	1.7751	D10	D18
M48	3.0	1.8130	1.8241	D9	D15
M48	2.0	1.8386	1.8479	D7	D13
M48	1.5	1.8514	1.8598	D6	D11
M56	5.5	2.0641	2.0781	D11	D19

FORMULAS

D3 = Basic PD + 0.0009″ to Basic PD + 0.0015″
D4 = Basic PD + 0.0012″ to Basic PD + 0.0020″
D5 = Basic PD + 0.0015″ to Basic PD + 0.0025″
D6 = Basic PD + 0.0018″ to Basic PD + 0.0030″
D7 = Basic PD + 0.0019″ to Basic PD + 0.0035″
D8 = Basic PD + 0.0024″ to Basic PD + 0.0040″
D9 = Basic PD + 0.0025″ to Basic PD + 0.0045″

Sizes Through 1″ Dia.
H1 = Basic PD to Basic PD + 0.0005″
H2 = Basic PD + 0.0005″ to Basic PD + 0.0010″
H3 = Basic PD + 0.0010″ to Basic PD + 0.0015″
H4 = Basic PD + 0.0015″ to Basic PD + 0.0020″
H5 = Basic PD + 0.0020″ to Basic PD + 0.0025
H6 = Basic PD + 0.0025″ to Basic PD + 0.0030″

Sizes Above 1″ Through 1-1/2″ Dia.
H4 = Basic PD + 0.0010″ to Basic PD + 0.0020″

Classes 2A, 3A and 2B, 3B, Unified Thread Form
Classes 2 and 3, Americal National Thread Form

Size	Threads Per Inch		External Thread (Bolt)							Internal Thread (Nut)				
			Unified				American National			Basic Pitch Dia.	Unified		American National	
			Max.		Min.		Max.	Min.			Max.		Min.	
	NC UNC	NF UNF	Class 2A	Class 3A Basic No.	Class 2A	Class 3A	Classes 2, 3 Basic Size No.	Class 2 No.	Class 3	All Classes Min. Size No.	2B Size No.	3B Size No.	2 Size No.	3 Size No.
0	–	80	0.0514	0.0519	0.0496	0.0506	0.0519	0.0502	0.0506	0.0519	0.0542	0.0536	0.0536	0.0532
1	64	–	0.0623	0.0629	0.0603	0.0614	0.0629	0.0610	0.0615	0.0629	0.0655	0.0648	0.0648	0.0643
	–	72	0.0634	0.0640	0.0615	0.0626	0.0640	0.0622	0.0627	0.0640	0.0665	0.0659	0.0658	0.0653
2	56	–	0.0738	0.0744	0.0717	0.0728	0.0744	0.0724	0.0729	0.0744	0.0772	0.0765	0.0764	0.0759
	–	64	0.0753	0.0759	0.0733	0.0744	0.0759	0.0740	0.0745	0.0759	0.0786	0.0779	0.0778	0.0773
3	48	–	0.0848	0.0855	0.0825	0.0838	0.0855	0.0833	0.0839	0.0855	0.0885	0.0877	0.0877	0.0871
	–	56	0.0867	0.0874	0.0845	0.0858	0.0874	0.0854	0.0859	0.0874	0.0902	0.0895	0.0894	0.0889
4	40	–	0.0950	0.0958	0.0925	0.0939	0.0958	0.0934	0.0941	0.0958	0.0991	0.0982	0.0982	0.0975
		48	0.0978	0.0985	0.0954	0.0967	0.0985	0.0963	0.0969	0.0985	0.1016	0.1008	0.1007	0.1001
5	40	–	0.1080	0.1088	0.1054	0.1069	0.1088	0.1064	0.1071	0.1088	0.1121	0.1113	0.1112	0.1105
	–	44	0.1095	0.1102	0.1070	0.1083	0.1102	0.1079	0.1086	0.1102	0.1134	0.1126	0.1125	0.1118
6	32	–	0.1169	0.1177	0.1141	0.1156	0.1177	0.1150	0.1158	0.1177	0.1214	0.1204	0.1204	0.1196
	–	40	0.1210	0.1218	0.1184	0.1198	0.1218	0.1194	0.1201	0.1218	0.1252	0.1243	0.1242	0.1235
8	32	–	0.1428	0.1437	0.1399	0.1415	0.1437	0.1410	0.1418	0.1437	0.1475	0.1465	0.1464	0.1456
	–	36	0.1452	0.1460	0.1424	0.1439	0.1460	0.1435	0.1442	0.1460	0.1496	0.1487	0.1485	0.1478
10	24	–	0.1619	0.1629	0.1586	0.1604	0.1629	0.1596	0.1605	0.1629	0.1672	0.1661	0.1662	0.1653
	–	32	0.1688	0.1697	0.1658	0.1674	0.1697	0.1670	0.1678	0.1697	0.1736	0.1726	0.1724	0.1716
12	24	–	0.1879	0.1889	0.1845	0.1863	0.1889	0.1856	0.1865	0.1889	0.1933	0.1922	0.1922	0.1913
	–	28	0.1918	0.1928	0.1886	0.1904	0.1928	0.1897	0.1906	0.1928	0.1970	0.1959	0.1959	0.1950
1/4	20	–	0.2164	0.2175	0.2127	0.2147	0.2175	0.2139	0.2149	0.2175	0.2224	0.2211	0.2211	0.2201
	–	28	0.2258	0.2268	0.2225	0.2243	0.2268	0.2237	0.2246	0.2268	0.2311	0.2300	0.2299	0.2290
5/16	18	–	0.2752	0.2764	0.2712	0.2734	0.2764	0.2723	0.2734	0.2764	0.2817	0.2803	0.2805	0.2794
	–	24	0.2843	0.2854	0.2806	0.2827	0.2854	0.2821	0.2830	0.2854	0.2902	0.2890	0.2887	0.2878
3/8	16	–	0.3331	0.3344	0.3287	0.3311	0.3344	0.3299	0.3312	0.3344	0.3401	0.3387	0.3389	0.3376
	–	24	0.3468	0.3479	0.3430	0.3450	0.3479	0.3446	0.3455	0.3479	0.3528	0.3516	0.3512	0.3503
7/16	14	–	0.3897	0.3911	0.3850	0.3876	0.3911	0.3862	0.3875	0.3911	0.3972	0.3957	0.3960	0.3947
	–	20	0.4037	0.4050	0.3995	0.4019	0.4050	0.4014	0.4024	0.4050	0.4104	0.4091	0.4086	0.4076
1/2	13	–	0.4485	0.4500	0.4435	0.4463	0.4500	0.4448	0.4463	0.4500	0.4565	0.4548	0.4552	0.4537
	–	20	0.4662	0.4675	0.4619	0.4643	0.4675	0.4639	0.4649	0.4675	0.4731	0.4717	0.4711	0.4701
9/16	12	–	0.5068	0.5084	0.5016	0.5045	0.5084	0.5028	0.5044	0.5084	0.5152	0.5135	0.5140	0.5124
	–	18	0.5250	0.5264	0.5205	0.5230	0.5264	0.5223	0.5234	0.5264	0.5323	0.5308	0.5305	0.5294
5/8	11	–	0.5644	0.5660	0.5589	0.5619	0.5660	0.5601	0.5618	0.5660	0.5732	0.5714	0.5719	0.5702
	–	18	0.5875	0.5889	0.5828	0.5854	0.5889	0.5848	0.5859	0.5889	0.5949	0.5934	0.5930	0.5919
3/4	10	–	0.6832	0.6850	0.6773	0.6806	0.6850	0.6786	0.6805	0.6850	0.6927	0.6907	0.6914	0.6985
	–	16	0.7079	0.7094	0.7029	0.7056	0.7094	0.7049	0.7062	0.7094	0.7159	0.7143	0.7139	0.7126
7/8	9	–	0.8009	0.8028	0.7946	0.7981	0.8028	0.7958	0.7979	0.8028	0.8110	0.8089	0.8098	0.8077
	–	14	0.8270	0.8286	0.8216	0.8245	0.8286	0.8237	0.8250	0.8286	0.8356	0.8339	0.8335	0.8322
1	8	–	0.9168	0.9188	0.9100	0.9137	0.9188	0.9112	0.9134	0.9188	0.9276	0.9254	0.9264	0.9242
	–	12	0.9441	0.9459	0.9382	0.9415	0.9459	0.9403	0.9419	0.9459	0.9535	0.9516	0.9515	0.9499
	–	14NS	0.9519	0.9536	0.9463	0.9494	0.9536	0.9487	0.9500	0.9536	0.9609	0.9590	0.9585	0.9572
1 1/8	7	–	1.0300	1.0322	1.0228	1.0268	1.0322	1.0237	1.0263	1.0322	1.0416	1.0393	1.0407	1.0381
	–	12	1.0691	1.0709	1.0631	1.0664	1.0709	1.0653	1.0669	1.0709	1.0787	1.0768	1.0765	1.0749
1 1/4	7	–	1.1550	1.1572	1.1476	1.1517	1.1572	1.1487	1.1513	1.1572	1.1668	1.1644	1.1657	1.1631
	–	12	1.1941	1.1959	1.1879	1.1913	1.1959	1.1903	1.1919	1.1959	1.2039	1.2019	1.2015	1.1999
1 3/8	6	–	1.2643	1.2667	1.2563	1.2607	1.2667	1.2566	1.2596	1.2667	1.2771	1.2745	1.2768	1.2738
	–	12	1.3190	1.3321	1.3127	1.3162	1.3209	1.3153	1.3169	1.3209	1.3291	1.3270	1.3265	1.3249
1 1/2	6	–	1.3893	1.3917	1.3812	1.3856	1.3917	1.3816	1.3846	1.3917	1.4022	1.3996	1.4018	1.3988
	–	12	1.4440	1.4459	1.4376	1.4411	1.4459	1.4403	1.4419	1.4459	1.4542	1.4522	1.4515	1.4499

Classes and Tap Recommendations (USCTI Table 323)

Size	Threads Per Inch		Tap Major Diameter		Unified Classes of Thread					
					Class 2B For General Applications			Class 3B For Closer Fits		
	NC UNC	NF UNF	Minimum	Maximum	H Limit	Minimum	Maximum	H Limit	Minimum	Maximum
2	56	-	0.1107	0.1117	H2	0.0981	0.0986	H1	0.0976	0.0981
3	48	-	0.1279	0.1289	H2	0.1131	0.1136	H1	0.1126	0.1131
4	40	-	0.1463	0.1473	H2	0.1288	0.1293	H1	0.1283	0.1288
4	-	48	0.1409	0.1419	H2	0.1261	0.1266	H1	0.1256	0.1261
6	32	-	0.1807	0.1817	H3	0.1593	0.1598	H2	0.1588	0.1593
6	-	40	0.1723	0.1733	H2	0.1548	0.1553	H1	0.1543	0.1548
8	32	-	0.2067	0.2077	H3	0.1853	0.1858	H2	0.1848	0.1853
8	-	36	0.2022	0.2032	H2	0.1826	0.1831	H1	0.1821	0.1826
10	24	-	0.2465	0.2475	H3	0.2180	0.2185	H2	0.2175	0.2180
10	-	32	0.2327	0.2337	H3	0.2113	0.2118	H2	0.2108	0.2113
1/4	20	-	0.3177	0.3187	H3	0.2835	0.2840	H2	0.2830	0.2835
1/4	-	28	0.2985	0.2995	H3	0.2742	0.2747	H2	0.2737	0.2742
5/16	18	-	0.3874	0.3884	H4	0.3501	0.3506	H3	0.3496	0.3501
5/16	-	24	0.3690	0.3700	H3	0.3405	0.3410	H2	0.3400	0.3405
3/8	16	-	0.4592	0.4602	H4	0.4171	0.4176	H3	0.4166	0.4171
3/8	-	24	0.4315	0.4325	H3	0.4030	0.4035	H2	0.4025	0.4030
7/16	14	-	0.5333	0.5343	H4	0.4854	0.4859	H3	0.4849	0.4854
7/16	-	20	0.5052	0.5062	H4	0.4715	0.4720	H3	0.4710	0.4715
1/2	13	-	0.6032	0.6042	H4	0.5514	0.5519	H3	0.5509	0.5514
1/2	-	20	0.5677	0.5687	H4	0.5340	0.5345	H3	0.5335	0.5340
9/16	12	-	0.6741	0.6751	H4	0.6182	0.6187	H3	0.6177	0.6182
9/16	-	18	0.6374	0.6384	H4	0.6001	0.6006	H3	0.5996	0.6001
5/8	11	-	0.7467	0.7477	H4	0.6856	0.6861	H3	0.6851	0.6856
5/8	-	18	0.6999	0.7009	H4	0.6626	0.6631	H3	0.6621	0.6626
3/4	10	-	0.8835	0.8850	H5	0.8169	0.8174	H3	0.8159	0.8164
3/4	-	16	0.8342	0.8352	H4	0.7921	0.7926	H3	0.7916	0.7921
7/8	9	-	1.0232	1.0247	H5	0.9491	0.9496	H3	0.9481	0.9486
7/8	-	14	0.9708	0.9718	H4	0.9234	0.9239	H3	0.9224	0.9229
1	8	-	1.1666	1.1681	H6	1.0832	1.0842	H4	1.0822	1.0832
1	-	12	1.1116	1.1126	H6	1.0562	1.0572	H4	1.0552	1.0562

ISO Metric Class of Threads				
Class 6H For Commercial Threads				
Size (mm)	Pitch (mm)	Pitch Diameter Limits		Recommended Taps
		Min.	Max	
M2	0.40	0.0889	0.0909	D2
M2.5	0.45	0.1099	0.1120	D2
M3	0.50	0.1309	0.1332	D2
M4	0.70	0.1753	0.1783	D3
M5	0.80	0.2173	0.2203	D3
M6	1.00	0.2618	0.2654	D3
M8	1.25	0.3469	0.3508	D3
M10	1.50	0.4320	0.4357	D4
M12	1.75	0.5172	0.5224	D4
M14	2.00	0.6023	0.6078	D5
M16	2.00	0.6810	0.6867	D5
M18	2.50	0.7725	0.7786	D5
M20	2.50	0.8371	0.8574	D5
M22	2.50	0.9300	0.9361	D5
M24	3.00	1.0216	1.0289	D6

Machine Screw Taps - Ground Thread Unified and American National Form (USCTI Table 329)

Tap Size (Inch)	Threads Per Inch			Major Diameter			Basic Pitch Dia.	Pitch Diameter Limits							
	NC UNC	UF UNF	NS	Basic	Min.	Max.		H1 Limit		H2 Limit		H3 Limit		H7 Limit*	
								Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
0	–	80	–	0.0600	0.0605	0.0616	0.0519	0.0519	0.0524	0.0524	0.0529	–	–	–	–
1	64	–	–	0.0730	0.0736	0.0750	0.0629	0.0629	0.0634	0.0634	0.0639	–	–	–	–
1	–	72	–	0.0730	0.0736	0.0748	0.0640	0.0640	0.0645	0.0645	0.0650	–	–	–	–
2	56	–	–	0.0860	0.0867	0.0883	0.0744	0.0744	0.0749	0.0749	0.0754	–	–	–	–
2	–	64	–	0.0860	0.0866	0.0880	0.0759	0.0759	0.0764	0.0764	0.0769	–	–	–	–
3	48	–	–	0.0990	0.0999	0.1017	0.0855	0.0855	0.0860	0.0860	0.0865	–	–	–	–
3	–	56	–	0.0990	0.0997	0.1013	0.0874	0.0874	0.0879	0.0879	0.0884	–	–	–	–
4	–	–	36	0.1120	0.1135	0.1156	0.0940	–	–	0.0945	0.0950	–	–	–	–
4	40	–	–	0.1120	0.1133	0.1152	0.0958	0.0958	0.0963	0.0963	0.0968	–	–	–	–
4	–	48	–	0.1120	0.1129	0.1147	0.0985	0.0985	0.0990	0.0990	0.0995	–	–	–	–
5	40	–	–	0.1250	0.1263	0.1282	0.1088	0.1088	0.1093	0.1093	0.1098	–	–	–	–
5	–	44	–	0.1250	0.1263	0.1280	0.1102	–	–	0.1107	0.1112	–	–	–	–
6	32	–	–	0.1380	0.1401	0.1421	0.1177	0.1177	0.1182	0.1182	0.1187	0.1187	0.1192	0.1207	0.1212
6	–	40	–	0.1380	0.1393	0.1412	0.1218	0.1218	0.1223	0.1223	0.1228	–	–	–	–
8	32	–	–	0.1640	0.1661	0.1681	0.1437	0.1437	0.1442	0.1442	0.1447	0.1447	0.1452	0.1467	0.1472
8	–	36	–	0.1640	0.1655	0.1676	0.1460	0.1460	0.1465	0.1465	0.1470	–	–	–	–
10	24	–	–	0.1900	0.1927	0.1954	0.1629	0.1629	0.1634	0.1634	0.1639	0.1639	0.1644	0.1659	0.1664
10	–	32	–	0.1900	0.1921	0.1941	0.1697	0.1697	0.1702	0.1702	0.1707	0.1707	0.1712	0.1727	0.1732
12	24	–	–	0.2160	0.2187	0.2214	0.1889	0.1889	0.1894	–	–	0.1899	0.1904	–	–
12	–	28	–	0.2160	0.2183	0.2206	0.1928	0.1928	0.1933	–	–	0.1938	0.1943	–	–

*Major diameter for H7 Limit Taps is 0.002" larger than values shown in min. and max. columns.

LEAD TOLERANCE
A maximum lead deviation of plus or minus 0.0005" within any two threads not farther apart than one inch is permitted.

ANGLE TOLERANCE
6 to 9 threads per inch incl. = ±25' in 1/2 angle. 10 to 80 threads per inch incl., = ±30' in 1/2 angle.

FORMULA
Maximum major diameter = Basic +A.
Minimum major diameter = Basic +B.
For values of A and B see table 331.

PITCH DIAMETER LIMITS FOR TAPS THROUGH 1" DIAMETER
H1 Limit = Basic PD to basic PD + 0.0005".
H2 Limit = Basic PD + 0.0005" to Basic PD + 0.0010".
H3 Limit = Basic PD + 0.0010" to Basic PD + 0.0015".
H4 Limit = Basic PD + 0.0015" to Basic PD + 0.0020".
H5 Limit = Basic PD + 0.0020" to Basic PD + 0.0025".
H6 Limit = Basic PD + 0.0025" to Basic PD + 0.0030".

PITCH DIAMETER LIMITS FOR TAPS OVER 1" DIAMETER THROUGH 1-1/2" DIAMETER
H4 Limit = Basic PD + 0.0010" to Basic PD + 0.0020".

Fractional Size Taps - Ground Thread Unified and Americal National Form (USCTI Table 327)

Tap Size (Inch)	Threads Per Inch			Major Diameter			Basic Pitch Dia.	Pitch Diameter Limits											
	NC UNC	UF UNF	NS	Basic	Min.	Max.		H1 Limit		H2 Limit		H3 Limit		H4 Limit		H5 Limit		H6 Limit	
								Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	20	–	–	0.2500	0.2533	0.2565	0.2175	0.2175	0.2180	0.2180	0.2185	0.2185	0.2190	–	–	0.2195	0.2200	–	–
1/4	–	28	–	0.2500	0.2523	0.2546	0.2268	0.2268	0.2273	0.2273	0.2278	0.2278	0.2283	0.2283	0.2288	–	–	–	–
5/16	18	–	–	0.3125	0.3161	0.3197	0.2764	0.2764	0.2769	0.2769	0.2774	0.2774	0.2779	–	–	0.2784	0.2789	–	–
5/16	–	24	–	0.3125	0.3152	0.3179	0.2854	0.2854	0.2859	0.2859	0.2864	0.2864	0.2869	0.2869	0.2874	–	–	–	–
3/8	16	–	–	0.3750	0.3790	0.3831	0.3344	0.3344	0.3349	0.3349	0.3354	0.3354	0.3359	–	–	0.3364	0.3369	–	–
3/8	–	24	–	0.3750	0.3777	0.3804	0.3479	0.3479	0.3484	0.3484	0.3489	0.3489	0.3494	0.3494	0.3499	–	–	–	–
7/16	14	–	–	0.4375	0.4422	0.4468	0.3911	0.3911	0.3916	0.3916	0.3921	0.3921	0.3926	–	–	0.3931	0.3936	–	–
7/16	–	20	–	0.4375	0.4408	0.4440	0.4050	0.4050	0.4055	0.4055	0.4060	0.4060	0.4065	–	–	0.4070	0.4075	–	–
1/2	13	–	–	0.5000	0.5050	0.5100	0.4500	0.4500	0.4505	0.4505	0.4510	0.4510	0.4515	–	–	0.4520	0.4525	–	–
1/2	–	20	–	0.5000	0.5033	0.5065	0.4675	0.4675	0.4680	0.4680	0.4685	0.4685	0.4690	–	–	0.4695	0.4700	–	–
9/16	12	–	–	0.5625	0.5679	0.5733	0.5084	0.5084	0.5089	0.5089	0.5094	0.5094	0.5099	–	–	0.5104	0.5109	–	–
9/16	–	18	–	0.5625	0.5661	0.5697	0.5264	0.5264	0.5269	0.5269	0.5274	0.5274	0.5279	–	–	0.5284	0.5289	–	–
5/8	11	–	–	0.6250	0.6309	0.6368	0.5660	0.5660	0.5665	0.5665	0.5670	0.5670	0.5675	–	–	0.5680	0.5685	–	–
5/8	–	18	–	0.6250	0.6286	0.6322	0.5889	0.5889	0.5894	0.5894	0.5899	0.5899	0.5904	–	–	0.5909	0.5914	–	–
11/16	–	–	11	0.6875	0.6934	0.6993	0.6285	–	–	–	–	0.6295	0.6300	–	–	–	–	–	–
11/16	–	–	16	0.6875	0.6915	0.6956	0.6469	–	–	–	–	0.6479	0.6484	–	–	–	–	–	–
3/4	10	–	–	0.7500	0.7565	0.7630	0.6850	0.6850	0.6855	0.6855	0.6860	0.6860	0.6865	–	0.8048	0.6870	0.6875	–	–
3/4	–	16	–	0.7500	0.7540	0.7581	0.7094	0.7094	0.7099	0.7099	0.7104	0.7104	0.7109	–	0.8306	0.7114	0.7119	–	–
7/8	9	–	–	0.8750	0.8822	0.8894	0.8028	0.8028	0.8033	0.8033	0.8038	–	–	0.8043	0.9208	–	–	0.8053	0.8058
7/8	–	14	–	0.8750	0.8797	0.8843	0.8286	0.8286	0.8291	0.8291	0.8296	–	–	0.8301	0.9479	–	–	0.8311	0.8316
1	8	–	–	1.0000	1.0081	1.0162	0.9188	0.9188	0.9193	0.9193	0.9198	–	–	0.9203	0.9556	–	–	0.9213	0.9218
1	–	12	–	1.0000	1.0054	1.0108	0.9459	–	–	–	–	–	–	0.9474	1.0342	–	–	–	–
1	–	–	14	1.0000	1.0047	1.0093	0.9536	–	–	0.9541	0.9546	–	–	0.9551	1.0729	–	–	0.9561	0.9566
1 1/8	7	–	–	1.1250	1.1343	1.1436	1.0322	–	–	–	–	–	–	1.0332	1.1592	–	–	–	–
1 1/8	–	12	–	1.1250	1.1304	1.1358	1.0709	–	–	–	–	–	–	1.0719	1.1979	–	–	–	–
1 1/4	7	–	–	1.2500	1.2593	1.2686	1.1572	–	–	–	–	–	–	1.1582	1.2687	–	–	–	–
1 1/4	–	12	–	1.2500	1.2554	1.2608	1.1959	–	–	–	–	–	–	1.1969	1.3229	–	–	–	–
1 3/8	6	–	–	1.3750	1.3859	1.3967	1.2667	–	–	–	–	–	–	1.2677	1.3937	–	–	–	–
1 3/8	–	12	–	1.3750	1.3804	1.3858	1.3209	–	–	–	–	–	–	1.3219	1.4479	–	–	–	–
1 1/2	6	–	–	1.5000	1.5109	1.5217	1.3917	–	–	–	–	–	–	1.3927	–	–	–	–	–
1 1/2	–	12	–	1.5000	1.5054	1.5108	1.4459	–	–	–	–	–	–	1.4469	–	–	–	–	–

Ground Thread Taps (USCTI Table 331)

The following tables and formula are used in determining the limits and tolerances for ground thread taps having a thread lead angle not in excess of 5-degrees, inless otherwise specified.

LEAD TOLERANCE

A maximum lead deviation of ±0.0005", within any two threads not farther apart than 1" is permitted.

ANGLE TOLERANCE

Threads Per Inch	Deviation in Half Angle
4 to 5-1/2 incl.	±20′
6 to 9 incl.	±25′
10 to 80 incl.	±30′

FORMULA

Max. Major Dia. = Basic + A
Min. Major Dia. = Basic + B
Max. Pitch Dia. = Min. + D
Min. Pitch Dia. = Basic + C

In the above formula:
A = Constant to add = 0.130P for all Pitches
B = Major Diameter Tolerance = 0.087P for 48 Through 80 TPI
= 0.076P for 36 Through 47 TPI
= 0.065P for 4 Through 35 TPI
C = Amount over basic for minimum pitch diameter
D = Pitch diameter tolerance

Note: When the tap major diameter must be determined from a specified tap pitch diameter, the maximum major diameter equals the minimum specified pitch diameter minus Constant C, plus 0.64952P, plus Constant A.

Threads Per Inch	A	B	C			D			
			To 5/8" Incl.	Over 5/8" to 2-1/2 Incl.	Over 2-1/2"	To 1" Incl.	Over 1" to 1-1/2" Incl.	Over 1-1/2" to 2-1/2" Incl.	Over 2-1/2"
80	0.0016	0.0011	0.0005	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
72	0.0018	0.0012	0.0005	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
64	0.0020	0.0014	0.0005	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
56	0.0023	0.0016	0.0005	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
48	0.0027	0.0018	0.0005	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
44	0.0030	0.0017	0.0005	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
40	0.0032	0.0019	0.0005	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
36	0.0036	0.0021	0.0005	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
32	0.0041	0.0020	0.0010	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
28	0.0046	0.0023	0.0010	0.0010	0.0015	0.0005	0.0010	0.0010	0.0015
24	0.0054	0.0027	0.0010	0.0010	0.0015	0.0005	0.0010	0.0015	0.0015
20	0.0065	0.0032	0.0010	0.0010	0.0015	0.0005	0.0010	0.0015	0.0015
18	0.0072	0.0036	0.0010	0.0010	0.0015	0.0005	0.0010	0.0015	0.0015
16	0.0081	0.0041	0.0010	0.0010	0.0015	0.0005	0.0010	0.0015	0.0020
14	0.0093	0.0046	0.0010	0.0015	0.0015	0.0005	0.0010	0.0015	0.0020
13	0.0100	0.0050	0.0010	0.0015	0.0015	0.0005	0.0010	0.0015	0.0020
12	0.0108	0.0054	0.0010	0.0015	0.0015	0.0005	0.0010	0.0015	0.0020
11	0.0118	0.0059	0.0010	0.0015	0.0020	0.0005	0.0010	0.0015	0.0020
10	0.0130	0.0065	–	0.0015	0.0020	0.0005	0.0010	0.0015	0.0020
9	0.0144	0.0072	–	0.0015	0.0020	0.0005	0.0010	0.0015	0.0020
8	0.0162	0.0081	–	0.0015	0.0020	0.0005	0.0010	0.0015	0.0020
7	0.0186	0.0093	–	0.0015	0.0020	0.0010	0.0010	0.0020	0.0025
6	0.0217	0.0108	–	0.0015	0.0020	0.0010	0.0010	0.0020	0.0025
5 1/2	0.0236	0.0118	–	0.0015	0.0020	0.0010	0.0015	0.0020	0.0025
5	0.0260	0.0130	–	0.0015	0.0020	0.0010	0.0015	0.0020	0.0025
4 1/2	0.0289	0.0144	–	0.0015	0.0020	0.0010	0.0015	0.0020	0.0025
4	0.0325	0.0162	–	0.0015	0.0020	0.0010	0.0015	0.0020	0.0025

For intermediate pitches, use values for next coarser pitch for C and D, but use formulas for A and B.

Metric Size Taps - Ground Thread (USCTI Table 337)

Nom-inal Size	Pitch	Major Diameter (Inches)			Standard Pitch Diameter Limits (Inches)													
		Basic	Min.	Max.	Basic Pitch Diam.	D3 Limits		D4 Limits		D5 Limits		D6 Limits		D7 Limits		D8 Limits		D9 Limits	
mm	mm					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1.6	0.35	0.062992	0.0641	0.0651	0.054042	0.0550	0.0556	–	–	–	–	–	–	–	–	–	–	–	–
2.0	0.4	0.078740	0.0801	0.0811	0.068511	0.0695	0.0701	–	–	–	–	–	–	–	–	–	–	–	–
2.5	0.45	0.098425	0.0999	0.1009	0.086918	0.0879	0.0885	–	–	–	–	–	–	–	–	–	–	–	–
3.0	0.5	0.118110	0.1198	0.1208	0.105324	0.1063	0.1069	–	–	–	–	–	–	–	–	–	–	–	–
3.5	0.6	0.137795	0.1397	0.1407	0.122452	–	–	0.1237	0.1245	–	–	–	–	–	–	–	–	–	–
4.0	0.7	0.157480	0.1597	0.1613	0.139580	–	–	0.1408	0.1416	–	–	–	–	–	–	–	–	–	–
5.0	0.8	0.196850	0.1994	0.2010	0.176393	–	–	0.1776	0.1784	–	–	–	–	–	–	–	–	–	–
6.0	1.0	0.236220	0.2395	0.2411	0.210648	–	–	–	–	0.2122	0.2132	–	–	–	–	–	–	–	–
8.0	1.25	0.314960	0.3189	0.3214	0.282995	–	–	–	–	0.2843	0.2855	–	–	–	–	–	–	–	–
10	1.5	0.393700	0.3985	0.4010	0.355343	–	–	–	–	–	–	0.3572	0.3584	–	–	–	–	–	–
12	1.75	0.472440	0.4780	0.4805	0.427690	–	–	–	–	–	–	0.4295	0.4307	–	–	–	–	–	–
14	2.0	0.551180	0.5575	0.5600	0.500037	–	–	–	–	–	–	–	–	0.5020	0.5036	–	–	–	–
16	2.0	0.629920	0.6363	0.6388	0.578777	–	–	–	–	–	–	–	–	0.5807	0.5823	–	–	–	–
20	2.5	0.787400	0.7954	0.7979	0.723471	–	–	–	–	–	–	–	–	0.7254	0.7270	–	–	–	–
24	3.0	0.944880	0.9544	0.9583	0.868165	–	–	–	–	–	–	–	–	–	–	0.8706	0.8722	–	–
30	3.5	1.181100	1.1922	1.1961	1.091599	–	–	–	–	–	–	–	–	–	–	–	–	1.0942	1.0962
36	4.0	1.417320	1.4300	1.4339	1.315034	–	–	–	–	–	–	–	–	–	–	–	–	1.3176	1.3196

LEAD TOLERANCE

A maximum lead deviation of ±0.013 mm within any two threads not farther apart than 25 mm is permitted.

ANGLE TOLERANCE

Pitch (mm)	Deviation in Half Angle
Over 0.25 to 2.5 Incl.	±30′
Over 2.5 to 4 Incl.	±25′
Over 4 to 6 Incl.	±20″

FORMULA

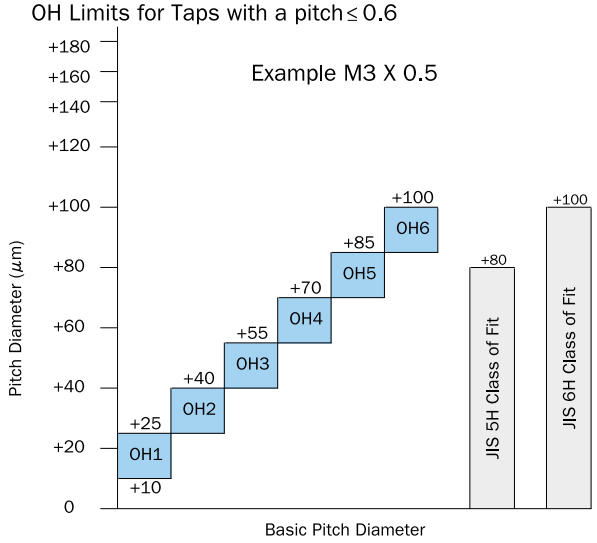
Min. Major Dia. = Basic + W
Max. Major Dia. = Min. + X
For Values of W, Y & Z, See Table 341

Max. Pitch Dia. = Basic + Y
Min. Pitch Dia. = Max. - Z

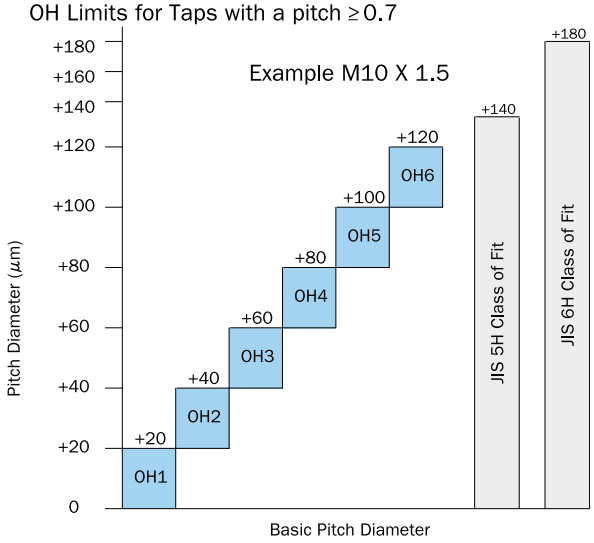
In all cases, the tap major and pitch diameter inch conversions have been rounded upwards to the next ten thousandth of an inch. Basic values agree with B1 Report—ISO Metric Screw Threads, Table 9B.

OH Tap Limits

OH Limits for Taps with a pitch ≤ 0.6



OH Limits for Taps with a pitch ≥ 0.7



Ground Thread Tap Limits (USCTI Table 341)

The following tables and formula are used in determining the limits and tolerances for ground thread metric taps unless otherwise specified. They apply only to metric threads having a 60° form with a P/8 flat at the major diameter of the basic thread form.

LEAD TOLERANCE

A maximum lead deviation of ±0.013 mm within any two threads not farther apart than 25 mm is permitted.

ANGLE TOLERANCE

Pitch (mm)	Deviation in Half Angle
Over 0.25 to 2.5 incl.	±30′
Over 2.5 to 4. incl.	±25′
Over 4 to 6 incl.	±20′

FORMULA

Min. Major Dia = Basic + W
Max. Major Dia. = Min. + X
Max. Pitch Dia. = Basic + Y
Min. Pitch Dia. = Max. - Z

W = Constant to add to Basic Major Diameter*
X = Major Diameter Tolerance
Y = Amount over Basic for Maximum Pitch Diameter
Z = Pitch Diameter Tolerance

*W = .080P Converted to inches

Note: When the tap major diameter must be determined from a specified tap pitch diameter, the minimum major diameter equals the maximum specified tap pitch diameter minus constant Y, plus the basic single height of thread, plus constant W.

Pitch		Symetrical Thread Height	Tap Limits for Metric Threads (inch)									
			W	X	Y				Z			
mm	Inch Equiv.	0.64952P (Inch)			M1.6 To M6.3 Incl.	Over M6.3 to M25 Incl.	Over M25 To M90 Incl.	Over M90	M1.6 To M6.3 Incl.	Over M6.3 to M25 Incl.	Over M25 To M90 Incl.	Over M90
0.3	0.011811	0.007671	0.0009	0.0010	0.0015	0.0015	0.0020	0.0020	0.0006	0.0006	0.0008	0.0008
0.35	0.013779	0.008950	0.0011	0.0010	0.0015	0.0015	0.0020	0.0020	0.0006	0.0006	0.0008	0.0008
0.4	0.015748	0.010229	0.0013	0.0010	0.0015	0.0020	0.0020	0.0020	0.0006	0.0006	0.0008	0.0010
0.45	0.017716	0.011507	0.0014	0.0010	0.0015	0.0020	0.0020	0.0020	0.0006	0.0008	0.0008	0.0010
0.5	0.019685	0.012786	0.0016	0.0010	0.0015	0.0020	0.0020	0.0025	0.0006	0.0008	0.0010	0.0010
0.6	0.236220	0.015343	0.0019	0.0010	0.0020	0.0020	0.0025	0.0025	0.0008	0.0008	0.0010	0.0010
0.7	0.027559	0.017900	0.0022	0.0016	0.0020	0.0020	0.0025	0.0025	0.0008	0.0008	0.0010	0.0010
0.75	0.029527	0.019178	0.0024	0.0016	0.0020	0.0025	0.0025	0.0030	0.0008	0.0010	0.0010	0.0012
0.8	0.031496	0.020457	0.0025	0.0016	0.0020	0.0025	0.0025	0.0030	0.0008	0.0010	0.0010	0.0012
0.9	0.035433	0.023014	0.0028	0.0016	0.0020	0.0025	0.0025	0.0030	0.0008	0.0010	0.0010	0.0012
1.0	0.039370	0.025572	0.0032	0.0016	0.0025	0.0025	0.0030	0.0030	0.0010	0.0010	0.0012	0.0012
1.25	0.049212	0.031964	0.0039	0.0025	0.0025	0.0025	0.0030	0.0035	0.0010	0.0012	0.0012	0.0016
1.5	0.059055	0.038357	0.0047	0.0025	0.0025	0.0030	0.0030	0.0035	0.0010	0.0012	0.0012	0.0016
1.75	0.068897	0.044750	0.0055	0.0025	–	0.0030	0.0035	0.0040	–	0.0012	0.0016	0.0016
2.0	0.078740	0.051143	0.0063	0.0025	–	0.0035	0.0035	0.0040	–	0.0016	0.0016	0.0016
2.5	0.098425	0.063929	0.0079	0.0025	–	0.0035	0.0040	0.0045	–	0.0016	0.0016	0.0020
3.0	0.118110	0.076715	0.0095	0.0039	–	0.0040	0.0040	0.0050	–	0.0016	0.0020	0.0020
3.5	0.137795	0.089501	0.0110	0.0039	–	0.0040	0.0045	0.0050	–	0.0016	0.0020	0.0020
4.0	0.157480	0.102286	0.0126	0.0039	–	0.0040	0.0045	0.0055	–	0.0020	0.0020	0.0025
4.5	0.177165	0.115072	0.0142	0.0039	–	–	0.0050	0.0055	–	0.0020	0.0020	0.0025
5.0	0.196850	0.127858	0.0158	0.0039	–	–	0.0050	0.0060	–	–	0.0025	0.0025
5.5	0.216535	0.140644	0.0173	0.0039	–	–	0.0055	0.0060	–	–	0.0025	0.0025
6.0	0.236220	0.153430	0.0189	0.0039	–	–	0.0055	0.0060	–	–	0.0025	0.0025

For intermediate pitches use value for next coarser pitch.
Symmetrical Thread Height; Equivalent to the basic height, h, of the original American National Form.

ISO Tolerance System

The ISO Metric Screw Thread Tolerance System provides for tolerance grades and tolerance positions (allowances) for the pitch diameter and crest diameter.

Tolerance Grades

A series of numbers, 3 through 9, were established as symbols, to reflect the size of the tolerance; the higher the number the larger the tolerance.

FOR EXTERNAL THREADS - (LOWER CASE LETTER SYMBOLS)

- Tolerance Position "e" has a large allowance. The upper limit is below basic by a large amount.
- Tolerance Position "g" has a small allowance. The upper limit is below basic by a small amount.
- Tolerance Position "h" has no allowance and the upper limit is basic.

FOR INTERNAL THREADS - (CAPITAL LETTER SYMBOLS)

- Tolerance Position "G" has a small allowance. The lower limit is above basic by a small amount.
- Tolerance Position "H" has no allowance and the lower limit is basic.

Selection of Tolerance Classes

Two factors determine the selection of a suitable tolerance class:

1. Length of thread engagement (short, normal or long)
2. Quality requirement (fine, medium or coarse) See table below for preferred tolerance classes.

Tolerance Positions

They define the maximum-material limits of the pitch and crest diameters and indicate their relationship to the basic profile. For plating requirements and ease of assembly, a series of tolerance positions were established.

Preferred Tolerance Classes

Quality Requirement	External Thread (Bolts)									Internal Thread (Nuts)					
	Tolerance Position e (Large Allowance)			Tolerance Position g (Small Allowance)			Tolerance Position h (No Allowance)			Tolerance Position G (Small Allowance)			Tolerance Position H (No Allowance)		
	Length of Thread Engagement			Length of Thread Engagement			Length of Thread Engagement			Length of Thread Engagement			Length of Thread Engagement		
	Short	Normal	Long	Short	Normal	Long	Short	Normal	Long	Short	Normal	Long	Short	Normal	Long
FINE (Close Fit Applications)							3h-4h	4h	5h-4h				4H		
MEDIUM (General Purpose Applications)		6e	7e-6e	5g-6g	6g	7g-6g	5h-6h	6h	7h-6h	5G	6G	7G	5H		
COARSE (Difficult Manufacturing Applications)					8g	9g-8g					7G	8G			

Tolerance Position "e" is not to be applied to pitches finer than 0.5 mm. Tolerance classes 6g and 6H are for commercial screw, bolt and nut threads.

Thread Designations

Basic Designations: The letter "M" and the nominal size (basic major diameter in millimeters) followed by "X" and the pitch in millimeters, designates metric screw threads. For coarse series thread, the "X" and pitch may be omitted.

Example: Coarse series threads; M6 other threads; M8 x 1

A complete designation comprises, in addition to the basic designation, the tolerance class symbol separated by a dash. When the pitch and crest diameter tolerance classes are identical, the symbol need only be given once.

Example: M20 x 2—6H

When the pitch and crest diameters have different tolerance classes, the pitch diameter symbol is followed by the crest diameter symbol.

Example: M6 x 0.75—5g—6g

To indicate a specified thread fit between mating parts, the internal thread tolerance class symbol is followed by that of the external thread, separated by a slash.

Example: M20 x 2—6H/5g—6g

When rounded root external threads are to be specified, the minimum root radius value shall be added to the tolerance class designation.

Example: M6—5g —6g 0.100R

Limiting Dimensions of Standard Series Threads for Commercial Screws, Bolts and Nuts (Inches)

Nominal Size Diam	Pitch P	Basic Thread Designation	External Thread (Bolt)									Internal Thread (Nut)						
			Tol Cl.	Allowance	Major Diameter		Pitch Diameter			Minor Diameter		Tol Cl.	Minor Diameter		Pitch Diameter			Major Dia.
mm	mm				Max.	Min.	Max.	Min.	Tol.	Max.	Min.		Min.	Max.	Min.	Max.	Tol.	Min.
1.6	0.35	M1.6	6g	0.0008	0.0622	0.0589	0.0533	0.0509	0.0024	0.0453	0.0419	6H	0.0481	0.0520	0.0541	0.0574	0.0033	0.0630
1.8	0.35	M1.8	6g	0.0008	0.0701	0.0668	0.0611	0.0588	0.0023	0.0531	0.0498	6H	0.0560	0.0598	0.0620	0.0652	0.0032	0.0709
2	0.4	M2.0	6g	0.0009	0.0779	0.0743	0.0677	0.0652	0.0025	0.0586	0.0549	6H	0.0617	0.0661	0.0686	0.0720	0.0034	0.0788
2.2	0.45	M2.2	6g	0.0009	0.0858	0.0819	0.0743	0.0716	0.0027	0.0640	0.0601	6H	0.0675	0.0723	0.0752	0.0788	0.0036	0.0867
2.5	0.45	M2.5	6g	0.0009	0.0976	0.0938	0.0861	0.0834	0.0027	0.0759	0.0719	6H	0.0793	0.0841	0.0870	0.0906	0.0036	0.0985
3	0.5	M3.0	6g	0.0009	0.1173	0.1132	0.1045	0.1016	0.0029	0.0931	0.0889	6H	0.0969	0.1023	0.1054	0.1092	0.0038	0.1182
3.5	0.6	M3.5	6g	0.0009	0.1369	0.1321	0.1216	0.1183	0.0033	0.1079	0.1030	6H	0.1123	0.1185	0.1225	0.1268	0.0043	0.1378
4	0.7	M4.0	6g	0.0009	0.1566	0.1512	0.1387	0.1352	0.0034	0.1227	0.1173	6H	0.1277	0.1347	0.1396	0.1442	0.0046	0.1575
4.5	0.75	M4.5	6g	0.0010	0.1762	0.1708	0.1571	0.1536	0.0035	0.1400	0.1345	6H	0.1452	0.1526	0.1580	0.1626	0.0046	0.1772
5	0.8	M5.0	6g	0.0010	0.1959	0.1900	0.1754	0.1717	0.0037	0.1572	0.1513	6H	0.1628	0.1706	0.1764	0.1812	0.0048	0.1969
6	1.0	M6.0	6g	0.0012	0.2351	0.2282	0.2096	0.2052	0.0044	0.1868	0.1797	6H	0.1936	0.2028	0.2107	0.2165	0.0058	0.2363
7	1.0	M7.0	6g	0.0011	0.2745	0.2675	0.2489	0.2446	0.0043	0.2262	0.2191	6H	0.2330	0.2422	0.2501	0.2559	0.0058	0.2756
8	1.25	M8.0	6g	0.0012	0.3138	0.3056	0.2818	0.2773	0.0045	0.2535	0.2454	6H	0.2617	0.2721	0.2830	0.2892	0.0062	0.3150
8	1.0	M8 x 1.0	6g	0.0011	0.3139	0.3069	0.2883	0.2840	0.0043	0.2656	0.2584	6H	0.2724	0.2816	0.2894	0.2952	0.0058	0.3150
10	1.5	M10	6g	0.0013	0.3924	0.3832	0.3540	0.3489	0.0051	0.3199	0.3102	6H	0.3298	0.3415	0.3554	0.3624	0.0070	0.3937
10	1.25	M10 x 1.25	6g	0.0012	0.3925	0.3843	0.3606	0.3560	0.0046	0.3322	0.3241	6H	0.3404	0.3508	0.3618	0.3680	0.0062	0.3937
12	1.75	M12	6g	0.0014	0.4711	0.4607	0.4263	0.4205	0.0058	0.3865	0.3758	6H	0.3979	0.4110	0.4277	0.4355	0.0078	0.4725
12	1.25	M12 x 1.25	6g	0.0012	0.4713	0.4630	0.4393	0.4342	0.0051	0.4109	0.4023	6H	0.4192	0.4295	0.4405	0.4475	0.0070	0.4725
14	2.0	M14	6g	0.0016	0.5496	0.5387	0.4985	0.4923	0.0062	0.4530	0.4412	6H	0.4660	0.4807	0.5001	0.5083	0.0082	0.5512
14	1.5	M14 x 1.5	6g	0.0013	0.5499	0.5407	0.5115	0.5061	0.0054	0.4774	0.4677	6H	0.4873	0.4990	0.5129	0.5203	0.0074	0.5512
16	2.0	M16	6g	0.0016	0.6284	0.6175	0.5772	0.5710	0.0062	0.5318	0.5199	6H	0.5447	0.5594	0.5788	0.5871	0.0083	0.6300
16	1.5	M16 x 1.5	6g	0.0014	0.6286	0.6194	0.5903	0.5849	0.0054	0.5561	0.5465	6H	0.5660	0.5777	0.5916	0.5990	0.0074	0.6300
18	2.5	M18	6g	0.0017	0.7070	0.6939	0.6430	0.6364	0.0066	0.5862	0.5725	6H	0.6022	0.6198	0.6448	0.6535	0.0087	0.7087
18	1.5	M18 x 1.5	6g	0.0013	0.7074	0.6982	0.6690	0.6636	0.0054	0.6349	0.6252	6H	0.6448	0.6565	0.6704	0.6777	0.0073	0.7087
20	2.5	M20	6g	0.0018	0.7857	0.7726	0.7218	0.7152	0.0066	0.6649	0.6513	6H	0.6809	0.6985	0.7235	0.7322	0.0087	0.7875
20	1.5	M20 x 1.5	6g	0.0014	0.7861	0.7769	0.7477	0.7423	0.0054	0.7136	0.7039	6H	0.7235	0.7352	0.7491	0.7565	0.0074	0.7875
22	2.5	M22	6g	0.0018	0.8644	0.8513	0.8005	0.7939	0.0066	0.7437	0.7300	6H	0.7597	0.7773	0.8023	0.8110	0.0087	0.8662
22	1.5	M22 x 1.5	6g	0.0014	0.8648	0.8556	0.8265	0.8211	0.0054	0.7924	0.7827	6H	0.8023	0.8140	0.8278	0.8352	0.0074	0.8662
24	3.0	M24	6g	0.0020	0.9429	0.9283	0.8662	0.8584	0.0078	0.7980	0.7817	6H	0.8171	0.8366	0.8682	0.8785	0.0103	0.9449
24	2.0	M24 x 2.0	6g	0.0016	0.9433	0.9324	0.8922	0.8856	0.0066	0.8467	0.8345	6H	0.8597	0.8744	0.8938	0.9025	0.0087	0.9449
27	3.0	M27	6g	0.0019	1.0611	1.0464	0.9843	0.9765	0.0078	0.9161	0.8999	6H	0.9352	0.9548	0.9863	0.9966	0.0103	1.0630
27	2.0	M27 x 2.0	6g	0.0016	1.0614	1.0505	1.0103	1.0037	0.0066	0.9648	0.9526	6H	0.9778	0.9925	1.0119	1.0206	0.0087	1.0630
30	3.5	M30	6g	0.0022	1.1790	1.1623	1.0895	1.0812	0.0083	1.0099	0.9917	6H	1.0320	1.0539	1.0917	1.1026	0.0109	1.1812
30	2.0	M30 x 2.0	6g	0.0016	1.1796	1.1686	1.1284	1.1218	0.0066	1.0829	1.0707	6H	1.0959	1.1106	1.1300	1.1387	0.0087	1.1812
33	3.5	M33	6g	0.0022	1.2971	1.2804	1.2076	1.1993	0.0083	1.1280	1.1099	6H	1.1501	1.1720	1.2098	1.2207	0.0109	1.2993
33	2.0	M33 x 2.0	6g	0.0016	1.2977	1.2867	1.2465	1.2399	0.0066	1.2011	1.1888	6H	1.2140	1.2287	1.2481	1.2568	0.0087	1.2993
36	4.0	M36	6g	0.0025	1.4149	1.3963	1.3126	1.3039	0.0087	1.2217	1.2017	6H	1.2469	1.2704	1.3151	1.3268	0.0117	1.4174
36	3.0	M36 x 3.0	6g	0.0020	1.4154	1.4007	1.3386	1.3309	0.0077	1.2705	1.2542	6H	1.2895	1.3091	1.3406	1.3510	0.0104	1.4174
39	4.0	M39	6g	0.0025	1.5330	1.5144	1.4307	1.4220	0.0087	1.3398	1.3198	6H	1.3650	1.3885	1.4332	1.4449	0.0117	1.5355
39	3.0	M39 x 3.0	6g	0.0020	1.5335	1.5188	1.4568	1.4490	0.0078	1.3886	1.3723	6H	1.4076	1.4272	1.4587	1.4691	0.0104	1.5355

Excerpt from American National Standard B1. 16-1972, American Gaging Practices for Metric Screw Threads; "In all cases the inch conversion values have been rounded toward the interior of the tolerance zone, that is, maximum limits have been rounded downward and minimum limits have been rounded upward. Due to the fact that the majority of machinery and measuring equipment in the United States is based on the inch system, all gages should be made to the inch conversions."

TAP RECOMMENDATIONS: The pitch diameter high limits of the recommended tap for 6H tolerance class is 40% of the product tolerance rounded to the nearest 0.0005."

Example: M10 x 1.5; product tolerance = 0.00070" x .40 = .0028" rounded to 0.0030". This is the amount over basic pitch diameter. Based on 0.0005" increments over basic pitch diameter, the recommended tap has a D6 high limit (0.0030 ÷ 0.0005").

General Dimensions (USCTI Table 311)

Nominal Size (Inch)	Dimensions (Inch)				
	Overall Length A	Thread Length B	Length of Square C	Shank Diameter D	Size of Square E
1/16	2-1/8	11/16	3/8	0.3125	0.234
1/8	2-1/8	3/4	3/8	0.3125	0.234
1/8	2-1/8	3/4	3/8	0.4375	0.328
1/4	2-7/16	1-1/16	7/16	0.5625	0.421
3/8	2-9/16	1-1/16	1/2	0.7000	0.531
1/2	3-1/8	1-3/8	5/8	0.6875	0.515
3/4	3-1/4	1-3/8	11/16	0.9063	0.679
1	3-3/4	1-3/4	13/16	1.1250	0.843
1-1/4	4	1-3/4	15/16	1.3125	0.984
1-1/2	4-1/4	1-3/4	1	1.5000	1.125
2	4-1/2	1-3/4	1-1/8	1.8750	1.406

Tolerances

Element	Range (Inch)	Direction	Tolerance (Inch)	
			Cut Thread	Ground Thread
Overall Length-A	1/16 to 3/4 incl.	Plus or Minus	1/32	1/32
	1 to 4 incl.	Plus or Minus	1/16	1/16
Thread Length-B	1/16 to 3/4 incl.	Plus or Minus	1/16	1/16
	1 to 1-1/4 incl.	Plus or Minus	3/32	3/32
	1-1/2 to 4 incl.	Plus or Minus	1/8	1/8
Length of Square-C	1/16 to 3/4 incl.	Plus or Minus	1/32	1/32
	1 to 4 incl.	Plus or Minus	1/16	1/16
Shank Diameter-D	1/16 to 1/8 incl.	Minus	0.0070	0.0015
	1/4 to 1/2 incl.	Minus	0.0070	0.0020
	3/4 to 1 incl.	Minus	0.0090	0.0020
	1-1/4 to 4 incl.	Minus	0.0090	0.0030
Size of Square-E	1/16 to 1/8 incl.	Minus	0.0040	0.0040
	1/4 to 3/4 incl.	Minus	0.0060	0.0060
	1 to 4 incl.	Minus	0.0080	0.0080

Thread Limits

Nominal Size (inch)	Threads per Inch NPT	*Gage Measurement (inch)			Taper per Foot (inch)			
		Projection	Tolerance (+/-)		Cut Thread		Ground Thread	
			Cut Thread	Ground Thread	Min.	Max.	Min.	Max.
1/16	27	.312	1/16	1/16	23/32	27/32	23/32	25/32
1/8	27	.312	1/16	1/16	23/32	27/32	23/32	25/32
1/4	18	.459	1/16	1/16	23/32	27/32	23/32	25/32
3/8	18	.454	1/16	1/16	23/32	27/32	23/32	25/32
1/2	14	.579	1/16	1/16	23/32	13/16	23/32	25/32
3/4	14	.565	1/16	1/16	23/32	13/16	23/32	25/32
1	11-1/2	.678	3/32	3/32	23/32	13/16	23/32	25/32
1-1/4	11-1/2	.686	3/32	3/32	23/32	13/16	23/32	25/32
1-1/2	11-1/2	.699	3/32	3/32	23/32	13/16	23/32	25/32
2	11-1/2	.667	3/32	3/32	23/32	13/16	23/32	25/32

*Distance small end of tap projects through American Standard Pipe Thread Ring Gage.

Taper Pipe Taps Ground Thread (USCTI Table 338)

American National Standard Taper Pipe Thread Form (NPT)
Aeromautical National Taper Pipe Thread Form (ANPT)
Dryseal American National Standard Taper Pipe Thread Form (NPTF)

Thread Limits

Nominal Size (Inch)	Threads per Inch NPT	*Gage Measurement (Inch)		Taper per Foot (Inch)	
		Projection	Tolerance (+/-)	Min.	Max.
1/16	27	0.312	1/16	23/32	25/32
1/8	27	0.312	1/16	23/32	25/32
1/4	18	0.459	1/16	23/32	25/32
3/8	18	0.454	1/16	23/32	25/32
1/2	14	0.579	1/16	23/32	25/32
3/4	14	0.565	1/16	23/32	25/32
1	11-1/2	0.678	3/32	23/32	25/32
1 1/4	11-1/2	0.686	3/32	23/32	25/32
1 1/2	11-1/2	0.699	3/32	23/32	25/32
2	11-1/2	0.667	3/32	23/32	25/32
2 1/2	8	0.925	3/32	47/64	25/32
3	8	0.925	3/32	47/64	25/32
3 1/2	8	0.938	1/8	47/64	25/32
4	8	0.950	1/8	47/64	25/32

*Distance small end of tap projects through an L1 American Standard Taper Pipe Thread Ring Gage (See Table 357 page 780).

Angle Tolerance

Threads Per Inch	Tolerance Half Angle
8	±25′
11-1/2 to 27 inclusive	±30′

Formula Values

Threads Per Inch	A	B	C	D	E
27	0.0267	0.0296	0.0257	0.0234	0.0251
18	0.0408	0.0444	0.0401	0.0377	0.0395
14	0.0535	0.0571	0.0525	0.0515	0.0533
11 1/2	0.0658	0.0696	0.0647	0.0614	0.0649
8	0.0966	0.1000	0.0946	–	–

For essential dimensions of American National Standard Pipe Threads (See Table 357 page 780).

Ground Thread American Standard Pipe Form Taps made to this table are to be marked NPT. Ground Thread Dryseal American National Standard Pipe Taps made to this table are to be marked NPTF. Ground Thread Taps, Aeronautical National Thread Form, made to this table are marked ANPT.

Width of Flats - Taps

Threads Per Inch	Element	Width of Flats at Tap Crest and Roots			
		NPT		NPTF	
		Min.	Max.	Min.	Max.
27	Major Dia. Minor Dia.	0.0014	0.0041 0.0041	0.0040	0.0055 0.0040
18	Major Dia. Minor Dia.	0.0021	0.0057 0.0057	0.0050	0.0065 0.0050
14	Major Dia. Minor Dia.	0.0027	0.0064 0.0064	0.0050	0.0065 0.0050
11 1/2	Major Dia. Minor Dia.	0.0033	0.0073 0.0073	0.0060	0.0083 0.0060
8	Major Dia. Minor Dia.	0.0048	0.0090 0.0090	0.0080	0.0103 0.0030

Minimum minor diameter flats are not specified. May be as sharp as practicable. Ground Thread Taps marked NPT may be used for NPT and ANPT applications.

LEAD TOLERANCE
A maximum lead deviation of ±.0005" within any two threads not farther apart than one inch is permitted.

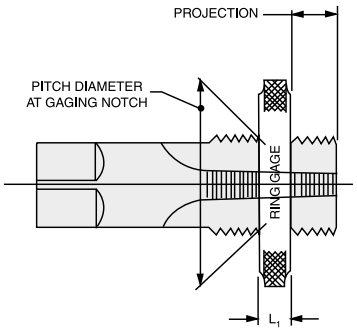
FORMULA FOR AMERICAN NATIONAL STANDARD PIPE FORM
Minimum major diameter = Measured pitch diameter +A.
Maximum major diameter = Measured pitch diameter +B.
Minimum minor diameter = Measured pitch diameter -B.
Maximum minor diameter = Measured pitch diameter -C.

FORMULA FOR DRYSEAL AMERICAN NATIONAL STANDARD PIPE FORM
Minimum major diameter = Measured pitch diameter +D.
Maximum major diameter = Measured pitch diameter +E.
Minimum minor diameter = Maximum or smaller.
Maximum minor diameter = Measured pitch diameter -E.

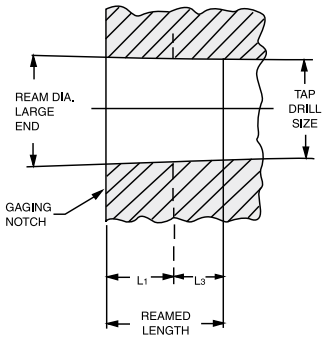
Measurement of Taper Pipe Taps, Reaming Data and Tap Drill Sizes (USCTI Table 338)

Size	Projection				Ream Dia. Large End	Gage Width L1	Reamed Length L1 + L3	Tap Drill for Use w/ Reaming	Tap Drill for Use w/o Reaming
	NPT & NTF		SAE-SHORT						
	Min.	Max.	Min.	Max.					
1/16-27	0.250	0.375	0.222	0.259	0.2515	0.1600	0.2711	15/64	C
1/8-27	0.250	0.375	0.222	0.259	0.3340	0.1615	0.2726	21/64	Q
1/4-18	0.397	0.521	0.333	0.389	0.4472	0.2278	0.3945	27/64	7/16
3/8-18	0.392	0.516	0.333	0.389	0.5826	0.240	0.4067	9/16	9/16
1/2-14	0.517	0.641	0.429	0.500	0.7213	0.320	0.5343	11/16	45/64
3/4-14	0.503	0.627	0.429	0.500	0.9317	0.339	0.5533	57/64	29/32
1-11½	0.584	0.772	–	–	1.1691	0.400	0.6609	1-1/8	1-9/64
1¼-11½	0.592	0.780	–	–	1.1538	0.420	0.6809	1-15/32	1-31/64
1½-11½	0.606	0.792	–	–	1.7528	0.420	0.6809	1-45/64	1-23/32
2-11½	0.574	0.760	–	–	2.2267	0.436	0.6969	2-3/16	2-3/16

Projection Thru Ring Gage



Reamed Hole Data



Straight Pipe Taps Ground Thread (USCTI Table 335)

American National Standard Straight Pipe Thread Form (NPS) (NPSC) (NPSM)

Thread Limits

Nominal Sizes (inch)	Threads Per Inch	Major Diameter			Pitch Diameter		
		Plug at Gaging Notch	Min. G	Max. H	Plug at Gaging Notch E	Min. K	Max. L
1/8	27	0.3983	0.4022	0.4032	0.3736	0.3746	0.3751
1/4	18	0.5286	0.5347	0.5357	0.4916	0.4933	0.4938
3/8	18	0.6640	0.6701	0.6711	0.6270	0.6287	0.6292
1/2	14	0.8260	0.8347	0.8357	0.7784	0.7806	0.7811
3/4	14	1.0364	1.0447	1.0457	0.9889	0.9906	0.9916
1	11-1/2	1.2966	1.3062	1.3077	1.2386	1.2402	1.2412
1-1/4	11-1/2	1.6413	1.6507	1.6522	1.5834	1.5847	1.5862
1-1/2	11-1/2	1.8803	0.1890	1.8912	1.8223	1.8237	1.8252
2	11-1/2	2.3542	2.3639	2.3654	2.2963	2.2979	2.2994
2-1/2	8	2.8454	2.8604	2.8619	2.7622	2.7640	2.7660
3	8	3.4718	3.4868	3.4883	3.3885	3.3904	3.3924
3-1/2	8	3.9721	3.9872	3.9887	3.8888	3.8908	3.8928
4	8	4.4704	4.4855	4.4870	4.3871	4.3891	4.3911

LEAD TOLERANCE
A maximum lead deviation of plus of minus 0.0005" within any two threads not farther apart than one inch is permitted.

Note: Taps made to these specifications are marked NPS and used for NPS, NPSC, and NPSM.

Angle Tolerance

Threads Per Inch	Deviation in Half Angle
8	± 25'
11 1/2 to 27 Incl.	± 30'

Formula for American National Standard Dryseal Pipe Form (NPS)

The maximum Pitch Diameter of tap is based upon an allowance deducted from the maximum product pitch diameter of NPSC or NPSM, whichever is smaller. The minimum Pitch Diameter of tap is derived by subtracting the ground thread pitch diameter tolerance for actual equivalent size as shown in Table 331, page 771, Col. D.

Nominal Size (inch)	Major Diameter		Minor Diameter
	Min. G	Max. H	Max.
1/8	H - 0.0010	K + A - 0.0010	M - B
1/4 to 3/4 Incl.	H - 0.0010	K + A - 0.0020	M - B
1 to 4 Incl.	H - 0.0015	K + A - 0.0021	M - B

Formula Values

Threads Per Inch	A	B	M
27	0.0296	0.0257	Actual
18	0.0444	0.0401	Measured
14	0.0571	0.0525	Pitch
11-1/2	0.0696	0.0647	Diameter
8	0.1000	0.0946	

Straight Pipe Taps Ground Thread (USCTI Table 335-A)

American National Standard Straight Dryseal Pipe Thread Form (NPSF)

Thread Limits

Nominal Size (inch)	Threads Per Inch	Major Diameter			Pitch Diameter		
		Min. G	Max. H	Plug at Gaging Notch E	Min. K	Max. L	Minor* Diam. Flat Max.
1/16	27	0.3008	0.3018	0.2812	0.2772	0.2777	0.004
1/8	27	0.3932	0.3942	0.3736	0.3696	0.3701	0.004
1/4	18	0.5239	0.5249	0.4916	0.4859	0.4864	0.005
3/8	18	0.6593	0.6603	0.6270	0.6213	0.6218	0.005
1/2	14	0.8230	0.8240	0.7784	0.7712	0.7717	0.005
3/4	14	1.0335	1.0345	0.9889	0.9817	0.9822	0.005
1	11-1/2	1.2933	1.2943	1.2386	1.2295	1.2305	0.006

*As specified or sharper.
The major diameter of standard taper pipe plug gages and the minor diameter of standard taper pipe ring gages used for gaging dryseal threads will be truncated .20p minimum to .25p maximum for all pitches.

Angle Tolerance

Threads Per Inch	Deviation in Half Angles
11-1/2 to 27 Incl.	± 30'

Formula for American National Standard Dryseal Pipe Form (NPSF)

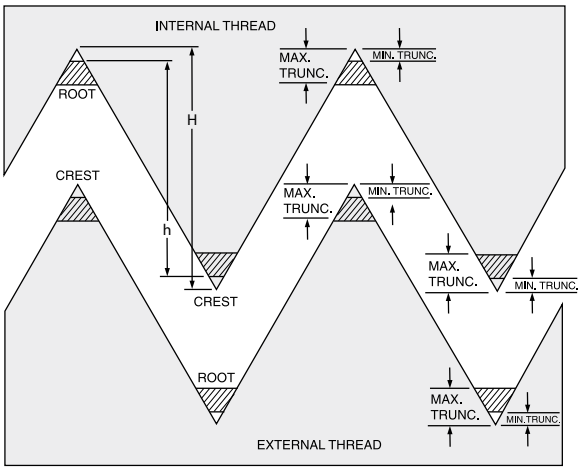
Nominal Size (inch)	Major Diameter		Pitch Diameter		Max. Minor Diam.
	Min. G	Max. H	Min. K	Max. L	
1/6	H - 0.0010	K + Q - 0.0005	L - 0.0005	E - F	M - Q
1/8	H - 0.0010	K + Q - 0.0005	L - 0.0005	E - F	M - Q
1/4	H - 0.0010	K + Q - 0.0005	L - 0.0005	E - F	M - Q
3/8	H - 0.0010	K + Q - 0.0005	L - 0.0005	E - F	M - Q
1/2	H - 0.0010	K + Q - 0.0005	L - 0.0005	E - F	M - Q
3/4	H - 0.0010	K + Q - 0.0005	L - 0.0005	E - F	M - Q
1	H - 0.0010	K + Q - 0.0001	L - 0.0010	E - F	M - Q

Formula Values

Threads Per Inch	E	F	M	Q
27	Pitch Diameter	0.0035	Actual	0.0251
18	of plug	0.0052	Measured	0.0395
14	at gaging	0.0067	Pitch	0.0533
11-1/2	notch	0.0081	Diameter	0.0649

LEAD TOLERANCE
A maximum lead deviation of ±0.0005" within any two threads not farther apart than one inch is permitted.

American National General Pipe Threads (USCTI Table 357)

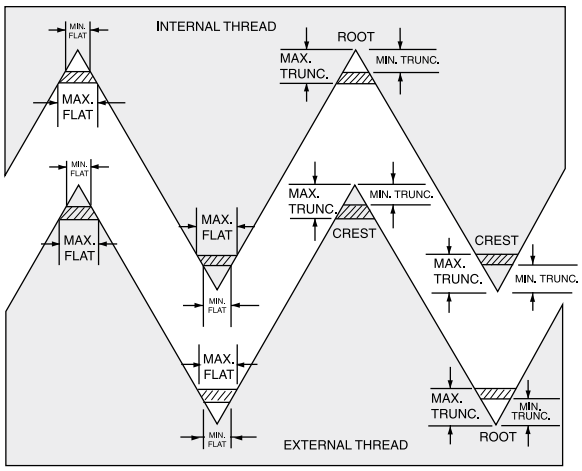


Crest and root limits for American National Standard External and Internal Taper Pipe Thread (NPT)

Threads Per Inch	Height Sharp V Thread (inch)	Height Pipe Thread Max (inch)	Truncation (inch)		Equivalent Width of Flat (inch)	
	H	h	Min	Max.	Min.	Max.
27	0.03208	0.02963	0.0012	0.0036	0.0014	0.0041
18	0.04811	0.04444	0.0018	0.0049	0.0021	0.0057
14	0.06186	0.05714	0.0024	0.0056	0.0027	0.0064
11 1/2	0.07531	0.06957	0.0029	0.0063	0.0033	0.0073
8	0.10825	0.10000	0.0041	0.0078	0.0048	0.0090

The limits specified above are intended to serve as a guide for establishing limits for the thread elements of taps, dies, and thread chasers. These limits may be required on the product. For complete specifications see latest edition of USE Standard B2.1. The Military Aeronautical Specification MIL-P-7105 agrees with all values given in this table.

Dryseal American National Standard Pipe Threads



Crest and root limits for Dryseal American National Standard External and Internal Pipe Threads (NPTF)

Threads Per Inch		Height Sharp V Thread (inch)	Truncation (inch)		Equivalent Width of Flat (inch)	
		H	Min	Max.	Min.	Max.
27	Crest	0.03208	0.0017	0.0035	0.0020	0.0040
	Root		0.0035	0.0052	0.0040	0.0060
18	Crest	0.04811	0.0026	0.0043	0.0030	0.0050
	Root		0.0043	0.0061	0.0050	0.0070
14	Crest	0.06186	0.0026	0.0043	0.0030	0.0050
	Root		0.0043	0.0061	0.0050	0.0070
11 1/2	Crest	0.07531	0.0035	0.0052	0.0040	0.0060
	Root		0.0052	0.0078	0.0060	0.0090
8	Crest	0.10825	0.0052	0.0069	0.0060	0.0080
	Root		0.0069	0.0095	0.0080	0.0110

The major diameter of standard taper pipe plug gages and the minor diameter of standard taper pipe ring gages used for gaging dryseal threads will be truncated .20p minimum to .25p maximum for all pitches.

Tap Drill Sizes - Cut Taps - Inch

To minimize tapping problems and lengthen tool life, use the largest drill possible to produce a minor diameter that will result in the lowest percentage of full thread consistent with adequate strength. A minor diameter that provides a 55% to 65% thread is sufficient for most requirements, but in some cases a higher percentage of thread may be necessary to conform with the minor diameter limits of the thread class specified.

* Generally, deeper than 1-1/2 times the hole diameter.

Suggested Percentage of Full Thread in Tapped Holes

Material		*Deep Hole Tapping	Average Commercial Work	Thin Sheet Stock or Stamping
Free Cutting	Aluminum, Brass, Bronze, Cast Iron, Copper, Mild Steel, Tool Steel	60% - 70%	65% - 70%	75% - 85%
Hard or Tough Cutting	Cast Steel, Drop Forging, Monel Metal, Nickel Steel, Stainless Steel	55% - 65%	60% - 70%	

Tap Size	Threads Per Inch			Minor Diameter		Tap Drill Diameter - Cut Taps				
	UNC	UNF	8-Pitch	Min. 2B	Max. 2B	80% Thread (in)	75% Thread (in)	70% Thread (in)	65% Thread (in)	60% Thread (in)
0	–	80	–	0.0465	0.0514	0.0470	0.0478	0.0486	0.0494	0.0503
1	64	–	–	0.0561	0.0623	0.0568	0.0578	0.0588	0.0598	0.0608
	–	72	–	0.0580	0.0635	0.0586	0.0595	0.0604	0.0613	0.0622
2	56	–	–	0.0667	0.0737	0.0674	0.0686	0.0698	0.0709	0.0721
	–	64	–	0.0691	0.0752	0.0698	0.0708	0.0718	0.0728	0.0738
3	48	–	–	0.0764	0.0845	0.0774	0.0787	0.0801	0.0814	0.0828
	–	56	–	0.0797	0.0865	0.0804	0.0816	0.0828	0.0839	0.0851
4	40	–	–	0.0849	0.0939	0.0860	0.0876	0.0893	0.0909	0.0925
	–	48	–	0.0894	0.0968	0.0904	0.0917	0.0931	0.0944	0.0958
5	40	–	–	0.0979	0.1062	0.0990	0.1006	0.1023	0.1039	0.1055
	–	44	–	0.1004	0.1079	0.1014	0.1029	0.1043	0.1058	0.1073
6	32	–	–	0.1040	0.1140	0.1055	0.1076	0.1096	0.1116	0.1136
	–	40	–	0.1110	0.1190	0.1120	0.1136	0.1153	0.1169	0.1185
8	32	–	–	0.1300	0.1390	0.1315	0.1336	0.1356	0.1376	0.1396
	–	36	–	0.1340	0.1420	0.1351	0.1369	0.1387	0.1405	0.1424
10	24	–	–	0.1450	0.1560	0.1467	0.1494	0.1521	0.1548	0.1575
	–	32	–	0.1560	0.1640	0.1575	0.1596	0.1616	0.1636	0.1656
12	24	–	–	0.1710	0.1810	0.1727	0.1754	0.1781	0.1808	0.1835
	–	28	–	0.1770	0.1860	0.1789	0.1812	0.1835	0.1858	0.1882
1/4	20	–	–	0.1960	0.2070	0.1980	0.2013	0.2045	0.2078	0.2110
	–	28	–	0.2110	0.2200	0.2129	0.2152	0.2175	0.2198	0.2222
5/16	18	–	–	0.2520	0.2650	0.2548	0.2584	0.2620	0.2656	0.2692
	–	24	–	0.2670	0.2770	0.2692	0.2719	0.2746	0.2773	0.2800
3/8	16	–	–	0.3070	0.3210	0.3101	0.3141	0.3182	0.3222	0.3263
	–	24	–	0.3300	0.3400	0.3317	0.3344	0.3371	0.3398	0.3425
7/16	14	–	–	0.3600	0.3760	0.3633	0.3679	0.3726	0.3772	0.3818
	–	20	–	0.3830	0.3950	0.3855	0.3888	0.3920	0.3953	0.3985
1/2	13	–	–	0.4170	0.4340	0.4201	0.4251	0.4301	0.4351	0.4400
	–	20	–	0.4460	0.4570	0.4480	0.4513	0.4545	0.4578	0.4610
9/16	12	–	–	0.4720	0.4900	0.4759	0.4813	0.4867	0.4921	0.4976
	–	18	–	0.5020	0.5150	0.5048	0.5084	0.5120	0.5156	0.5192
5/8	11	–	–	0.5270	0.5460	0.5305	0.5364	0.5423	0.5482	0.5541
	–	18	–	0.5650	0.5780	0.5673	0.5709	0.5745	0.5781	0.5817
3/4	10	–	–	0.6420	0.6630	0.6461	0.6526	0.6591	0.6656	0.6721
	–	16	–	0.6820	0.6960	0.6851	0.6891	0.6932	0.6972	0.7013
7/8	9	–	–	0.7550	0.7780	0.7595	0.7668	0.7740	0.7812	0.7884
	–	14	–	0.7980	0.8140	0.8008	0.8054	0.8101	0.8147	0.8193
1	8	–	–	0.8650	0.8900	0.8701	0.8782	0.8863	0.8945	0.9026
	–	12	–	0.9100	0.9280	0.9134	0.9188	0.9242	0.9296	0.9351
1-1/8	7	–	–	0.9700	0.9980	0.9765	0.9858	0.9951	1.0044	1.0137
	–	12	–	1.0350	1.0530	1.0384	1.0438	1.0492	1.0546	1.0601
	–	–	8	0.9900	1.0150	0.9951	1.0032	1.0113	1.0195	1.0276
1-1/4	7	–	–	1.0950	1.1230	1.1015	1.1108	1.1201	1.1294	1.1387
	–	12	–	1.1600	1.1780	1.1634	1.1688	1.1742	1.1796	1.1851
	–	–	8	1.1150	1.1400	1.1201	1.1282	1.1363	1.1445	1.1526
1-3/8	6	–	–	1.1950	1.2250	1.2018	1.2126	1.2235	1.2343	1.2451
	–	12	–	1.2850	1.3030	1.2884	1.2938	1.2992	1.3046	1.3101
	–	–	8	1.2400	1.2650	1.2451	1.2532	1.2613	1.2695	1.2776
1-1/2	6	–	–	1.3200	1.3500	1.3268	1.3376	1.3485	1.3593	1.3701
	–	12	–	1.4100	1.4280	1.4134	1.4188	1.4242	1.4296	1.4351
	–	–	8	1.3650	1.3900	1.3701	1.3782	1.3863	1.3945	1.4026
1-5/8	–	–	8	1.4900	1.5150	1.4951	1.5032	1.5113	1.5195	1.5276
1-3/4	5	–	–	1.5330	1.5670	1.5422	1.5551	1.5681	1.5811	1.5941
	–	–	8	1.6150	1.6400	1.6201	1.6282	1.6363	1.6445	1.6526
1-7/8	–	–	8	1.7400	1.7650	1.7451	1.7532	1.7613	1.7695	1.7776
2	4-1/2	–	–	1.7590	1.7950	1.7691	1.7835	1.7979	1.8124	1.8268
	–	–	8	1.8650	1.8900	1.8701	1.8782	1.8863	1.8945	1.9026
2-1/4	4-1/2	–	–	2.0090	2.0450	2.0191	2.0335	2.0479	2.0624	2.0768
	–	–	8	2.1150	2.1400	2.1201	2.1282	2.1363	2.1445	2.1526
2-1/2	4	–	–	2.2290	2.2670	2.2402	2.2564	2.2727	2.2889	2.3051
	–	–	8	2.3650	2.3900	2.3701	2.3782	2.3863	2.3945	2.4026

FORMULA: TAP DRILL SIZE

$$\text{Drill Size} = \text{Tap Major Dia} - \frac{0.01299 \times \%\ \text{of Full Thread}}{\#\ \text{of Threads Per Inch}}$$

Example: to determine drill size for 1/4"-20 UNC tap, 70% thread

Tap Major Ø = 0.2500"
% of Full Thread = 70%
# of Threads per Inch = 20

$$\text{Drill Size} = 0.2500" - \frac{(0.01299 \times 70\%)}{20}$$

Drill Size = 0.2500" - 0.0455" = 0.2045"

FORMULA: PERCENTAGE OF FULL THREAD

$$\%\ \text{of Full Thread} = \text{Threads Per Inch} \times \frac{\text{Tap Major Dia - Drill Dia}}{0.01299}$$

Example: to determine the % of thread for 1/4"-20 UNC using 0.2045" drill

Threads per Inch = 20
Tap Major Ø = 0.2500"
Drill Ø = 0.2045"

$$\%\ \text{of Thread} = 20 \times \frac{(0.2500 - 0.8245)}{0.01299}$$

% of Thread = 20 x 3.50 = 70%

Tap Drill Sizes - Cut Taps - Metric

To minimize tapping problems and lengthen tool life, use the largest drill possible to produce a minor diameter that will result in the lowest percentage of full thread consistent with adequate strength. A minor diameter that provides a 55% to 65% thread is sufficient for most requirements, but in some cases a higher percentage of thread may be necessary to conform with the minor diameter limits of the thread class specified.

* Generally, deeper than 1 1/2 times the hole diameter.

Suggested Percentage of Full Thread in Tapped Holes

Material		*Deep Hole Tapping	Average Commercial Work	Thin Sheet Stock or Stamping
Free Cutting	Aluminum, Brass, Bronze, Cast Iron, Copper, Mild Steel, Tool Steel	60% - 70%	65% - 70%	75% - 85%
Hard or Tough Cutting	Cast Steel, Drop Forging, Monel Metal, Nickel Steel, Stainless Steel	55% - 65%	60% - 70%	

Tap Size	Pitch		Minor Dia. (mm)		Tap Drill Diameter - Cut Taps									
	M	MF	Min. 6H	Max. 6H	80% Thread		75% Thread		70% Thread		65% Thread		60% Thread	
					(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
M1.6	0.35	–	1.221	1.321	1.24	0.0488	1.26	0.0496	1.28	0.0504	1.30	0.0512	1.33	0.0524
M1.7	0.35	–	1.321	1.421	1.33	0.0524	1.36	0.0535	1.38	0.0543	1.40	0.0551	1.42	0.0559
M1.8	0.35	–	1.422	1.519	1.44	0.0567	1.46	0.0575	1.48	0.0583	1.50	0.0591	1.53	0.0602
M2	0.4	–	1.567	1.679	1.58	0.0622	1.61	0.0634	1.64	0.0646	1.66	0.0654	1.69	0.0665
M2.2	0.45	–	1.715	1.836	1.73	0.0681	1.76	0.0693	1.79	0.0705	1.82	0.0717	1.85	0.0728
M2.5	0.45	–	2.013	2.138	2.03	0.0799	2.06	0.0811	2.09	0.0823	2.12	0.0835	2.15	0.0846
M2.6	0.45	–	2.113	2.238	2.13	0.0839	2.16	0.0850	2.19	0.0862	2.22	0.0874	2.25	0.0886
M3	0.5	–	2.459	2.599	2.48	0.0976	2.51	0.0988	2.55	0.1004	2.58	0.1016	2.61	0.1028
	–	0.35	2.621	2.721	2.63	0.1035	2.66	0.1047	2.68	0.1055	2.70	0.1063	2.72	0.1071
M3.5	0.6	–	2.850	3.010	2.88	0.1134	2.92	0.1150	2.95	0.1161	2.99	0.1177	3.03	0.1193
M4	0.7	–	3.242	3.422	3.27	0.1287	3.32	0.1307	3.36	0.1323	3.41	0.1343	3.45	0.1358
	–	0.5	3.459	3.599	3.48	0.1370	3.51	0.1382	3.54	0.1394	3.58	0.1409	3.61	0.1421
M4.5	0.75	–	3.688	3.876	3.72	0.1465	3.77	0.1484	3.82	0.1504	3.87	0.1524	3.92	0.1543
M5	0.8	–	4.134	4.334	4.17	0.1642	4.22	0.1661	4.27	0.1681	4.32	0.1701	4.38	0.1724
	–	0.5	4.458	4.600	4.48	0.1764	4.51	0.1776	4.54	0.1787	4.58	0.1803	4.61	0.1815
M6	1	–	4.917	5.153	4.96	0.1953	5.03	0.1980	5.09	0.2004	5.16	0.2031	5.22	0.2055
	–	0.75	5.187	5.377	5.22	0.2055	5.27	0.2075	5.32	0.2094	5.37	0.2114	5.41	0.2130
M7	1	–	5.918	6.152	5.96	0.2346	6.03	0.2374	6.09	0.2398	6.16	0.2425	6.22	0.2449
M8	1.25	–	6.647	6.912	6.70	0.2638	6.78	0.2669	6.86	0.2701	6.94	0.2732	7.03	0.2768
	–	1	6.917	7.153	6.96	0.2740	7.03	0.2768	7.09	0.2791	7.16	0.2819	7.22	0.2843
	–	0.75	7.187	7.377	7.22	0.2843	7.27	0.2862	7.32	0.2882	7.37	0.2902	7.41	0.2917
M10	1.5	–	8.376	8.676	8.44	0.3323	8.54	0.3362	8.64	0.3402	8.73	0.3437	8.83	0.3476
	–	1.25	8.647	8.912	8.70	0.3425	8.78	0.3457	8.86	0.3488	8.94	0.3520	9.03	0.3555
	–	1	8.917	9.153	8.96	0.3528	9.03	0.3555	9.09	0.3579	9.16	0.3606	9.22	0.3630
	–	0.75	9.188	9.378	9.22	0.3630	9.27	0.3650	9.32	0.3669	9.37	0.3689	9.41	0.3705
M12	1.75	–	10.106	10.441	10.18	0.4008	10.30	0.4055	10.41	0.4098	10.52	0.4142	10.64	0.4189
	–	1.5	10.376	10.676	10.44	0.4110	10.54	0.4150	10.64	0.4189	10.73	0.4224	10.83	0.4264
	–	1.25	10.647	10.912	10.70	0.4213	10.78	0.4244	10.86	0.4276	10.94	0.4307	11.03	0.4343
	–	1	10.917	11.153	10.96	0.4315	11.03	0.4343	11.09	0.4366	11.16	0.4394	11.22	0.4417
M14	2	–	11.835	12.210	11.92	0.4693	12.05	0.4744	12.18	0.4795	12.31	0.4846	12.44	0.4898
	–	1.5	12.376	12.676	12.44	0.4898	12.54	0.4937	12.64	0.4976	12.73	0.5012	12.83	0.5051
M16	2	–	13.835	14.210	13.92	0.5480	14.05	0.5531	14.18	0.5583	14.31	0.5634	14.44	0.5685
	–	1.5	14.376	14.676	14.44	0.5685	14.54	0.5724	14.64	0.5764	14.73	0.5799	14.83	0.5839
M18	2.5	–	15.296	15.743	15.40	0.6063	15.56	0.6126	15.73	0.6193	15.89	0.6256	16.05	0.6319
	–	1.5	16.376	16.676	16.44	0.6472	16.54	0.6512	16.64	0.6551	16.73	0.6587	16.83	0.6626
M20	2.5	–	17.294	17.744	17.40	0.6850	17.56	0.6913	17.73	0.6980	17.89	0.7043	18.05	0.7106
	–	1.5	18.376	18.676	18.44	0.7260	18.54	0.7299	18.64	0.7339	18.73	0.7374	18.83	0.7413
	–	1	18.917	19.153	18.96	0.7465	19.03	0.7492	19.09	0.7516	19.16	0.7543	19.22	0.7567
M22	2.5	–	19.294	19.744	19.40	0.7638	19.56	0.7701	19.73	0.7768	19.89	0.7831	20.05	0.7894
	–	2	19.835	20.210	19.92	0.7843	20.05	0.7894	20.18	0.7945	20.31	0.7996	20.44	0.8047
	–	1.5	20.376	20.676	20.44	0.8047	20.54	0.8087	20.64	0.8126	20.73	0.8161	20.83	0.8201
M24	3	–	20.752	21.252	20.88	0.8220	21.08	0.8299	21.27	0.8374	21.47	0.8453	21.66	0.8528
	–	2	21.835	22.210	21.92	0.8630	22.05	0.8681	22.18	0.8732	22.31	0.8783	22.44	0.8835
	–	1.5	22.376	22.676	22.44	0.8835	22.54	0.8874	22.64	0.8913	22.73	0.8949	22.83	0.8988
M27	3	–	23.752	24.252	23.88	0.9402	24.08	0.9480	24.27	0.9555	24.47	0.9634	24.66	0.9709
	–	2	24.835	25.210	24.92	0.9811	25.05	0.9862	25.18	0.9913	25.31	0.9965	25.44	1.0016
	–	1.5	25.376	25.676	25.44	1.0016	25.54	1.0055	25.64	1.0094	25.73	1.0130	25.83	1.0169
M30	3.5	–	26.211	26.771	26.36	1.0378	26.59	1.0469	26.82	1.0559	27.04	1.0646	27.27	1.0736
	–	2	27.835	28.210	27.92	1.0992	28.05	1.1043	28.18	1.1094	28.31	1.1146	28.44	1.1197
	–	1.5	28.376	28.676	28.44	1.1197	28.54	1.1236	28.64	1.1276	28.73	1.1311	28.83	1.1350
M33	3.5	–	29.211	29.771	29.36	1.1559	29.59	1.1650	29.82	1.1740	30.04	1.1827	30.27	1.1917
	–	2	30.835	31.210	30.92	1.2173	31.05	1.2224	31.18	1.2276	31.31	1.2327	31.44	1.2378
M36	4	–	31.670	32.270	31.84	1.2535	32.10	1.2638	32.36	1.2740	32.62	1.2843	32.88	1.2945
	–	3	32.752	33.252	32.88	1.2945	33.08	1.3024	33.27	1.3098	33.47	1.3177	33.66	1.3252
	–	2	33.835	34.210	33.92	1.3354	34.05	1.3406	34.18	1.3457	34.31	1.3508	34.44	1.3559
M39	4	–	34.670	35.270	34.84	1.3717	35.10	1.3819	35.36	1.3921	35.62	1.4024	35.88	1.4126
	–	2	36.835	37.210	36.92	1.4535	37.05	1.4587	37.18	1.4638	37.31	1.4689	37.44	1.4740
M42	4.5	–	37.129	37.799	37.32	1.4693	37.62	1.4811	37.91	1.4925	38.20	1.5039	38.49	1.5154
	–	3	38.752	39.252	38.88	1.5307	39.08	1.5386	39.27	1.5461	39.47	1.5539	39.66	1.5614
	–	2	39.835	40.210	39.92	1.5717	40.05	1.5768	40.18	1.5819	40.31	1.5870	40.44	1.5921

FORMULA: TAP DRILL SIZE

$$\text{Drill Size} = \text{Tap Major Dia} - \frac{\text{Pitch} \times \% \text{ of Full Thread}}{76.980}$$

Example: to determine drill size for M12 x 1.75 tap, 70% thread

Tap Major Ø = 12mm
% of Full Thread = 70%
Pitch = 1.75mm

$$\text{Drill Size} = 12\text{mm} - \frac{(1.75 \times 70\%)}{76.980}$$

Drill Size = 12mm - 1.591mm = 10.409mm

FORMULA: PERCENTAGE OF FULL THREAD

$$\% \text{ of Full Thread} = \text{Threads Per Inch} \times \frac{76.980}{\text{Pitch}}$$

Example: to determine the % of thread for M12 x 1.75 Tap using 10.41mm drill

Threads per Inch = 20
Tap Major Ø = 0.2500"
Drill Ø = 0.2045"

$$\% \text{ of Thread} = (12\text{mm} - 10.409\text{mm}) \times \frac{(0.2500 - 0.2262)}{0.0068}$$

% of Thread = 1.591mm x 43.989 = 70%

Tap Drill Sizes - Form Taps - Inch

To minimize tapping problems and lengthen tool life, use the largest drill possible to produce a minor diameter that will result in the lowest percentage of full thread consistent with adequate strength. A minor diameter that provides a 55% to 65% thread is sufficient for most requirements, but in some cases a higher percentage of thread may be necessary to conform with the minor diameter limits of the thread class specified.

* Generally, deeper than 1 1/2 times the hole diameter.

Suggested Percentage of Full Thread in Tapped Holes

Material		*Deep Hole Tapping	Average Commercial Work	Thin Sheet Stock or Stamping
Free Cutting	Aluminum, Brass, Bronze, Cast Iron, Copper, Mild Steel, Tool Steel	60% - 70%	65% - 70%	75% - 85%
Hard or Tough Cutting	Cast Steel, Drop Forging, Monel Metal, Nickel Steel, Stainless Steel	55% - 65%	60% - 70%	

Tap Size	Threads Per Inch			Minor Diameter		Tap Drill Diameter - Form Taps				
	UNC	UNF	8-Pitch	Min. 2B	Max. 2B	75% Thread	70% Thread	65% Thread	60% Thread	55% Thread
						(in)	(in)	(in)	(in)	(in)
0	–	80	–	0.0465	0.0514	0.0536	0.0540	0.0545	0.0549	0.0554
1	64	–	–	0.0561	0.0623	0.0650	0.0655	0.0661	0.0666	0.0672
	–	72	–	0.0580	0.0635	0.0659	0.0663	0.0669	0.0673	0.0679
2	56	–	–	0.0667	0.0737	0.0769	0.0774	0.0781	0.0787	0.0794
	–	64	–	0.0691	0.0752	0.0780	0.0785	0.0791	0.0796	0.0802
3	48	–	–	0.0764	0.0845	0.0884	0.0890	0.0898	0.0905	0.0913
	–	56	–	0.0797	0.0865	0.0899	0.0904	0.0911	0.0917	0.0924
4	40	–	–	0.0849	0.0939	0.0993	0.1000	0.1010	0.1018	0.1028
	–	48	–	0.0894	0.0968	0.1014	0.1020	0.1028	0.1035	0.1043
5	40	–	–	0.0979	0.1062	0.1123	0.1130	0.1140	0.1148	0.1158
	–	44	–	0.1004	0.1079	0.1134	0.1141	0.1150	0.1157	0.1166
6	32	–	–	0.1040	0.1140	0.1221	0.1230	0.1243	0.1252	0.1264
	–	40	–	0.1110	0.1190	0.1253	0.1260	0.1270	0.1278	0.1288
8	32	–	–	0.1300	0.1390	0.1481	0.1490	0.1503	0.1512	0.1524
	–	36	–	0.1340	0.1420	0.1498	0.1507	0.1518	0.1526	0.1537
10	24	–	–	0.1450	0.1560	0.1688	0.1700	0.1716	0.1729	0.1746
	–	32	–	0.1560	0.1640	0.1741	0.1750	0.1762	0.1772	0.1784
12	24	–	–	0.1710	0.1810	0.1948	0.1960	0.1976	0.1989	0.2006
	–	28	–	0.1770	0.1860	0.1978	0.1990	0.2002	0.2014	0.2028
1/4	20	–	–	0.1960	0.2070	0.2245	0.2260	0.2279	0.2295	0.2315
	–	28	–	0.2110	0.2200	0.2318	0.2329	0.2342	0.2354	0.2389
5/16	18	–	–	0.2520	0.2650	0.2842	0.2861	0.2879	0.2898	0.2917
	–	24	–	0.2670	0.2770	0.2912	0.2927	0.2941	0.2955	0.2969
3/8	16	–	–	0.3070	0.3210	0.3431	0.3452	0.3474	0.3495	0.3516
	–	24	–	0.3300	0.3400	0.3537	0.3552	0.3566	0.3580	0.3594
7/16	14	–	–	0.3600	0.3760	0.4011	0.4035	0.4059	0.4084	0.4108
	–	20	–	0.3830	0.3950	0.4120	0.4137	0.4154	0.4171	0.4188
1/2	13	–	–	0.4170	0.4340	0.4608	0.4634	0.4660	0.4686	0.4712
	–	20	–	0.4460	0.4570	0.4745	0.4762	0.4779	0.4796	0.4813
9/16	12	–	–	0.4720	0.4900	0.5200	0.5229	0.5257	0.5285	0.5313
	–	18	–	0.5020	0.5150	0.5342	0.5361	0.5379	0.5398	0.5417
5/8	11	–	–	0.5270	0.5460	0.5787	0.5817	0.5848	0.5879	0.5910
	–	18	–	0.5650	0.5780	0.5967	0.5986	0.6004	0.6023	0.6042
3/4	10	–	–	0.6420	0.6630	0.6990	0.7024	0.7058	0.7092	0.7126
	–	16	–	0.6820	0.6960	0.7181	0.7202	0.7224	0.7245	0.7266
7/8	9	–	–	0.7550	0.7780	0.8183	0.8221	0.8259	0.8297	0.8334
	–	14	–	0.7980	0.8140	0.8386	0.8410	0.8434	0.8459	0.8483
1	8	–	–	0.8650	0.8900	0.9363	0.9405	0.9448	0.9490	0.9533
	–	12	–	0.9100	0.9280	0.9575	0.9603	0.9632	0.9660	0.9866

FORMULA: TAP DRILL SIZE

$$\text{Drill Size} = \text{Tap Major Dia} - \frac{0.0068 \times \%\ \text{of Full Thread}}{\#\ \text{of Threads Per Inch}}$$

Example: to determine drill size for 1/4"-20UNC tap, 70% thread

Tap Major Ø = 0.2500"
% of Full Thread = 70%
# of Threads per Inch = 20

$$\text{Drill Size} = 0.2500" - \frac{(0.0068 \times 70\%)}{20}$$

Drill Size = 0.2500" - 0.0238" = 0.2262"

FORMULA: PERCENTAGE OF FULL THREAD

$$\%\ \text{of Full Thread} = \text{Threads Per Inch} \times \frac{\text{Tap Major Dia} - \text{Drill Dia}}{0.0068}$$

Example: to determine the % of thread for 1/4"-20UNC Tap using 1.9603" drill

Threads per Inch = 20
Tap Major Ø = 0.2500"
Drill Ø = 0.2045"

$$\%\ \text{of Thread} = 20 \times \frac{(0.2500 - 0.2262)}{0.0068}$$

% of Thread = 20 x 3.5 = 70%

Suggested Pipe Tap Drill Sizes

Tap Size		1/16	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4
Drill Sizes	Taper Pipe Tap*	C	Q	7/16	9/16	45/64	29/32	1-9/64	1-31/64	1-23/32	2-3/16	2-5/8	3-1/4	3-3/4	4-1/4
	Straight Pipe Tap†	1/4	11/32	7/16	37/64	23/32	59/64	1-5/32	1-1/2	1-3/4	2-7/32	2-21/32	–	–	–

*Sizes given permit direct tapping without reaming the hole, but only give a full thread for the first two or three threads.
†For Dryseal Straight Pipe Threads suggested drill sizes are as shown, except; 1/4" pipe, use .444 drill size.

Tap Drill Sizes - Form Taps - Metric

To minimize tapping problems and lengthen tool life, use the largest drill possible to produce a minor diameter that will result in the lowest percentage of full thread consistent with adequate strength. A minor diameter that provides a 55% to 65% thread is sufficient for most requirements, but in some cases a higher percentage of thread may be necessary to conform with the minor diameter limits of the thread class specified.

* Generally, deeper than 1-1/2 times the hole diameter.

Suggested Percentage of Full Thread in Tapped Holes

Material		*Deep Hole Tapping	Average Commercial Work	Thin Sheet Stock or Stamping
Free Cutting	Aluminum, Brass, Bronze, Cast Iron, Copper, Mild Steel, Tool Steel	60% - 70%	65% - 70%	75% - 85%
Hard or Tough Cutting	Cast Steel, Drop Forging, Monel Metal, Nickel Steel, Stainless Steel	55% - 65%	60% - 70%	

Tap Size	Pitch		Minor Diameter (mm)		Tap Drill Diameter - Form Taps									
	M	MF	Min. 6H	Max. 6H	75% Thread		70% Thread		65% Thread		60% Thread		55% Thread	
					(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
M1.6	0.35	–	1.221	1.321	1.42	0.0559	1.43	0.0563	1.45	0.0571	1.46	0.0575	1.47	0.0579
M1.7	0.35	–	1.321	1.421	1.56	0.0617	1.57	0.0620	1.58	0.0623	1.59	0.0627	1.60	0.0630
M1.8	0.35	–	1.422	1.519	1.62	0.0638	1.63	0.0642	1.65	0.0650	1.66	0.0654	1.67	0.0657
M2	0.4	–	1.567	1.679	1.80	0.0709	1.81	0.0713	1.82	0.0717	1.84	0.0724	1.85	0.0728
M2.2	0.45	–	1.715	1.836	1.97	0.0776	1.99	0.0783	2.00	0.0787	2.02	0.0795	2.03	0.0799
M2.5	0.45	–	2.013	2.138	2.27	0.0894	2.29	0.0902	2.30	0.0906	2.32	0.0913	2.33	0.0917
M2.6	0.45	–	2.113	2.238	2.41	0.0949	2.42	0.0953	2.43	0.0957	2.44	0.0962	2.45	0.0966
M3	0.5	–	2.459	2.599	2.75	0.1083	2.76	0.1087	2.78	0.1094	2.80	0.1102	2.81	0.1106
	–	0.35	2.621	2.721	2.86	0.1126	2.87	0.1130	2.88	0.1134	2.89	0.1138	2.90	0.1142
M3.5	0.6	–	2.850	3.010	3.19	0.1256	3.21	0.1264	3.23	0.1272	3.26	0.1283	3.28	0.1291
M4	0.7	–	3.242	3.422	3.64	0.1433	3.67	0.1445	3.69	0.1453	3.71	0.1461	3.74	0.1472
	–	0.5	3.459	3.599	3.75	0.1476	3.76	0.1480	3.78	0.1488	3.80	0.1496	3.81	0.1500
M4.5	0.75	–	3.688	3.876	4.12	0.1622	4.14	0.1630	4.17	0.1642	4.19	0.1650	4.22	0.1661
M5	0.8	–	4.134	4.334	4.59	0.1807	4.62	0.1819	4.65	0.1831	4.67	0.1839	4.70	0.1850
	–	0.5	4.458	4.600	4.75	0.1870	4.76	0.1874	4.78	0.1882	4.80	0.1890	4.81	0.1894
M6	1	–	4.917	5.153	5.49	0.2161	5.52	0.2173	5.56	0.2189	5.59	0.2201	5.63	0.2217
	–	0.75	5.187	5.377	5.62	0.2213	5.64	0.2220	5.67	0.2232	5.69	0.2240	5.72	0.2252
M7	1	–	5.918	6.152	6.49	0.2555	6.52	0.2567	6.56	0.2583	6.59	0.2594	6.63	0.2610
M8	1.25	–	6.647	6.912	7.36	0.2898	7.41	0.2917	7.45	0.2933	7.49	0.2949	7.53	0.2965
	–	1	6.917	7.153	7.49	0.2949	7.52	0.2961	7.56	0.2976	7.59	0.2988	7.63	0.3004
	–	0.75	7.187	7.377	7.62	0.3000	7.64	0.3008	7.67	0.3020	7.69	0.3028	7.72	0.3039
M10	1.5	–	8.376	8.676	9.24	0.3638	9.29	0.3657	9.34	0.3677	9.39	0.3697	9.44	0.3717
	–	1.25	8.647	8.912	9.36	0.3685	9.41	0.3705	9.45	0.3720	9.49	0.3736	9.53	0.3752
	–	1	8.917	9.153	9.49	0.3736	9.52	0.3748	9.56	0.3764	9.59	0.3776	9.63	0.3791
	–	0.75	9.188	9.378	9.62	0.3787	9.64	0.3795	9.67	0.3807	9.69	0.3815	9.72	0.3827
M12	1.75	–	10.106	10.441	11.11	0.4374	11.17	0.4398	11.23	0.4421	11.29	0.4445	11.35	0.4469
	–	1.5	10.376	10.676	11.24	0.4425	11.29	0.4484	11.34	0.4465	11.39	0.4484	11.44	0.4504
	–	1.25	10.647	10.912	11.36	0.4472	11.41	0.4492	11.45	0.4508	11.49	0.4524	11.53	0.4539
	–	1	10.917	11.153	11.49	0.4524	11.52	0.4535	11.56	0.4551	11.59	0.4563	11.63	0.4579
M14	2	–	11.835	12.210	12.98	0.5110	13.05	0.5138	13.12	0.5165	13.18	0.5189	13.25	0.5217
	–	1.5	12.376	12.676	13.24	0.5213	13.29	0.5232	13.34	0.5252	13.39	0.5272	13.44	0.5291
M16	2	–	13.835	14.210	14.98	0.5898	15.05	0.5925	15.12	0.5953	15.18	0.5976	15.25	0.6004
	–	1.5	14.376	14.676	15.24	0.6000	15.29	0.6020	15.34	0.6039	15.39	0.6059	15.44	0.6079
M18	2.5	–	15.296	15.743	16.73	0.6587	16.81	0.6618	16.90	0.6654	16.98	0.6685	17.07	0.6720
	–	1.5	16.376	16.676	17.24	0.6787	17.29	0.6807	17.34	0.6827	17.39	0.6846	17.44	0.6866
M20	2.5	–	17.294	17.744	18.73	0.7374	18.81	0.7406	18.90	0.7441	18.98	0.7472	19.07	0.7508
	–	1.5	18.376	18.676	19.24	0.7575	19.29	0.7594	19.34	0.7614	19.39	0.7634	19.44	0.7654
	–	1	18.917	19.153	19.49	0.7673	19.52	0.7685	19.56	0.7701	19.59	0.7713	19.63	0.7728
M22	2.5	–	19.294	19.744	20.73	0.8161	20.81	0.8193	20.90	0.8228	20.98	0.8260	21.07	0.8295
	–	2	19.835	20.210	20.98	0.8260	21.05	0.8287	21.12	0.8315	21.18	0.8339	21.25	0.8366
	–	1.5	20.376	20.676	21.24	0.8362	21.29	0.8382	21.34	0.8402	21.39	0.8421	21.44	0.8441
M24	3	–	20.752	21.252	22.47	0.8846	22.57	0.8886	22.67	0.8925	22.78	0.8969	22.88	0.9008
	–	2	21.835	22.210	22.98	0.9047	23.05	0.9075	23.12	0.9102	23.18	0.9126	23.25	0.9154
	–	1.5	22.376	22.676	23.24	0.9150	23.29	0.9169	23.34	0.9189	23.39	0.9209	23.44	0.9228

FORMULA: TAP DRILL SIZE

$$\text{Drill Size} = \text{Tap Major Dia} - \frac{\text{Pitch} \times \% \text{ of Full Thread}}{147.059}$$

Example: to determine drill size for M12 x 1.75 tap, 70% thread

Tap Major Ø = 12mm
% of Full Thread = 70%
Pitch = 1.75mm

$$\text{Drill Size} = 12\text{mm} - \frac{(1.75 \times 70\%)}{147.059}$$

Drill Size = 12mm - 0.833mm = 11.167mm

FORMULA: PERCENTAGE OF FULL THREAD

$$\% \text{ of Full Thread} = (\text{Tap Major Dia} - \text{Drill Dia}) \times \frac{147.059}{\text{Pitch}}$$

Example: to determine the % of thread for M12 x 1.75 Tap using 11.17mm drill

Threads per Inch = 20
Tap Major Ø = 0.2500"
Drill Ø = 0.2045"

$$\% \text{ of Thread} = (12\text{mm} - 11.167\text{mm}) \times \frac{147.059}{1.75}$$

% of Thread = (0.833mm) x 84.03 = 70%

Tap Drill Sizes - STI Taps - Inch

Tap Size	Threads Per Inch		Minor Diameter (After Tapping) (in)		Tap Drill Diameter (in)	
	UNC	UNF	Min	Max	Aluminum	Steel, Magnesium, Plastic
2	56	–	0.0899	0.0961	0.0938	0.0960
3	48	–	0.1036	0.1104	0.1065	0.1094
	–	56	0.1029	0.1086	0.1040	0.1065
4	40	–	0.1175	0.1252	0.1200	0.1200
	–	48	0.1166	0.1229	0.1181	0.1200
5	40	–	0.1305	0.1373	0.1339	0.1360
6	32	–	0.1448	0.1527	0.1470	0.1495
	–	40	0.1435	0.1503	0.1470	0.1495
8	32	–	0.1708	0.1781	0.1730	0.1770
	–	36	0.1701	0.1771	0.1730	0.1770
10	24	–	0.1990	0.2080	0.2031	0.2055
	–	32	0.1968	0.2041	0.2010	0.2031
12	24	–	0.2250	0.2340	0.2280	0.2280
1/4	20	–	0.2608	0.2704	0.2660	0.2660
	–	28	0.2577	0.2646	0.2610	0.2638
5/16	18	–	0.3245	0.3342	0.3320	0.3320
	–	24	0.3215	0.3288	0.3281	0.3281
3/8	16	–	0.3885	0.3987	0.3970	0.3970
	–	24	0.3840	0.3910	0.3906	0.3906
7/16	14	–	0.4530	0.4639	0.4531	0.4531
	–	20	0.4483	0.4561	0.4531	0.4531
1/2	13	–	0.5166	0.5273	0.5156	0.5156
	–	20	0.5108	0.5186	0.5156	0.5156
9/16	12	–	0.5806	0.5918	0.5781	0.5938
	–	18	0.5745	0.5826	0.5781	0.5781
5/8	11	–	0.6447	0.6564	0.6562	0.6562
	–	18	0.6370	0.6451	0.6406	0.6406
3/4	10	–	0.7716	0.7838	0.7812	0.7812
	–	16	0.7635	0.7720	0.7656	0.7656
7/8	9	–	0.8990	0.9119	0.9062	0.9062
	–	14	0.8905	0.8994	0.8906	0.8906
1"	8	–	1.0271	1.0421	1.0312	1.0312
	–	12	1.0181	1.0281	1.0156	1.0312

The suggested drill sizes for aluminum listed in the table are within the minor diameter limits for STI tapped holes specified in MS 33537. Alternate drill sizes are suggested in many instances for magnesium, steel and plastics to provide for maximum tap wear life. In the case of magnesium, the larger size is recommended to allow for material close-in. There are suggested drill sizes and any special requirements or specifications will supersede these recommendations.

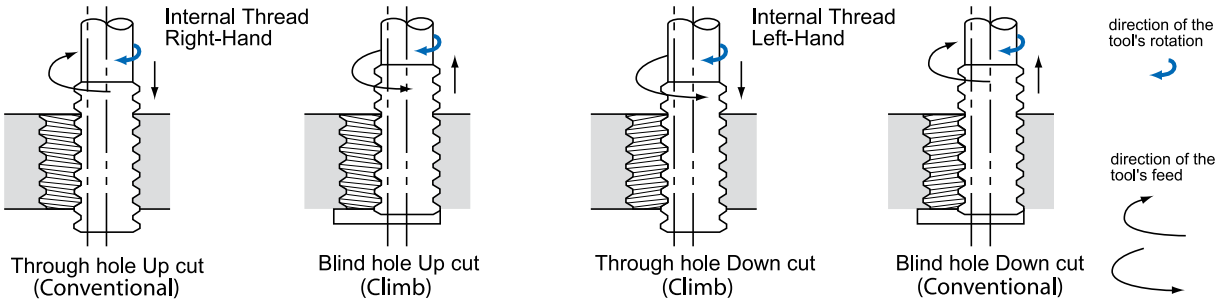
Tap Drill Sizes - STI Taps - Metric

Tap Size	Pitch	Minor Diameter (After Tapping) (in)		Tap Drill Diameter (Metric)	
		Min	Max	Aluminum	Steel, Magnesium, Plastic
M2	0.4	2.087	2.199	2.1	2.1
M2.5	0.45	2.597	2.722	2.3	2.35
M3	0.5	3.108	3.248	3.15	3.2
M4	0.7	4.152	4.332	4.2	4.25
M5	0.8	5.174	5.374	5.2	5.3
M6	1.0	6.217	6.407	6.25	6.3
M8	1.25	8.271	8.483	8.3	8.4
M10	1.5	10.324	10.560	10.5	10.5
M12	1.75	12.379	12.644	12.5	12.5
M14	2	14.433	14.733	14.5	14.5
M16	2	16.433	16.733	16.5	16.5
M18	2.5	18.541	18.896	18.75	18.75
M20	2.5	20.541	20.896	20.75	20.75
M22	2.5	22.541	22.896	22.75	22.75
M24	3	24.649	25.049	24.75	24.75

The suggested drill sizes for aluminum listed in the table are within the minor diameter limits for STI tapped holes specified in MS 33537. Alternate drill sizes are suggested in many instances for magnesium, steel and plastics to provide for maximum tap wear life. In the case of magnesium, the larger size is recommended to allow for material close-in. There are suggested drill sizes and any special requirements or specifications will supersede these recommendations.

Machining Technique

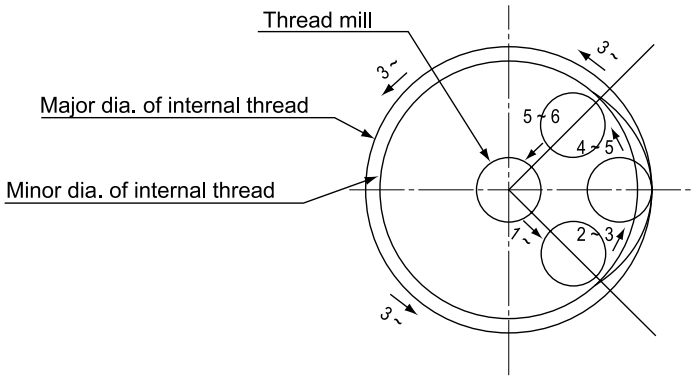
OSG's A Brand & EXOCARB® Thread Mills have been developed for thread milling on a 3-Axis CNC controlled machine tool. Threads are produced by advancing one pitch feed per revolution in the axial direction, utilizing the planet-like rotation and revolution movements of the tool. Internal and right/left hand threads can all be produced with this one tool by simply changing the direction of feed.



Threading Process

1-2 Move to edge (maintain clearance)
2-3 Cut with helical milling
3-4 Mill the circumference of the circle
4-5 Pull away from the edge
5-6 Remove tool

The transition between the start and finish of the milling operation must be smooth, and the appropriate amount of feed is essential for minimizing milling resistance. There are many different methods for using this tool, but our research has shown that this technique provides the most precise and efficient operation.

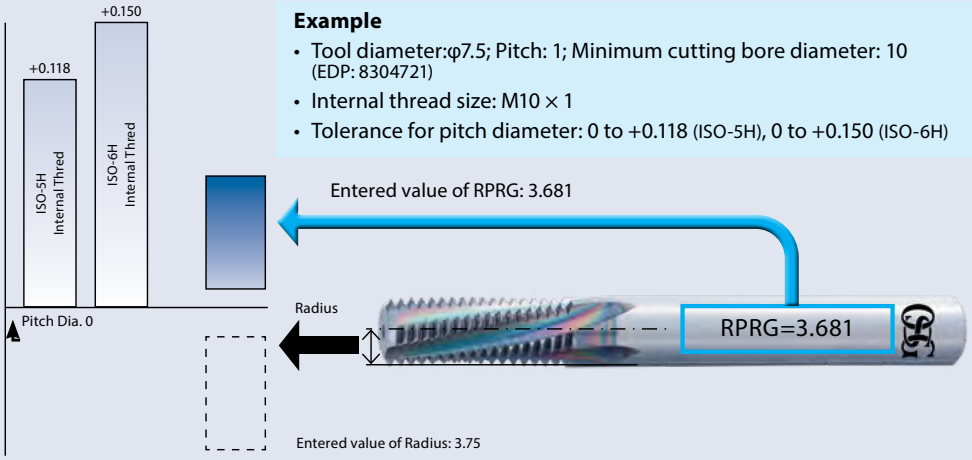


Thread Milling Process (view from above)

Radius Offset (RPRG)

RPRG is the reference value of tool radius offset.

Conventionally, the tool radius was entered during setup as a parameter of the NC system, which was corrected by checking the thread with a gauge. However, it has become possible to reduce the checking and correction simply by entering the RPRG value indicated on the tool shank.



Example

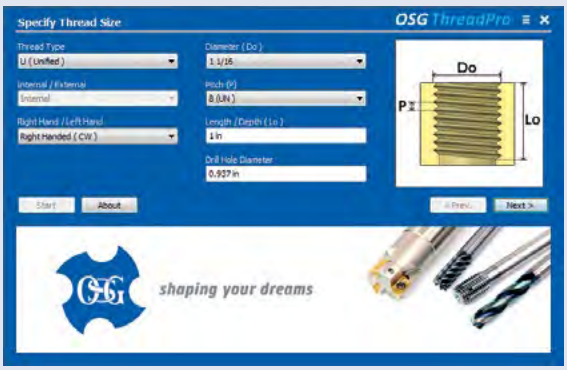
- Tool diameter:φ7.5; Pitch: 1; Minimum cutting bore diameter: 10 (EDP: 8304721)
- Internal thread size: M10 × 1
- Tolerance for pitch diameter: 0 to +0.118 (ISO-5H), 0 to +0.150 (ISO-6H)

NOTES:

1. RPRG are reference values. Determine optimal values after trial cutting as values depend on machining environment.
2. RPRG values are optimally established to achieve ISO:5H (formerly Grade 1) internal thread limits for metric threads and ANSI:3B internal thread limits for unified threads. RPRG values established for taper pipes (R/Rc) are effective when using the thread milling NC code generator software ThreadPro available on our website.
3. For diameters of thread mills, RPRG values are calculated based on the minimum cutting bore diameter (the minimum cutting internal thread size of the tool diameter). To cut other diameters, it is necessary to use a smaller value than RPRG.

ThreadPro (Thread Milling NC Code Generator Software)

www.osgtool.com/threadpro



- Available in 12 different languages
- Supports 8 NC programming languages
- Incorporates RPRG* value to further simplify process

ThreadPro

* RPRG = reference value of tool radius offset

Powered by AUTODESK.

List 16620/16625 - A Brand AT-1
List 16630/16631 - A Brand AT-1 NPT/NPTF

Work Material		Cutting Speed (SFM)	Feed Rate (in/t)
Low Carbon Steel	~C0.25%	260 - 790	0.0004 - 0.002
Medium Carbon Steel	C0.25%~0.45%	260 - 790	0.0004 - 0.002
High Carbon Steel	C0.45%~	260 - 790	0.0004 - 0.002
Alloy Steel	4140, 4340, 8620	200 - 650	0.0004 - 0.002
Hardened Steel	25-45 HRC	260 - 650	0.0004 - 0.002
	45-55 HRC	-	-
	50-60 HRC	-	-
Stainless Steel	300-series, 400-series	200 - 790	0.0004 - 0.002
Tool Steel	D2, H13, A6	-	-
Cast Steel	-	200 - 790	0.0004 - 0.002
Cast Iron	-	260 - 790	0.0004 - 0.002
Ductile Cast Iron	-	200 - 790	0.0004 - 0.002
Copper	-	260 - 790	0.001 - 0.004
Brass	B21, B36	260 - 790	0.001 - 0.004
Brass Casting	B62	260 - 790	0.001 - 0.004
Bronze	B124, B103, B159	260 - 790	0.001 - 0.004
Aluminum	6061, 7075, 2014	260 - 790	0.001 - 0.004
Aluminum Alloy Casting	-	330 - 1000	0.002 - 0.008
Magnesium Alloy Casting	-	330 - 1000	0.002 - 0.008
Zinc Alloy Casting	-	330 - 1000	0.002 - 0.008
Titanium Alloy	Ti-6Al-4V	-	-
Nickel Alloy	Inconel	-	-
Thermosetting Plastic	-	260 - 650	0.001 - 0.004
Thermo Plastic	-	260 - 650	0.001 - 0.004

1. The indicated speeds and feeds are for water-soluble coolant.
2. Water-soluble coolant is not suitable for threading magnesium alloy.
3. Please adjust the cutting conditions depending on the rigidity of the machine, tool holders, and workpiece clamping.
4. If the threading length is long, or when machining a large-pitch thread, reduce the feed rate and take multiple passes.
5. If a machined parallel internal thread is tapered and prevents the go-gauge from going through, add a zero cut/spring pass.

List 16640 - A Brand AT-2
List 16645 - A Brand AT-2

Work Material		Cutting Speed (SFM)	Feed Rate (in/t)
Low Carbon Steel	~C0.25%	115 - 180	0.0004 - 0.0028
Medium Carbon Steel	C0.25%~0.45%	260 - 525	0.0004 - 0.0028
High Carbon Steel	C0.45%~	260 - 525	0.0004 - 0.0028
Alloy Steel	4140, 4340, 8620	200 - 400	0.0004 - 0.0028
Hardened Steel	25-45 HRC	115 - 250	0.0004 - 0.0028
	45-50 HRC	115 - 215	0.0004 - 0.0028
	50-65 HRC	115 - 180	0.0004 - 0.0028
Stainless Steel	300-Series, 400-Series	115 - 330	0.0004 - 0.0028
Tool Steel	D2, H13, A6	115 - 330	0.0004 - 0.0028
Cast Steel	-	115 - 330	0.0004 - 0.0028
Cast Iron	-	115 - 330	0.0004 - 0.0028
Ductile Cast Iron	-	115 - 330	0.0004 - 0.0028
Copper	-	115 - 330	0.0004 - 0.0028
Brass	B21, B36	115 - 330	0.0004 - 0.0028
Brass Casting	B62	115 - 330	0.0004 - 0.0028
Bronze	B124, B103, B159	115 - 330	0.0004 - 0.0028
Aluminum	6061, 7075, 2014	115 - 330	0.0004 - 0.0028
Aluminum Alloy Casting	-	115 - 330	0.0004 - 0.0028
Magnesium Alloy Casting	-	115 - 330	0.0004 - 0.0028
Zinc Alloy Casting	-	115 - 330	0.0004 - 0.0028
Titanium Alloy*	Ti-6Al-4V	115 - 180	0.0004 - 0.0028
Nickel Alloy*	Inconel	115 - 180	0.0004 - 0.0028
Thermosetting Plastic	-	115 - 330	0.0004 - 0.0028
Thermo Plastic	-	115 - 330	0.0004 - 0.0028

1. ***The tool is left-hand cutting - program the spindle for counterclockwise rotation.***
2. The indicated speeds and feeds are for air blow cooling.
3. Please use water soluble coolant when machining aluminum materials.
4. When machining magnesium please refer to the coolant oil manufacturer's specification for recommended oil. Please also properly dispose of the cutting chips to prevent fire hazards.
5. Please adjust the cutting conditions depending on the rigidity of the machine, tool holder, and workpiece clamping.
6. Tool vibration should be kept at a minimum level to ensure highest thread accuracy.
7. Select a higher feed rate for larger diameter tooling and a lower feed rate for smaller diameters.

*Titanium and Nickel alloy parameters are only to be used for tools with internal coolant running water soluble coolant.

List 16642 - A Brand AT-2 R-SPEC
List 16647 - A Brand AT-2 R-SPEC

Work Material		Cutting Speed (SFM)	Feed Rate (in/t)
Low Carbon Steel	~C0.25%	-	-
Medium Carbon Steel	C0.25%~0.45%	-	-
High Carbon Steel	C0.45%~	-	-
Alloy Steel	4140, 4340, 8620	-	-
Hardened Steel	25-45 HRC	-	-
	45-50 HRC	-	-
	50-65 HRC	-	-
Stainless Steel	300-Series, 400-Series	-	-
Tool Steel	D2, H13, A6	-	-
Cast Steel	-	-	-
Cast Iron	-	-	-
Ductile Cast Iron	-	-	-
Copper	-	330 - 985	0.0118 - 0.0197
Brass	B21, B36	-	-
Brass Casting	B62	-	-
Bronze	B124, B103, B159	-	-
Aluminum	6061, 7075, 2014	330 - 985	0.0118 - 0.0197
Aluminum Alloy Casting	-	330 - 985	0.0118 - 0.0157
Magnesium Alloy Casting	-	330 - 985	0.0118 - 0.0197
Zinc Alloy Casting	-	-	-
Titanium Alloy*	Ti-6Al-4V	-	-
Nickel Alloy*	Inconel	-	-
Thermosetting Plastic	-	-	-
Thermo Plastic	-	-	-

1. This cutting condition table shows the standard values. When machining, it is recommended to use the program created by the NC program creation tool "ThreadPro".
2. Please select "Continuous" as the path type of ThreadPro.
3. Please use water soluble coolant unless there is pre-hole made by casting or drilling.
4. When machining magnesium please refer to the coolant oil manufacturer's specification for recommended oil. Please also properly dispose of the cutting chips to prevent fire hazards.
5. Please adjust the cuting conditions depending on the rigidity of the machine, tool holder, and workpiece clamping.
6. Tool vibration should be kept at a minimum level to ensure highest thread accuracy.
7. Select a higher feed rate for larger diameter tooling and a lower feed rate for smaller diameters.
8. The tool is left-hand cutting - program the spindle for counterclockwise rotation.

Note

Bottom shape of finished hole is as depicted in the right picture. Please make sure that it is acceptable based on the cutting instruction in advance.



List 41000/41100 - EXOCARB® Thread Mill
List 41050/41150 - EXOCARB® Thread Mill Oil
List 42000/42001 - EXOCARB® Thread Mill NPT/NPTF

Work Material	SFM	Feed Rate (Inch/Tooth)	No. of Passes
Low Carbon Steel	300 - 420	0.0016 - 0.0050	1
Medium Carbon Steel	300 - 420	0.0016 - 0.0050	1
High Carbon Steel	250 - 420	0.0016 - 0.0050	1
Alloy Steel	180 - 350	0.0008 - 0.0040	1-2
Heat Treated Steel (28-34HRC)	160 - 300	0.0008 - 0.0040	1
Heat Treated Steel (34-40HRC)	130 - 260	0.0004 - 0.0040	1-2
Heat Treated Steel (40-50HRC)	65 - 250	0.0004 - 0.0040	2-4
Stainless Steel (300 - Series)	200 - 450	0.0016 - 0.0060	1-2
Stainless Steel (400 - Series)	165 - 400	0.0016 - 0.0060	1-2
Stainless Steel (15-5, 17-4PH)	130 - 350	0.0016 - 0.0060	2
Cast Iron	250 - 400	0.0008 - 0.0035	1
Ductile Cast Iron	210 - 280	0.0012 - 0.0040	1
Aluminum Alloy	300 - 500	0.0012 - 0.0040	1
Aluminum Alloy Casting Si [12]%	280 - 550	0.0012 - 0.0050	1
Aluminum Alloy Casting Si [12-16]%	250 - 460	0.0012 - 0.0040	1
Aluminum Alloy Casting with Si [16-20]%	210 - 400	0.0012 - 0.0040	1
Aluminum Alloy Casting with Si [20-25]%	200 - 350	0.0012 - 0.0040	1
Copper, Copper Casting	300 - 510	0.0012 - 0.0040	1
Brass, Brass Casting	300 - 510	0.0012 - 0.0040	1
Bronze, Bronze Casting (C6***,PB,PBC)	300 - 500	0.0012 - 0.0040	1
Magnesium Alloy Casting	210 - 410	0.0012 - 0.0050	1
Zinc Alloy Casting	180 - 380	0.0012 - 0.0050	1
Titanium Alloy (Ti-6AI-4V)	100 - 330	0.0012 - 0.0025	2
High Heat Resistance Alloy (Inconel)	65 - 260	0.0008 - 0.0020	2
High Heat Resistance Alloy (Inconel >40HRC)	65 - 200	0.0008 - 0.0020	4
Thermoplastic	220 - 510	0.0012 - 0.0050	1
Cobalt/Chrome Alloy (Stellite)	65 - 200	0.0016 - 0.0060	3

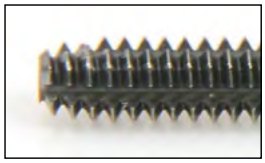
For chip loads, the smaller cutter diameters use a smaller chip load per tooth within a given range.
Larger cutter diameters use the larger chip load per tooth within the given range.
For programming help or other information, please contact our Engineering Department at 800-837-2223.

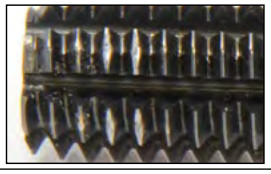
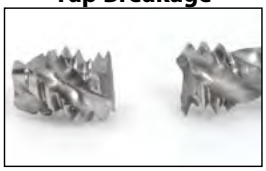
List 41200/41300 - EXOCARB® Thread Mill Mini

Work Material	Thread Sizes Under #2/M2			Thread Sizes #2/M2 & Larger		
	SFM	Feed Rate (Inch/Tooth)	No. of Passes	SFM	Feed Rate (Inch/Tooth)	No. of Passes
Low Carbon Steel	200 - 300	0.0008 - 0.0020	2	200 - 300	0.0008 - 0.0030	1
Medium Carbon Steel	200 - 300	0.0008 - 0.0020	2	200 - 300	0.0008 - 0.0030	1
High Carbon Steel	200 - 300	0.0008 - 0.0020	2	200 - 300	0.0008 - 0.0030	1
Alloy Steel	—	—	—	100 - 200	0.0004 - 0.0012	1-2
Heat Treated Steel (28-34HRC)	—	—	—	100 - 200	0.0004 - 0.0012	1
Heat Treated Steel (34-40HRC)	—	—	—	100 - 200	0.0004 - 0.0012	1-2
Heat Treated Steel (40-50HRC)	—	—	—	100 - 200	0.0004 - 0.0012	2-4
Stainless Steel (300 Series)	200 - 300	0.0008 - 0.0020	2-3	200 - 300	0.0008 - 0.0030	1-2
Stainless Steel (400 Series)	200 - 300	0.0008 - 0.0020	2-3	200 - 300	0.0008 - 0.0030	1-2
Stainless Steel (15-5, 17-4PH)	200 - 300	0.0008 - 0.0020	3	200 - 300	0.0008 - 0.0030	2
Cast Iron	130 - 200	0.0008 - 0.0020	2	165 - 330	0.0012 - 0.0040	1
Ductile Cast Iron	130 - 300	0.0008 - 0.0020	2	165 - 230	0.0012 - 0.0040	1
Aluminum Alloy	230 - 330	0.0015 - 0.0030	2	165 - 330	0.0008 - 0.0025	1
Aluminum Alloy Casting	230 - 330	0.0015 - 0.0030	2	165 - 330	0.0008 - 0.0025	1
Copper, Copper Casting	—	—	—	—	—	—
Brass, Brass Casting	200 - 330	0.0015 - 0.0030	2	165 - 330	0.0008 - 0.0025	1
Bronze, Bronze Casting	—	—	—	165 - 330	0.0008 - 0.0025	1
Magnesium Alloy Casting	230 - 330	0.0015 - 0.0030	2	165 - 330	0.0008 - 0.0025	1
Zinc Alloy Casting	230 - 330	0.0015 - 0.0030	2	165 - 330	0.0008 - 0.0025	1
Titanium Alloy (Ti-6Al-4V)	65 - 130	0.0004 - 0.0012	3	65 - 200	0.0004 - 0.0012	2
High Heat Resistance Alloy (Inconel)	—	—	—	65 - 200	0.0004 - 0.0012	2
High Heat Resistance Alloy (Inconel >40HRC)	—	—	—	65 - 200	0.0004 - 0.0012	4
Thermoplastic	165 - 330	0.0015 - 0.0030	2	165 - 330	0.0008 - 0.0025	1
Cobalt/Chrome Alloy (Stellite)	—	—	—	—	—	—

For chip loads, the smaller cutter diameters use a smaller chip load per tooth within a given range.
Larger cutter diameters use the larger chip load per tooth within the given range.
For programming help or other information, please contact our Engineering Department at 800-837-2223.

Troubleshooting Guide

PROBLEM	CAUSE	SOLUTION
Chip Packing (Back Threaded Portion) 	Inappropriate spindle speed	Adjust RPM (lower or higher) for proper chip form
	Helix angle too large	Decrease helix angle or choose tap with low helix angle
	Chips not coiling / breaking properly	Use alternate coating
Chip Packing (Single Thread) 	*Occurs predominantly in horizontal applications*	
	Weak rake angle (positive)	Decrease rake angle
	Chips not evacuating properly	Use a POT style tap or a LHH / RHF
	Chips not coiling / breaking properly	Use alternate coating
Chipping During Reversal 	Chips left behind in flute during tap reversal	Improve wear resistance of tap
		Improve / add surface treatment / coating
	Material shrinkage	Increase coolant volume / concentration to control heat
Chipping Due to Wear 	Tap substrate not suitable for work material	Improve wear resistance of tap
		Improve / add surface treatment / coating
	Cutting action work hardened material	Shorten chamfer length
Chipping of Land Edge 	Occurs when tap either hits bottom or entrance of hole	Avoid hitting the bottom of the hole, check stroke length, alignment and hole size
Chipping of Land Axially 	Occurs when tap either hits bottom or entrance of hole	Avoid hitting the bottom of the hole, check stroke length, alignment and hole size
Chipping of Chamfer 	Tap substrate not suitable for work material	Improve wear resistance of tap
	Inappropriate pre-drill size	Select suitable pre-drill size

PROBLEM	CAUSE	SOLUTION
Premature Tap Wear 	Inappropriate spindle speed	Reduce spindle speed
	Possible work hardening of pre-drilled hole	Prevent work hardening of pre-drilled hole
	Inappropriate thread relief	Use proper thread relief
	Inappropriate chamfer length	Adjust chamfer length
	Inappropriate lubrication	Change coolant method
		Increase volume / concentration
		Apply surface coating / treatment
Welding / Galling 	Inappropriate spindle speed	Reduce spindle speed
	Inappropriate lubrication	Change coolant method
		Increase volume / concentration
		Apply surface coating / treatment
Deformed Lobes 	Possible work hardening of pre-drilled hole	Prevent work hardening of pre-drilled hole
	Inappropriate spindle speed	Reduce spindle speed
	Inappropriate pre-drill size	Increase pre-drill hole size as much as possible
	Inappropriate lubrication	Change coolant method
		Increase volume / concentration
		Apply surface coating / treatment
	Tap substrate not suitable for material	Improve wear resistance of tap
Tap Breakage 	Possible chip packing	Avoid chip packing
	Inappropriate pre-drill size	Increase pre-drill hole size as much as possible
	Inappropriate spindle speed	Reduce spindle speed
	Possible runout or tapered hole	Reduce runout and assure hole is straight
	Too high of torque generated	Use tap holder with torque adjustment / limiting feature
	Possible tap collision with bottom of hole	Avoid hitting the bottom of the hole, check stroke length, alignment and hole size
Overcutting / Oversized Threads 	Inconsistent feed of spiral fluted style tap	Use compensating tension / compression tap holder
		Adjust feed rate appropriately
		Check CNC program
	Inconsistent feed of spiral pointed style tap	Use compensating tension / compression tap holder
		Adjust feed rate appropriately
		Check CNC program
Tearing on Flanks 	Inappropriate thread relief / rake angle	Use sharper / freer cutting relief and angle
	Inappropriate lubrication	Change coolant method
		Increase volume / concentration
		Apply surface coating / treatment
Extremely Torn Threads 	Possible welding / galling	Select appropriate cutting conditions
	Possible chip packing	Select appropriate cutting conditions
	Inappropriate thread relief	Use sharper thread relief
	Inappropriate lubrication	Change coolant method
		Increase volume / concentration
		Apply surface coating / treatment
Chips Remain at Bottom 	Inappropriate geometry of tap	Reduce chamfer relief angle
		Use thinner land width
		Reduce chamfer length
		Reduce cutting angle



MILLING



MILLING

The A Brand

OSG's premium tooling brand. Features products that are designed to exceed the evolving manufacturing needs of our customers.

EXOPRO®

OSG's ultra-premium tooling series, featuring our latest innovative technologies when the absolute best performance is needed.

EXOCARB® WXL®

The new standard in high performance end mills for high speed machining, featuring our WXL® nanocoating technology.

EXOCARB® WXS®

The new standard in high performance end mills for hard milling, featuring our WXS® nanocoating technology.

EXOCARB® MAX

Maximum performance end mills designed exclusively for hard milling. Features technologies including WXS® and CBN.

EXOCARB® DIAMOND

OSG's patented CVD diamond coated end mills for die/mold and aerospace applications in non-ferrous materials like graphite, aluminum and CFRP.

EXOCARB® AERO

High performance carbide end mills for aircraft materials.

HY-PRO® CARB

Performance sub-micrograin carbide end mills with OSG TiAlN coating. The perfect blend of performance and cost-efficiency.

CARBIDE

All-purpose micrograin carbide end mills for general machining applications.

OSG PHOENIX®

OSG's high performance indexable tooling for rough and finish milling in a variety of applications.

EXOCARB® DISC CUTTER S

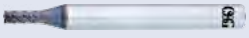
OSG's patented face mill for high feed, roughing applications on low horsepower machine spindles.

EXOCARB® DISC CUTTER PRO

OSG's patented face mill for high feed, finishing applications on low horsepower machine spindles.



Square End

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
8206		A Brand AE-VMSS	3.00 - 12.00mm	Metric CARBIDE DUARISE STUB	830	1336
8226		A Brand AE-VMSS-RA	1.00 - 6.00mm	Right Angle Type NEW Metric CARBIDE DUARISE STUB	831	1336
8230		A Brand AE-LN-VMSS	1/4" - 1"	Long Neck Inch CARBIDE DUARISE STUB	832	1337
8235		A Brand AE-LN-VMSS	6.00 - 12.00mm	Long Neck Metric CARBIDE DUARISE STUB	833	1337
8200		A Brand AE-VMS	5/64" - 1"	Inch CARBIDE DUARISE STUB REG	834	1338-1339
8205		A Brand AE-VMS	3.00 - 25mm	Metric CARBIDE DUARISE REG	835	1338-1339
8225		A Brand AE-VMS-RA	3.00 - 6.00mm	Right Angle Type NEW Metric CARBIDE DUARISE REG	836	1338-1339
8201		A Brand AE-VML	1/4" - 1"	NEW SIZES Inch CARBIDE DUARISE REG LONG	837	1340-1343
8207		A Brand AE-VML	6.00 - 20.00mm	NEW SIZES Metric CARBIDE DUARISE LONG	838	1340-1343
8202		A Brand AE-NIK-VML	1/4" - 1"	Nicked NEW SIZES Inch CARBIDE DUARISE REG LONG	839	1340-1343
8208		A Brand AE-NIK-VML	6.00 - 20.00mm	Nicked NEW SIZES Metric CARBIDE DUARISE LONG	840	1340-1343
8245		A Brand AE-VMFE	6.00 - 12.00mm	NEW Metric CARBIDE DUARISE REG	841	1344
8233		A Brand AE-VTSS	1/8" - 1/2"	NEW Inch CARBIDE DUARISE STUB	842	1345-1346
8333		A Brand AE-VTSS	3.00 - 12.00mm	NEW Metric CARBIDE DUARISE STUB	843	1345-1346
8441		A Brand AE-MSS-H	1/16" - 1/2"	Reduced Neck NEW Inch CARBIDE DURAREY STUB	844	1347
8541		A Brand AE-MSS-H	3.00 - 12.00mm	Reduced Neck NEW Metric CARBIDE DURAREY STUB	845	1347
8440		A Brand AE-MS-H	1/16" - 1"	Inch CARBIDE DURAREY REG LONG	846	1348-1349
8540		A Brand AE-MS-H	1.00 - 20.00mm	NEW SIZES Metric CARBIDE DURAREY REG LONG	847	1348-1349
8442		A Brand AE-ML-H	1/8" - 1/2"	NEW Inch CARBIDE DURAREY LONG	848	1350
8542		A Brand AE-ML-H	3.00 - 12.00mm	NEW Metric CARBIDE DURAREY LONG	849	1350
8830		A Brand AE-VTS-N	1/8" - 1/2"	Reduced Neck NEW Inch CARBIDE DLC-4GUSS REG	850	1351-1352
8930		A Brand AE-VTS-N	1.00 - 12.00mm	Reduced Neck NEW Metric CARBIDE DLC-4GUSS STUB	851	1351-1352
8630		A Brand AE-TL-N	1/8" - 1"	Inch CARBIDE DLC REG LONG	852	1353
8730		A Brand AE-TL-N	3.00 - 12.00mm	Metric CARBIDE DLC REG LONG	853	1353
3619		EXOCARB® WXL-1.5D-DE	1/16" - 1/2"	Inch CARBIDE WXL STUB	854	1354
3720		EXOCARB® WXL-1.5D-DE	0.10 - 6.00mm	Metric CARBIDE WXL STUB	855	1355-1356

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC

Square End

8206	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8226	◎	◎	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8230	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8235	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8200	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8205	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8225	◎	◎	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8201	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
8207	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
8202	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
8208	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
8245	◎	◎	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8233	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		
8333	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		
8441				○	○									○	○	◎	◎
8541				○	○									○	○	◎	◎
8440				○	○									○	○	◎	◎
8540				○	○									○	○	◎	◎
8442				○	○									○	○	◎	◎
8542				○	○									○	○	◎	◎
8830										◎	◎						
8930										◎	◎						
8630										◎	◎						
8730										◎	◎						
3619	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3720	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ good ◎ best

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Square End (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
3620		EXOCARB® WXL-2D-DE	1/16" - 3/4"	Inch, CARBIDE, WXL, REG	856	1357
3721		EXOCARB® WXL-2D-DE	0.10 - 20.00mm	Metric, CARBIDE, WXL, REG	857	1358-1359
3621		EXOCARB® WXL-3D-DE	1/16" - 3/4"	Inch, CARBIDE, WXL, REG	858	1357
3722		EXOCARB® WXL-3D-DE	0.10 - 20.00mm	Metric, CARBIDE, WXL, REG	859	1360-1361
3723		EXOCARB® WXL-4D-DE	0.20 - 12.00mm	Metric, CARBIDE, WXL, LONG	860	1362-1363
3791		EXOCARB® WXL-LN-EDS	0.20 - 5.00mm	Long Neck, Rib Processing; Metric, CARBIDE, WXL, STUB	861-862	1364-1367
3604		EXOCARB® WXL-EMS	1/16" - 1"	Inch, CARBIDE, WXL, STUB, REG, LONG	863	1368
3704		EXOCARB® WXL-EMS	1.00 - 12.00mm	Metric, CARBIDE, WXL, REG, LONG	864	1369
3794		EXOCARB® WXL-LN-EMS	1.00 - 3.00mm	Long Neck, Rib Processing; Metric, CARBIDE, WXL, STUB	865	1370-1371
3642		EXOCARB® WXL-EML	1/16" - 5/8"	Inch, CARBIDE, WXL, LONG, EXTRA LONG	866	1372
3742		EXOCARB® WXL-EML	3.00 - 26.00mm	Metric, CARBIDE, WXL, REG, LONG	867	1372
9140		EXOCARB® MAX HARD-EMS	3.00 - 12.00mm	Metric, CARBIDE, WXS, REG	868	1373
2100		EXOCARB® AERO UVX-TI-5FL	1/2" - 1-1/4"	Inch, CARBIDE, EXO, STUB, REG, LONG	869	1374
2102		EXOCARB® AERO UVX-TI-LN-5FL	1/2" - 1-1/4"	Reduced Neck; Inch, CARBIDE, EXO, REG	870	1374
2104		EXOCARB® AERO UVX-TI-LN-5FL	12.00 - 25.00mm	Reduced Neck; Metric, CARBIDE, EXO, REG	871	1375
2873		EXOCARB® AERO-ETS	1/2" - 1"	Inch, CARBIDE, DLC, STUB	872	1376
2973		EXOCARB® AERO-ETS	12.00 - 25.00mm	Metric, CARBIDE, DLC, STUB	873	1376
2874		EXOCARB® AERO-O-ETS	5/8" - 1"	Inch, CARBIDE, DLC, STUB	874	1376
2974		EXOCARB® AERO-O-ETS	20.00 - 25.00mm	Metric, CARBIDE, DLC, STUB	875	1377
2843		EXOCARB® AERO-ETL	1/2" - 1"	Inch, CARBIDE, DLC, LONG	876	1377
2943		EXOCARB® AERO-ETL	12.00 - 20.00mm	Metric, CARBIDE, DLC, LONG	877	1377
2853		EXOCARB® AERO-ETXL	3/4"	Inch, CARBIDE, DLC, EXTRA LONG	878	1378
2953		EXOCARB® AERO-ETXL	20.00mm	Metric, CARBIDE, DLC, EXTRA LONG	879	1378
2022		EXOCARB® AERO BLIZZARD	1/8" - 1"	Inch, CARBIDE, BR, REG	880	1379
2023		EXOCARB® AERO BLIZZARD	1/4" - 1"	Reduced Neck; Inch, CARBIDE, BR, STUB	881	1379

Square End (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
3620	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3721	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3621	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3722	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3723	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3791	◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	◎	○	
3604	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
3704	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
3794	◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	◎	○	
3642	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
3742	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
9140	◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎
2100						○	○	○					◎				
2102						○	○	○					◎				
2104						○	○	○					◎				
2873										◎	◎						
2973										◎	◎						
2874										◎	◎						
2974										◎	◎						
2843										◎	◎						
2943										◎	◎						
2853										◎	◎						
2953										◎	◎						
2022										◎	◎						
2023										◎	◎						

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Square End (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
2024		EXOCARB® AERO BLIZZARD	1/4" - 1"	Reduced Neck · Inch · CARBIDE · BR · STUB	882	1379
2043		EXOCARB® AERO BLIZZARD	1/4" - 1"	Inch · CARBIDE · BR · STUB	883	1381
2048		EXOCARB® AERO BLIZZARD	1/4" - 1"	Reduced Neck · Inch · CARBIDE · BR · STUB	884	1381
8120		EXOCARB® AERO CA-RG-EDS	1.00 - 16.00mm	Metric · CARBIDE · BR · STUB · REG · LONG	885	1382
7020		EXOCARB® DIAMOND SQ	1/64" - 1/2"	Inch · CARBIDE · DIA · REG · LONG	886	1383
7120		EXOCARB® DIAMOND D-RG-EDS	1.00 - 12.00mm	Metric · CARBIDE · DIA · REG · LONG	887	1383
7040		EXOCARB® DIAMOND D-GF-EMS	1/16" - 1/2"	Inch · CARBIDE · DIA · REG · LONG	888	1383
7140		EXOCARB® DIAMOND SQ	0.50 - 12.00mm	Metric · CARBIDE · DIA · REG · LONG	889	1383
7041		EXOCARB® DIAMOND D-GF-EML	1/8" - 1/2"	Inch · CARBIDE · DIA · LONG · EXTRA LONG	890	1383
7042		EXOCARB® DIAMOND LS-SQ	1/16" - 1/2"	Long Shank · Inch · CARBIDE · DIA · STUB	891	1383
7440		EXOCARB® DG-EML	1/32" - 1/2"	NEW · Inch · CARBIDE · DG · LONG	892	1384
7441		EXOCARB® DG-LN-EML	1/32" - 1/4"	NEW · Inch · CARBIDE · DG · LONG	893	1385
VG441		HY-PRO® CARB VGX SQ	1/8" - 1"	Inch · CARBIDE · TiAlN · STUB · REG · LONG · EXTRA LONG	894-895	1386
VG464		HY-PRO® CARB VGX LS-SQ/CF	1/4" - 1"	Extended Length · Inch · CARBIDE · TiAlN · STUB	896	1387
VGM3-AL		HY-PRO® CARB VGM3-AL	1/8" - 1"	NEW · Inch · CARBIDE · BR · REG	897	1388
VGM5		HY-PRO® CARB VGM5	1/8" - 1"	NEW SIZES · Inch · CARBIDE · EXO · STUB · REG · LONG · EXTRA LONG	898-903	1389
VGM5-LN		HY-PRO® CARB VGM5-LN	1/8" - 1"	Long Neck · Inch · CARBIDE · EXO · STUB	904-907	1390
VGM6		HY-PRO® CARB VGM6	1/4" - 1"	Inch · CARBIDE · EXO · STUB · REG · LONG · EXTRA LONG	908-909	1391
VGM7		HY-PRO® CARB VGM7	1/4" - 1"	Inch · CARBIDE · EXO · STUB · REG · LONG · EXTRA LONG	910-912	1392
HP421		HY-PRO® CARB SQ	3/64" - 1" 1.00 -25.00mm"	Inch · Metric · CARBIDE · TiAlN · STUB · REG · LONG	913	1393-1397
HP460		HY-PRO® CARB HIGH HELIX	1/8" - 1" 3.00 - 25.00mm	High Helix · Inch · Metric · CARBIDE · TiAlN · STUB · REG · LONG	914	1394-1397
HP441		HY-PRO® CARB SQ	3/64" - 1" 1.00 - 25.00mm	Inch · Metric · CARBIDE · TiAlN · STUB · REG · LONG	915	1398-1399
HP400		HY-PRO® CARB ROUGHER	1/4" - 1" 3.00 - 25.00mm	Inch · Metric · CARBIDE · TiAlN · ROUGH · STUB · REG · LONG	916	1400-1401
412		OSG STANDARD CARBIDE SQ	1/32" - 3/4" 1.00 -12.00mm	Inch · Metric · CARBIDE · BR · TiAlN · TiCN · STUB · REG	917	1402-1405

Square End (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
2024										◎	◎						
2043										◎	◎						
2048										◎	◎						
8120										◎	◎						
7020										◎	◎						
7120										◎	◎						
7040										◎	◎						
7140										◎	◎						
7041										◎	◎						
7042										◎	◎						
7440																	
7441																	
VG441	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	
VG464	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	
VGM3-AL										◎	◎						
VGM5	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		
VGM5-LN	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		
VGM6	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		
VGM7	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		
HP421	○	○	○	○	○	○	○	○	○			○	○	○	○	○	
HP460	○	○	○	○		○	○	○	○				○	○	○	○	
HP441	○	○	○	○	○	○	○	○	○			○	○	○	○	○	
HP400	○	○	○	○	○	○	○	○	○			○	○	○	○	○	
412	○	○	○	○	○	○	○		○	○	○			○	○	○	

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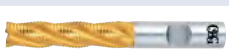
Square End (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
414		OSG STANDARD CARBIDE SQ	1/32" - 3/4" 1mm-12mm	Inch, Metric, CARBIDE, BR, TiAlN, STUB, REG	918-919	1406-1407
402		OSG STANDARD CARBIDE SQ	1/32" - 1" 0.50 - 25mm	Inch, Metric, CARBIDE, BR, TiAlN, TiCN, STUB, REG, LONG	920-922	1402-1405
403		OSG STANDARD CARBIDE SQ	1/16" - 1" 1.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, STUB, REG, LONG	923-925	1402-1405
404		OSG STANDARD CARBIDE SQ	1/32" - 1" 1.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, STUB, REG, LONG	926-928	1406-1407
447		OSG STANDARD CARBIDE LHS/RHC	1/16" - 1"	LHS/RHC, Inch, CARBIDE, BR, TiAlN, STUB, REG, LONG	929	1406-1407
462		OSG STANDARD CARBIDE SQ	1/8" - 1" 3.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, TiCN, REG	930	1402-1405
464		OSG STANDARD CARBIDE SQ	1/8" - 1" 3.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, TiCN, REG, LONG, EXTRA LONG	931	1406-1407
482		OSG STANDARD CARBIDE SQ	1/8" - 1" 3.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, TiCN, REG, LONG, EXTRA LONG	932	1402-1405
484		OSG STANDARD CARBIDE SQ	1/8" - 1" 3.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, TiCN, REG, LONG, EXTRA LONG	933-934	1406-1407
415		OSG STANDARD CARBIDE TOUGHY MILLS	1/8" - 1"	Standard Cut, Inch, CARBIDE, BR, STUB, REG, LONG	935	-
424		OSG STANDARD CARBIDE DOUBLE END SQ	1/32" - 1/2"	Inch, CARBIDE, BR, TiAlN, STUB, REG	936	1406-1407
444		OSG STANDARD CARBIDE DOUBLE END SQ	1/8" - 1/2"	Inch, CARBIDE, BR, TiAlN, REG	937	1406-1407
673		EXOMINI VC-10 TIN-CPM-M-EDL	1/32" - 3/16"	Inch, VC10, TiN, REG	938	1408-1409
676		EXOMINI VC-10 TIN-CPM-M-EMS	1/16" - 3/16"	Inch, VC10, TiN, STUB	939	1410-1411
677		EXOMINI VC-10 TIN-CPM-M-EML	1/16" - 3/16"	Inch, VC10, TiN, REG	940	1410-1411
620		EXOMILL VC-10 CPM-EDS	1/8" - 1-1/2"	Inch, VC10, BR, STUB, REG	941	1408-1409
641		EXOMILL VC-10 CPM-CC-EMS	1/8" - 2"	Inch, VC10, BR, STUB, REG	942	1410-1411
646		EXOMILL VC-10 CPM-CC-EML	1/4" - 2"	Inch, VC10, BR, REG, LONG	943	1410-1411
660		EXOMILL VC-10 CPM-EHS	1/4" - 1"	High Helix, Inch, VC10, BR, REG	944	1412
690		EXOTIN EXO-TIN-EX-REE	1/4" - 2"	Inch, HSSE, TiN, ROUGH, STUB, REG, LONG	945	1413
573		HY-PRO V EDS	1/8" - 1"	Inch, HSSE, BR, TiCN, STUB, REG	946	1414
574		HY-PRO V CC-EMS	1/8" - 1"	Inch, HSSE, BR, TiCN, STUB, REG	947-948	1414-1415
520		OSG COBALT HSS SQ	1/8" - 2"	Inch, HSS-Co, BR, TiN, STUB, REG	949	1408-1409
580		OSG COBALT HSS EDS	3.00 - 50.00mm	Metric, HSS-Co, BR, STUB, REG, LONG	950	1416
525		OSG COBALT HSS EDL	3/8" - 2"	Inch, HSS-Co, BR, STUB, REG, LONG	951	1408-1409
527		OSG COBALT HSS LS-EDS	1/8" - 1-1/4"	Reduced Neck, Inch, HSS-Co, BR, REG	952	1408-1409

Square End (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
414	○	○	○	○	○	○	○		○	○	○			○	○	○	
402	○	○	○	○	○	○	○		○	○	○			○	○		
403	○	○	○	○	○	○	○		○	○	○			○	○	○	
404	○	○	○	○	○	○	○		○	○	○			○	○	○	
447	○	○	○	○		○	○		○	○	○			○	○	○	
462	○	○	○	○	○	○	○		○	○	○			○	○	○	
464	○	○	○	○	○	○	○		○	○	○			○	○	○	○
482	○	○	○						○	○	○			○			
484	○	○	○	○	○	○	○		○	○	○			○	○		
415			○	○										○	○	○	
424	○	○	○	○	○	○	○		○	○	○			○	○	○	
444	○	○	○	○	○	○	○		○	○	○			○	○	○	
673	○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		
676	○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		
677	○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		
620	○	○	○	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		
641	○	○	○	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		
646	○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		
660	○	○	○	◎	◎	◎	◎	◎	○	○	○		○	○			
690	○	○	○	○	○	◎	◎	○	○	○	○		○	◎	○		
573	◎	◎	◎	◎	◎	○	○		◎	◎	◎		○	○	○		
574	◎	◎	◎	◎	◎	○	○		◎	◎	◎		○	○	○		
520	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
580	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
525	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
527	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

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Square End (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
530		OSG COBALT HSS AL-EDS	1/4" - 2"	High Helix · Inch · HSS-Co · BR · STUB · REG	953	1408-1409
535		OSG COBALT HSS AL-EDL	1/4" - 2"	High Helix · Inch · HSS-Co · BR · REG · LONG	954	1408-1409
531		OSG COBALT HSS ETS	1/8" - 2"	Inch · HSS-Co · BR · STUB · REG	955	1417
581		OSG COBALT HSS CE-EMS	3.00 - 45.00mm	Metric · HSS-Co · BR · STUB · REG · LONG	956	1418
536		OSG COBALT HSS ETL	1/4" - 2"	Inch · HSS-Co · BR · REG · LONG	957	1417
541		OSG COBALT HSS SQ	1/8" - 2"	Inch · HSS-Co · BR · TiAlN · TiCN · TiN · STUB · REG	958-959	1410-1411
548		OSG COBALT HSS CC-EMN	5/8" - 1-1/2"	Inch · HSS-Co · BR · TiCN · REG · LONG	960	1410-1411
546		OSG COBALT HSS CC-EML	1/4" - 2"	Inch · HSS-Co · BR · TiCN · REG · LONG	961	1410-1411
558		OSG COBALT HSS CC-EXML	1/4" - 2"	Inch · HSS-Co · BR · TiCN · LONG · EXTRA LONG	962	1410-1411
540		OSG COBALT HSS SQ	1/8" - 2"	Inch · HSS-Co · BR · TiN · STUB · REG	963-964	1410-1411
547		OSG COBALT HSS CC-EMS	1" - 2"	Inch · HSS-Co · BR · STUB · REG	965	1410-1411
545		OSG COBALT HSS EML	1/4" - 2"	Inch · HSS-Co · BR · REG · LONG	966	1410-1411
557		OSG COBALT HSS CE-EXML	1/4" - 2"	Inch · HSS-Co · BR · LONG · EXTRA LONG	967	1410-1411
450		OSG COBALT HSS EX-REEF	3/16" - 2"	Inch · HSS-Co · BR · TiCN · FINE ROUGH · MULTI-LENGTH	968	1419
455		OSG COBALT HSS ROUGHER SQ	1/4" - 2"	Inch · HSS-Co · TiAlN · TiCN · FINE ROUGH · MULTI-LENGTH	969-970	1420
420		OSG COBALT HSS ROUGHER SQ	1/4" - 1-1/2"	Inch · HSS-Co · BR · FINE ROUGH · STUB	971	1419
460		OSG COBALT HSS ROUGHER SQ	7/16" - 1-1/2"	Inch · HSS-Co · BR · FINE ROUGH · STUB · REG · LONG	972	1421
410		OSG COBALT HSS ROUGHER SQ	1/2" - 1"	Inch · HSS-Co · BR · ROUGH · STUB	973	1422
430E		OSG COBALT HSS ROUGHER SQ	3/8" - 1-1/2"	Inch · HSS-Co · BR · ROUGH · STUB · REG · LONG	974	1423
490		OSG COBALT HSS ROUGHER SQ	1/4" - 2"	Inch · HSS-Co · BR · ROUGH · STUB · REG · LONG	975	1422
470		OSG COBALT HSS CC-RFE	1/4" - 2"	Inch · HSS-Co · BR · ROUGH FINISH · STUB · REG · LONG	976	1424
522		OSG COBALT HSS DOUBLE END SQ	1/8" - 1"	Inch · HSS-Co · BR · TiN · STUB · REG · LONG	977-978	1408-1409
582		OSG COBALT HSS DOUBLE END DDE	1.00 - 25.00mm	Metric · HSS-Co · BR · STUB · REG · LONG	979	1416
532		OSG COBALT HSS DOUBLE END TDE	1/8" - 1"	Inch · HSS-Co · BR · STUB · REG	980	1417
542		OSG COBALT HSS DOUBLE END SQ	1/8" - 1"	Inch · HSS-Co · BR · TiN · STUB · REG · LONG	981	1410-1411
543		OSG COBALT HSS DOUBLE END SQ	1/8" - 1"	Inch · HSS-Co · BR · STUB · REG	982	1410-1411

Square End (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
530	○					○	○			◎	◎						
535	○					○	○			◎	◎						
531	◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		
581	◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		
536	◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		
541	◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		
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450	○	○	○	○	○	◎	○	○	○		○		○	○	○		
455	○	○	○	○	○	◎	◎	○	○		○		○	◎	○		
420	○	○	○	○	○	◎	○	○	○		○		○	○	○		
460	○	○	○	○	○	◎	○	○	○		○		○	○	○		
410	○	○	○	○	○	○	○	○	○	○	○		○	○			
430E										◎	◎						
490	○	○	○	○	○	○	○	○	○	○	○		○	○			
470	○	○	○	○	○	○	○	○	○	○	○			○			
522	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
582	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
532	◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		
542	◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		
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List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page

Square End (Continued)

562		OSG COBALT HSS DOUBLE END M-DDE	1/32" - 3/16"	Miniature · Inch · HSS-Co · BR · STUB	983	-
563		OSG COBALT HSS DOUBLE END M-DDE	1/32" - 3/16"	Miniature · Inch · HSS-Co · BR · REG	984	-
564		OSG COBALT HSS DOUBLE END M-DDEL	1/16" - 3/16"	Miniature · Inch · HSS-Co · BR · REG · LONG · EXTRA LONG	985	-
566		OSG COBALT HSS DOUBLE END M-FDE	1/16" - 3/16"	Miniature · Inch · HSS-Co · BR · STUB	986	-
567		OSG COBALT HSS DOUBLE END M-FDE	1/16" - 3/16"	Miniature · Inch · HSS-Co · BR · REG	987	-
568		OSG COBALT HSS DOUBLE END M-FDEL	1/16" - 3/16"	Miniature · Inch · HSS-Co · BR · REG · LONG · EXTRA LONG	988	-

Corner Radius & Corner Chamfer

8210		A Brand AE-CR-VMS	3/16" - 1"	Inch · CARBIDE · DUARISE · STUB · REG	989	1425-1426
8215		A Brand AE-CR-VMS	3.00 - 12.00mm	Metric · CARBIDE · DUARISE · REG	990	1425-1426
8220		A Brand AE-LN-CR-VMS	1/4" - 1"	Long Neck, Long Reach · Inch · CARBIDE · DUARISE · STUB	991	1427
8271		A Brand AE-CR-VML	1/4" - 1/2"	NEW · Inch · CARBIDE · DUARISE · REG · LONG	992	1340-1343
8277		A Brand AE-CR-VML	6.00 - 12.00mm	NEW · Metric · CARBIDE · DUARISE · LONG	993	1340-1343
8246		A Brand AE-CR-VMFE	6.00 - 12.00mm	NEW · Metric · CARBIDE · DUARISE · REG	994	1344
8470		A Brand AE-CR-MS-H	1/16" - 1"	NEW · Inch · CARBIDE · DUROREY · REG	995	1348-1349
8570		A Brand AE-CR-MS-H	3.00 - 12.00mm	NEW · Metric · CARBIDE · DUROREY · REG	996	1348-1349
8592		A Brand AE-CPR4-H	0.20 - 4.00mm	NEW · Metric · CARBIDE · DUROREY · STUB	997-1000	1428-1430
8870		A Brand AE-CR-VTS-N	1/8" - 1/2"	Reduced Neck · NEW · Inch · CARBIDE · DLC-IGUSS · REG	1001	1351-1352
8970		A Brand AE-CR-VTS-N	3.00 - 12.00mm	Reduced Neck · NEW · Metric · CARBIDE · DLC-IGUSS · REG	1002	1351-1352
9592		EXOPRO PHX-LN-CRE	0.80 - 3.00mm	Pencil & Long Neck, Rib Processing · Metric · CARBIDE · WXS · STUB	1003	1431
9575		EXOPRO PHX-DFR	6.00 - 20.00mm	Deep Feed · Metric · CARBIDE · WXS · REG	1004	1432-1433
9576		EXOPRO PHX-LN-DFR	4.00 - 16.00mm	Long Neck, Deep Feed · Metric · CARBIDE · WXS · STUB	1005	1432-1433
9580		EXOPRO PHX-PC-DFR	2.00 - 12.00mm	Pencil Neck, Deep Feed · Metric · CARBIDE · WXS · STUB	1006-1007	1432-1433
2055		EXOPRO UVX-Ni	1/4" - 1"	Inch · CARBIDE · EXO · STUB · REG	1008	1434
3770		EXOCARB WXL-CR-EDS	0.60 - 12.00mm	Metric · CARBIDE · WXL · STUB · REG	1009	1435
3670		EXOCARB WXL-CR-EMS	1/16" - 1"	Inch · CARBIDE · WXL · STUB · REG · LONG	1010	1436
3771		EXOCARB WXL-CR-PHS	3.00 - 12.00mm	Metric · CARBIDE · WXL · REG	1011	1437

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC

Square End (Continued)

562	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
563	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
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566	◎	◎	◎	○	○	○	○	○	○	○	○		○	○	○		
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Corner Radius & Corner Chamfer

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8271	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	○
8277	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	○
8246	◎	◎	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		
8470				○	○									○	○	◎	◎
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8592				○	○									○	○	◎	◎
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9592	○	○	○	○	○									○	◎	◎	○
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9580	◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○
2055						○	○	○				◎				○	
3770	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3670	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	
3771	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

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Corner Radius & Corner Chamfer (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
4445		EXOCARB® WXL-CR-EHS	1/8" - 1/2"	High Helix · Inch · CARBIDE · WXL · REG	1012	1438
4592		EXOCARB® WXS-CPR	0.40 - 3.00mm	Long Neck, Rib Processing · Metric · CARBIDE · WXS · STUB	1013-1015	1439
4471		EXOCARB® WXS-PKE	1/16" - 1/2"	Reduced Neck · Inch · CARBIDE · WXS · STUB	1016	1440
4571		EXOCARB® WXS-PKE	3.00 - 12.00mm	Reduced Neck · Metric · CARBIDE · WXS · STUB	1017	1441
4470		EXOCARB® WXS-CRE	1/8" - 1/2"	High Feed · Inch · CARBIDE · WXS · STUB	1018	1442
4570		EXOCARB® WXS-CRE	2.00 - 13.00mm	High Feed · Metric · CARBIDE · WXS · STUB	1019	1443
4472		EXOCARB® WXS-CRE	1/8" - 1/2"	High Feed · Inch · CARBIDE · WXS · STUB	1020	1444
4572		EXOCARB® WXS-CRE	2.00 - 12.00mm	High Feed · Metric · CARBIDE · WXS · STUB	1021	1445
4670		EXOCARB® AM-CRE	1/4" - 1/2"	Inch · CARBIDE · DUROREY · STUB	1022	1446
4770		EXOCARB® AM-CRE	6.00 - 20.00mm	Metric · CARBIDE · DUROREY · STUB	1023	1446
4970		EXOCARB® AM-HFC	4.00 - 12.00mm	High Feed Radius · Metric · CARBIDE · DUROREY · REG	1024	1447-1448
9144		EXOCARB® MAX HARD-EMS	6.00 - 12.00mm	Metric · CARBIDE · WXS · REG	1025	1373
9181		EXOCARB® MAX CBN-SXR	0.50 - 3.00mm	Metric · CBN · BR · STUB	1026	1449
9182		EXOCARB® MAX CBN-LN-SXR	0.50 - 3.00mm	Long Neck · Metric · CBN · BR · STUB	1027	1450
3815		EXOCARB® AERO SI-WC-RESF	1/4" - 1"	Low Helix · Inch · CARBIDE · WXL · ROUGH · REG	1028	1451
3915		EXOCARB® AERO SI-WC-RESF	6.00 - 25.00mm	Low Helix · Metric · CARBIDE · WXL · ROUGH · STUB · REG	1029	1451
3820		EXOCARB® AERO SI-WC-RESF	1/4" - 1"	High Helix · Inch · CARBIDE · WXL · ROUGH · REG	1030	1451
3920		EXOCARB® AERO SI-WC-RESF	6.00 - 25.00mm	High Helix · Metric · CARBIDE · WXL · ROUGH · STUB · REG	1031	1451
3825		EXOCARB® AERO SI-WC-LN-RESF	1/4" - 1"	Low Helix, Long Neck · Inch · CARBIDE · WXL · ROUGH · REG	1032	1451
3830		EXOCARB® AERO SI-WC-LN-RESF	1/4" - 1"	High Helix, Long Neck · Inch · CARBIDE · WXL · ROUGH · REG	1033	1451
2015		EXOCARB® AERO ROUGHER	1/4" - 1"	Inch · CARBIDE · TiAlN · ROUGH · STUB · REG	1034	1452
2106		EXOCARB® AERO UVX-TI-CR-5FL	1/2" - 1-1/4"	Inch · CARBIDE · EXO · STUB · REG · LONG	1035	1374
2108		EXOCARB® AERO UVX-TI-LN-CR-5FL	1/2" - 1-1/4"	Reduced Neck · Inch · CARBIDE · EXO · REG	1036	1374
2110		EXOCARB® AERO UVX-TI-LN-CR-5FL	12.00 - 20.00mm	Reduced Neck · Metric · CARBIDE · EXO · REG	1037	1375
2080		EXOCARB® AERO HFC-TI	5/8" - 1"	High Feed Radius · Inch · CARBIDE · BR · STUB	1038	1453
2081		EXOCARB® AERO HFC-TI	16.00 - 25.00mm	High Feed Radius · Metric · CARBIDE · BR · STUB	1039	1453

Corner Radius & Corner Chamfer (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
4445	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
4592	◎	◎	◎	◎	◎	◎	◎	◎						◎	◎	◎	◎
4471	◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎
4571	◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎
4470	◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	◎
4570	◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	◎
4472	◎	◎	◎	◎	◎	◎	○		◎			○	○	◎	◎	◎	◎
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4670						○	○	○				◎	◎		◎	◎	○
4770						○	○	○				◎	◎		◎	◎	○
4970						◎	◎	◎				◎	◎		○	◎	◎
9144	◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎
9181															○	◎	◎
9182															○	◎	◎
3815	◎	◎	◎	○	○	○	○	○	◎	○			○	○			
3915	◎	◎	◎	○	○	○	○	○	◎	○			○	○			
3820	○	○	○	○	○	◎	◎	◎	○	○		○	◎	◎	○		
3920	○	○	○	○	○	◎	◎	◎	○	○		○	◎	◎	○		
3825	◎	◎	◎	○	○	○	○	○	◎	○			○	○			
3830	○	○	○	○	○	◎	◎	◎	○	○		○	◎	◎	○		
2015	◎	◎	◎	◎	◎	◎	◎	◎	○			◎	◎	◎	○		
2106						○	○	○					◎				
2108						○	○	○					◎				
2110						○	○	○					◎				
2080													◎				
2081													◎				

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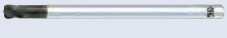
Corner Radius & Corner Chamfer (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
2863		EXOCARB® AERO-EDS	1/2" - 1"	Inch, CARBIDE, DLC, STUB	1040	1454
2963		EXOCARB® AERO-EDS	12.00 - 25.00mm	Metric, CARBIDE, DLC, STUB	1041	1454
2873		EXOCARB® AERO-ETS	1/2" - 1"	Inch, CARBIDE, DLC, STUB	872	1376
2973		EXOCARB® AERO-ETS	12.00 - 25.00mm	Metric, CARBIDE, DLC, STUB	873	1376
2874		EXOCARB® AERO-O-ETS	5/8" - 1"	Inch, CARBIDE, DLC, STUB	874	1376
2974		EXOCARB® AERO-O-ETS	20.00 - 25.00mm	Metric, CARBIDE, DLC, STUB	875	1377
2843		EXOCARB® AERO-ETL	1/2" - 1"	Inch, CARBIDE, DLC, LONG	876	1377
2943		EXOCARB® AERO-ETL	12.00 - 20.00mm	Metric, CARBIDE, DLC, LONG	877	1377
2853		EXOCARB® AERO-ETXL	3/4"	Inch, CARBIDE, DLC, EXTRA LONG	878	1378
2953		EXOCARB® AERO-ETXL	20.00mm	Metric, CARBIDE, DLC, EXTRA LONG	879	1378
2022		EXOCARB® AERO BLIZZARD	1/8" - 1"	Inch, CARBIDE, BR, REG	880	1379
2023		EXOCARB® AERO BLIZZARD	1/4" - 1"	Reduced Neck; Inch, CARBIDE, BR, STUB	881	1379
2024		EXOCARB® AERO BLIZZARD	1/4" - 1"	Reduced Neck; Inch, CARBIDE, BR, STUB	882	1379
2043		EXOCARB® AERO BLIZZARD	1/4" - 1"	Inch, CARBIDE, BR, STUB	883	1381
2048		EXOCARB® AERO BLIZZARD	1/4" - 1"	Reduced Neck; Inch, CARBIDE, BR, STUB	884	1381
7072		EXOCARB® DIAMOND LS-CR	1/8" - 1/2"	Long Shank; Inch, CARBIDE, DIA, STUB	1042	1383
7132		EXOCARB® DIAMOND LS-CR	3.00 - 12.00mm	Long Shank; Metric, CARBIDE, DIA, STUB	1043	1383
7470		EXOCARB® DG-CR-EML	3/64" - 1/2"	NEW; Inch, CARBIDE, DG, LONG	1044	1455
7471		EXOCARB® DG-LN-CR-EML	1/32" - 1/4"	NEW; Inch, CARBIDE, DG, LONG	1045	1456
VG434		HY-PRO® CARB VGX CR	1/8" - 1"	Inch, CARBIDE, TiAlN, STUB, REG	1046-1047	1386
VG436		HY-PRO® CARB VGX CF	1/8" - 1"	Inch, CARBIDE, TiAlN, STUB, REG, LONG	1048	1386
VG446		HY-PRO® CARB VGX LN-CR/CF	1/4" - 1"	Reduced Neck; Inch, CARBIDE, TiAlN, STUB	1049	1387
VG464		HY-PRO® CARB VGX LS-SQ/CF	1/4" - 1"	Extended Length; Inch, CARBIDE, TiAlN, STUB	896	1387

Corner Radius & Corner Chamfer (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
2863										◎	◎						
2963										◎	◎						
2873										◎	◎						
2973										◎	◎						
2874										◎	◎						
2974										◎	◎						
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2953										◎	◎						
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2024										◎	◎						
2043										◎	◎						
2048										◎	◎						
7072										◎	◎						
7132										◎	◎						
7470																	
7471																	
VG434	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	
VG436	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	
VG446	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	
VG464	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	

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List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page

Corner Radius & Corner Chamfer (Continued)

VGM3-AL		HY-PRO CARB VGM3-AL	1/8" - 1"	NEW · Inch · CARBIDE · BR · REG	897	1388
VGM5		HY-PRO CARB VGM5	1/8" - 1"	NEW SIZES · Inch · CARBIDE · EXO · STUB · REG · LONG · EXTRA LONG	898-903	1389
VGM5-LN		HY-PRO CARB VGM5-LN	1/8" - 1"	Long Neck · Inch · CARBIDE · EXO · STUB	904-907	1390
VGM6		HY-PRO CARB VGM6	1/4" - 1"	Inch · CARBIDE · EXO · STUB · REG · LONG · EXTRA LONG	908-909	1391
VGM7		HY-PRO CARB VGM7	1/4" - 1"	Inch · CARBIDE · EXO · STUB · REG · LONG · EXTRA LONG	910-912	1392
HP432		HY-PRO CARB CR	1/8" - 1" 3.00 - 12.00mm	Inch · Metric · CARBIDE · TiAlN · STUB · REG · LONG	1050	1457-1460
HP434		HY-PRO CARB CR	1/8" - 1" 3.00 - 12.00mm	Inch · Metric · CARBIDE · TiAlN · STUB · REG · LONG	1051	1458-1460
496		OSG STANDARD CARBIDE CR	1/8" - 1"	Inch · CARBIDE · BR · TiAlN · STUB · REG · LONG	1052	1402-1405

Ball Nose

8410		A Brand AE-BD-H	1/32" - 1/2"	Inch · CARBIDE · DUROREY · STUB	1053	1461-1462
8510		A Brand AE-BD-H	0.20 - 12.00mm	Metric · CARBIDE · DUROREY · STUB	1054	1461-1462
8590		A Brand AE-LNBD-H	0.10 - 6.00mm	Metric · CARBIDE · DUROREY · STUB	1055-1058	1463-1466
8430		A Brand AE-BM-H	1/8"- 1/2"	Inch · CARBIDE · DUROREY · STUB · REG	1059	1467-1470
8530		A Brand AE-BM-H	1.00 - 12.00mm	Metric · CARBIDE · DUROREY · STUB · REG	1060	1467-1470
8990		A Brand AE-LNBD-N	0.10 - 6.00mm	Long Neck, Rib Processing · NEW · Metric · CARBIDE · DLC-IGUSS · STUB	1061-1062	1471-1472
9510		EXOPRO PHX-DBT	1.00 - 20.00mm	Deep Feed · Metric · CARBIDE · EXO · STUB	1063	1473-1474
9590		EXOPRO PHX-LN-DBT	0.60 - 6.00mm	Long Neck · Metric · CARBIDE · WXS · STUB	1064	1473-1474
9581		EXOPRO PHX-PC-DBT	1.00 - 12.00mm	Pencil-Neck, Deep Feed · Metric · CARBIDE · WXS · STUB	1065-1066	1473-1474
3610		EXOCARB WXL-EBD	1/32" - 1/2"	Inch · CARBIDE · WXL · STUB	1067	1475
3710		EXOCARB WXL-EBD	0.10 - 20.00mm	Metric · CARBIDE · WXL · STUB · REG	1068	1476
3690		EXOCARB WXL-LN-EBD	1/64" - 1/4"	Long Neck, Rib Processing · Inch · CARBIDE · WXL · STUB	1069	1477-1480
3790		EXOCARB WXL-LN-EBD	0.10 - 6.00mm	Long Neck, Rib Processing · Metric · CARBIDE · WXL · STUB	1070-1071	1477-1480
3711		EXOCARB WXL-LS-EBD	1.00 - 18.00mm	Long Shank · Metric · CARBIDE · WXL · STUB · REG	1072	1481
4413		EXOCARB WXS-EQD	1/16" - 1/2"	Sphere Type · Inch · CARBIDE · WXS · STUB	1073	1482
4513		EXOCARB WXS-EQD	1.00 - 12.00mm	Sphere Type · Metric · CARBIDE · WXS · STUB	1074	1483
4581		EXOCARB WXS-RB-TPB	1.00 - 2.50mm	Tapered, Rib Processing · Metric · CARBIDE · WXS · LONG · EXTRA LONG	1075	1484

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC

Corner Radius & Corner Chamfer (Continued)

VGM3-AL										◎	◎						
VGM5	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		
VGM5-LN	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		
VGM6	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		
VGM7	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		
HP432	○	○	○	○	○	○	○	○	○			○	○	○	○	○	
HP434	○	○	○	○	○	○	○	○	○			○	○	○	○	○	
496	○	○	○	○	○	○	○		○	○	○			○	○	○	○

Ball Nose

8410				○	○									○	○	◎	◎
8510				○	○									○	○	◎	◎
8590				○	○									○	○	◎	◎
8430				○	○									○	○	◎	◎
8530				○	○									○	○	◎	◎
8990										◎	◎						
9510	◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○
9590	◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○
9581	◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○
3610	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3710	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3690	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3790	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
3711	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○
4413	◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	◎
4513	◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	◎
4581	◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	○

○ good ◎ best

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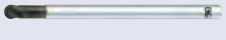
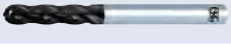
Ball Nose (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
4630		EXOCARB® AM-EBT	3/32" - 1/2"	Inch · CARBIDE · DUROREY · STUB	1076	1485
4730		EXOCARB® AM-EBT	2.00 - 20.00mm	Metric · CARBIDE · DUROREY · STUB	1077	1485
3785		EXOCARB® VU-TBR	20.00mm	Taper Barrel · Metric · CARBIDE · WXL · STUB	1078	1486-1487
9010		EXOCARB® MAX-BN-EBD	1/32" - 1/2"	Inch · CARBIDE · WXS · STUB	1079	1488
9110		EXOCARB® MAX-BN-EBD	1.00 - 10.00mm	Metric · CARBIDE · WXS · STUB	1080	1488
9011		EXOCARB® MAX-BN-LS-EBD	1/32" - 3/8"	Long Shank · Inch · CARBIDE · WXS · STUB	1081	1488
9111		EXOCARB® MAX-BN-LS-EBD	1.00 - 10.00mm	Long Shank · Metric · CARBIDE · WXS · STUB	1082	1488
9191		EXOCARB® MAX CBN-SXB	0.40 - 3.00mm	Metric · CBN · BR · STUB	1083	1489
9192		EXOCARB® MAX CBN-LN-SXB	0.40 - 3.00mm	Long Neck · Metric · CBN · BR · STUB	1084	1490
2010		EXOCARB® AERO BLIZZARD	1/8" - 1"	Inch · CARBIDE · BR · REG	1085	1491
7010		EXOCARB® DIAMOND D-RG-EDBR	1/32" - 1/2"	Inch · CARBIDE · DIA · REG · LONG	1086	1383
7110		EXOCARB® DIAMOND D-RG-EBD	1.00 - 12.00mm	Metric · CARBIDE · DIA · REG · LONG	1087	1383
7030		EXOCARB® DIAMOND D-GF-EBMR	1/32" - 1/2"	Inch · CARBIDE · DIA · REG · LONG	1088	1383
7031		EXOCARB® DIAMOND D-GF-EBML	3/16" - 1/2"	Inch · CARBIDE · DIA · LONG · EXTRA LONG	1089	1383
7032		EXOCARB® DIAMOND LS-BN	1/16" - 1/2"	Long Shank · Inch · CARBIDE · DIA · STUB	1090	1383
7173		EXOCARB® DIAMOND LS-BN	0.50 - 12.00mm	Long Shank · Metric · CARBIDE · DIA · STUB	1091	1383
7230		EXOCARB® DIAMOND DIA-EBDSS	1/64" - 1/4"	High Precision · Inch · CARBIDE · DIA · REG · LONG · EXTRA LONG	1092	1492
7231		EXOCARB® DIAMOND DIA-LN-EBM	1/64" - 1/4"	High Precision, Long Reach · Inch · CARBIDE · DIA · REG · LONG · EXTRA LONG	1093	1492
7430		EXOCARB® DG-EBML	1/32" - 1/2"	NEW · Inch · CARBIDE · DG · LONG	1094	1493
7431		EXOCARB® DG-LN-EBML	1/32" - 1/4"	Long Neck · NEW · Inch · CARBIDE · DG · LONG	1095	1493
VG-441BN		HY-PRO® CARB VGX BN	1/8" - 1-1/4"	Inch · CARBIDE · TiAlN · STUB · REG · LONG	1096	1494
HP421BN		HY-PRO® CARB BN	3/64" - 1" 1.00 - 25.00mm	Inch · Metric · CARBIDE · TiAlN · STUB · REG · LONG	1097	1495-1496
HP419		HY-PRO® CARB LN-BN	1/32" - 3/16" 0.50 - 6.00mm	Necked · Inch · Metric · CARBIDE · TiAlN · STUB	1098	1497-1498
HP418		HY-PRO® CARB PC-BN	3/32" - 3/8" 1.00 - 12.00mm	Pencil Neck · Inch · Metric · CARBIDE · TiAlN · STUB · REG	1099	1499-1500
HP441BN		HY-PRO® CARB BN	3/64" - 1" 1.00 - 20.00mm	Inch · Metric · CARBIDE · TiAlN · STUB · REG · LONG	1100	1495-1496
412BN		OSG STANDARD CARBIDE BN	1/32" - 3/4" 1.00 - 12.00mm	Inch · Metric · CARBIDE · BR · TiAlN · STUB · REG	1101	1501

Ball Nose (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
4630						○	○	○				◎	◎		◎	◎	○
4730						○	○	○				◎	◎		◎	◎	○
3785	◎	◎	◎	◎	◎										◎	◎	
9010	◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎
9110	◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎
9011	◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	○
9111	◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	○
9191															○	◎	◎
9192															○	◎	◎
2010										◎	◎						
7010										◎	◎						
7110										◎	◎						
7030										◎	◎						
7031										◎	◎						
7032										◎	◎						
7173										◎	◎						
7230										◎	◎						
7231										◎	◎						
7430																	
7431																	
VG-441BN	◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	
HP421BN	○	○	○	○	○	○	○	○	○			○	○	○	○	○	
HP419	○	○	○	○	○				○					○	○		
HP418	○	○	○	○	○	○	○	○	○			○	○	○	○		
HP441BN	○	○	○	○	○	○	○	○	○			○	○	○	○	○	
412BN	○	○	○	○	○	○	○		○	○	○			○	○	○	

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Ball Nose (Continued)

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
402BN		OSG STANDARD CARBIDE BN	1/32" - 1" 0.50 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, STUB, REG, LONG	1102-1104	1501
403BN		OSG STANDARD CARBIDE BN	1/16" - 1" 1.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, STUB, REG, LONG	1105-1106	1501
414BN		OSG STANDARD CARBIDE BN	1/32" - 3/4" 1.00 - 12.00mm	Inch, Metric, CARBIDE, BR, TiCN, TiAlN, STUB, REG	1107-1109	1502-1503
404BN		OSG STANDARD CARBIDE BN	1/32" - 1" 1.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, STUB, REG, LONG	1110	1502-1503
464BN		OSG STANDARD CARBIDE BN	1/8" - 1" 3.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiCN, TiAlN, REG, LONG, EXTRA LONG	1111	1502-1503
484BN		OSG STANDARD CARBIDE BN	1/8" - 1" 3.00 - 25.00mm	Inch, Metric, CARBIDE, BR, TiAlN, REG, LONG, EXTRA LONG	1112	1502-1503
424BN		OSG STANDARD CARBIDE DOUBLE END BN	1/32" - 1/2"	Inch, CARBIDE, BR, TiAlN, STUB, REG	1113	1502-1503
621		EXOMILL VC-10 CPM-EBD	1/8" - 1-1/2"	Inch, VC10, BR, STUB, REG	1114	1504
644		EXOMILL VC-10 CPM-EBM	3/8" - 1-1/2"	Inch, VC10, BR, STUB, REG	1115	1504
521		OSG COBALT HSS EBD	1/8" - 1-1/2"	Inch, HSS-Co, BR, STUB, REG, LONG	1116	1504
526		OSG COBALT HSS LS-EBD	1/8" - 1"	Reduced Neck, Inch, HSS-Co, BR, REG	1117	1504
544		OSG COBALT HSS EBM	3/8" - 1-1/2"	Inch, HSS-Co, BR, STUB, REG, LONG	1118	1504
440		OSG COBALT HSS EX-REB	1/2" - 2"	Inch, HSS-Co, BR, ROUGH, STUB, REG, LONG	1119	1505
523		OSG COBALT HSS DOUBLE END DDEB	1/8" - 1"	Inch, HSS-Co, BR, STUB, REG	1120	1504
570		OSG COBALT HSS DOUBLE END M-DDEB	1/16" - 3/16"	Miniature, Inch, HSS-Co, BR, STUB	1121	-
571		OSG COBALT HSS DOUBLE END M-DDEB	1/16" - 3/16"	Miniature, Inch, HSS-Co, BR, REG	1122	-

Ball Nose (Continued)

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
402BN	○	○	○	○	○	○	○		○	○	○			○	○		
403BN	○	○	○	○	○	○	○		○	○	○			○	○	○	
414BN	○	○	○	○	○	○	○		○	○	○			○	○	○	
404BN	○	○	○	○	○	○	○		○	○	○			○	○	○	
464BN	○	○	○	○	○	○	○		○	○	○			○	○	○	
484BN	○	○	○	○	○	○	○		○	○	○			○	○		
424BN	○	○	○	○	○	○	○		○	○	○			○	○	○	
621	○	○	○	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		
644	○	○	○	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		
521	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
526	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
544	◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		
440	○	○	○	○	○	○	○	○	○	○	○		○	○			
523	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
570	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		
571	◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

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Routers

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
2061		EXOPRO® AERO-BNC	1/8" - 1/2"	Nicked Router · Inch · CARBIDE · BR · DIA · MULTI-LENGTH	1123	1506
2066		EXOPRO® AERO-HBC	1/8" - 1/2"	30° Compression Router · Inch · CARBIDE · DIA · REG · LONG	1124	1506
2064		EXOPRO® AERO-HBC 45	1/4" - 1/2"	45° Compression Router · Inch · CARBIDE · DIA · REG · LONG · EXTRA LONG	1125	1506
2068		EXOPRO® AERO-HBC 60	1/4" - 1/2"	60° Compression Router · Inch · CARBIDE · DIA · REG · LONG · EXTRA LONG	1126	1507
2680		EXOPRO® AERO-REC	15/64" - 1/2"	Roughing Router · Inch · CARBIDE · DIA · REG · LONG	1127	1508
2650		EXOPRO® AERO-MFR	1/4" - 1/2"	Finishing Router · Inch · CARBIDE · DIA · REG · LONG	1128	1509
668		OSG AERO-HBC 60	1/4" - 1/2"	60° Compression Router · Inch · CARBIDE · BR · REG · LONG · EXTRA LONG	1129	1507
641R		OSG AERO-HFR	3/16" - 1/2"	Roughing Router · Inch · CARBIDE · BR · REG · LONG · EXTRA LONG	1130	1510
640		OSG STANDARD CARBIDE FIBERGLASS ROUTER	1/16" - 1/2"	Fiberglass Routers, Diamond Cut · Inch · CARBIDE · BR · REG · LONG	1131	-

Tapered

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
591		OSG COBALT HSS TPET	1/16" - 5/8"	1° Taper per Side · Inch · HSS-Co · BR · REG · LONG · EXTRA LONG	1132	1511
593		OSG COBALT HSS TPET	1/16" - 5/8"	2° Taper per Side · Inch · HSS-Co · BR · REG · LONG · EXTRA LONG	1133	1512
594		OSG COBALT HSS TPET	3/32" - 1/2"	3° Taper per Side · Inch · HSS-Co · BR · REG · LONG · EXTRA LONG	1134	1512
595		OSG COBALT HSS TPET	3/32" - 1/2"	5° Taper per Side · Inch · HSS-Co · BR · REG · LONG · EXTRA LONG	1135	1513
596		OSG COBALT HSS TPET	5/64" - 1/2"	7° Taper per Side · Inch · HSS-Co · BR · REG · LONG · EXTRA LONG	1136	1513
597		OSG COBALT HSS TPET	3/32" - 1/4"	10° Taper per Side · Inch · HSS-Co · BR · REG · LONG · EXTRA LONG	1137	1514

Routers

List No.	Other											
	Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber / Aluminum Stack	Carbon Fiber / Titanium Stack	Carbon Fiber / Al / Ti / CRES Stack
				CFRP/Nomex	GFRP/Nomex	AFRP	CFRP/Al	Al/Al				
2061	◎	○		○	○		○	○	◎			
2066	◎	◎	○	○	○	○	○	○				
2064	◎	◎	○	○	○	○	○	○				
2068	◎	◎	○	◎	◎	◎	◎	◎				
2680	◎	◎		○	○		○	○	◎			
2650	◎	◎		○	○		○	○	◎			
668			◎	◎	◎	◎	◎	◎				
641R	◎	◎		○	○		○	○	○			
640		○										

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Tapered

List No.	P					M			K	N		S		H			
	Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
	Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
	Low	Medium	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
591	○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		
593	○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		
594	○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		
595	○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		
596	○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		
597	○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		

○ good ◎ best

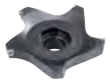
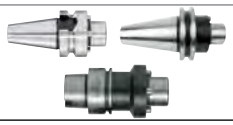
CONTINUED

Burrs

List	Item	Brand & List Name	Size Range		Product Page	Tech Page
801		OSG Carbide Bur SA-Cylindrical	1/8" - 1" 3.00 - 25.00mm	Inch Metric CARBIDE BR STUB REG LONG	1138	1518
802		OSG Carbide Bur SC-Cylindrical Ball End	1/8" - 3/4" 3.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG LONG	1139	1518
803		OSG Carbide Bur SF-Round se Tree	1/4" - 3/4" 3.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG	1140	1518
804		OSG Carbide Bur SG-Pointed Tree	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG	1141	1518
805		OSG Carbide Bur SM-Pointed Cone	1/4" - 5/8" 6.00 - 16.00mm	Inch Metric CARBIDE BR STUB REG LONG	1142	1518
806		OSG Carbide Bur SE-Egg Shape	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB	1143	1518
807		OSG Carbide Bur SL-14Deg Included Angle	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR REG	1144	1518
808		OSG Carbide Bur SD-Ball Shape	1/8" - 1" 3.00 - 25.00mm	Inch Metric CARBIDE BR STUB	1145	1518
849		OSG Carbide Bur SK-90Deg Cone	1/4" - 1" 6.00 - 25.00mm	Inch Metric CARBIDE BR	1146	1518
850		OSG Carbide Bur SJ-60Deg Cone	1/4" - 1" 6.00 - 25.00mm	Inch Metric CARBIDE BR	1147	1518
851		OSG Carbide Bur SH-Flame Shape	5/16" - 3/4" 8.00 - 19.00mm	Inch Metric CARBIDE BR REG	1148	1518
852		OSG Carbide Bur SN-Inverted Taper	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB	1149	1518
861		OSG Carbide Bur SA-Cylindrical	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR REG	1150	1518
862		OSG Carbide Bur SC-Cylindrical Ball End	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR REG	1151	1518
863		OSG Carbide Bur SF-Round se Tree	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR REG	1152	1518
867		OSG Carbide Bur SL-14Deg Included Angle	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR REG	1153	1518
868		OSG Carbide Bur SD-Ball Shape	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR STUB	1154	1518
901		OSG Carbide Bur SA-Cylindrical	1/8" - 1" 3.00 - 25.00mm	Inch Metric CARBIDE BR STUB REG LONG	1155	1518
902		OSG Carbide Bur SC-Cylindrical Ball End	1/8" - 3/4" 3.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG LONG	1156	1518
903		OSG Carbide Bur SF-Round se Tree	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG	1157	1518
904		OSG Carbide Bur SG-Pointed Tree	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG	1158	1518
905		OSG Carbide Bur SM-Pointed Cone	1/4" - 5/8" 6.00 - 16.00mm	Inch Metric CARBIDE BR STUB REG LONG	1159	1518
906		OSG Carbide Bur SE-Egg Shape	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB	1160	1518
907		OSG Carbide Bur SL-14Deg Included Angle	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR REG	1161	1518
908		OSG Carbide Bur SD-Ball Shape	1/8" - 1" 3.00 - 25.00mm	Inch Metric CARBIDE BR STUB	1162	1518
949		OSG Carbide Bur SK-90Deg Cone	1/4" - 1" 6.00 - 25.00mm	Inch Metric CARBIDE BR	1163	1518
950		OSG Carbide Bur SJ-60Deg Cone	1/4" - 1" 6.00 - 25.00mm	Inch Metric CARBIDE BR	1164	1518

List	Item	Brand & List Name	Size Range		Product Page	Tech Page
Burrs (Continued)						
951		OSG Carbide Bur SH-Flame Shape	5/16" - 3/4" 8.00 - 19.00mm	Inch Metric CARBIDE BR REG EXTRA LONG	1165	1518
952		OSG Carbide Bur SN-Inverted Taper	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB	1166	1518
961		OSG Carbide Bur SA-Cylindrical	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR	1167	1518
962		OSG Carbide Bur SC-Cylindrical Ball End	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR	1168	1518
963		OSG Carbide Bur SF-Round se Tree	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR	1169	1518
967		OSG Carbide Bur SL-14Deg Included Angle	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR	1170	1518
968		OSG Carbide Bur SD-Ball Shape	3/8" - 1/2" 9.50 - 12.70mm	Inch Metric CARBIDE BR	1171	1518
881		OSG Carbide Bur SA-Cylindrical	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG LONG	1172	1518
882		OSG Carbide Bur SC-Cylindrical Ball End	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG LONG	1173	1518
883		OSG Carbide Bur SF-Round se Tree	1/4" - 3/4" 6.00 - 19.00mm	Inch Metric CARBIDE BR STUB REG LONG	1174	1518
885		OSG Carbide Bur SH-Flame Shape	1/2" - 3/4" 12.70 - 19.00mm	Inch Metric CARBIDE BR REG	1175	1518
886		OSG Carbide Bur SE-Egg Shape	3/8" - 3/4" 9.50 - 19.0mm	Inch Metric CARBIDE BR STUB	1176	1518
887		OSG Carbide Bur SL-14Deg Included Angle	3/8" - 3/4" 9.50 - 19.0mm	Inch Metric CARBIDE BR REG	1177	1518
888		OSG Carbide Bur SD-Ball Shape	1/4" - 5/8" 6.00 - 16.00mm	Inch Metric CARBIDE BR STUB	1178	1518
800		OSG Carbide Bur Tough Cut	1/16" - 1/8" 1.50 - 3.00mm	Inch Metric CARBIDE BR STUB REG LONG EXTRA LONG	1179	1518
815		OSG Carbide Bur Tough Cut	1/4" 6.30mm"	Inch Metric CARBIDE BR STUB REG	1180	1518
820		OSG Carbide Bur Tough Cut	5/32" - 3/16" 4.00 - 5.00mm	Inch Metric CARBIDE BR STUB REG LONG	1181	1518
900		OSG Carbide Bur Medium Right Hand Spiral	1/16" - 1/8" 1.50 - 3.0mm	Inch Metric CARBIDE BR STUB REG LONG EXTRA LONG	1182	1518
915		OSG Carbide Bur Medium Right Hand Spiral	1/4" 6.30mm	Inch Metric CARBIDE BR STUB REG	1183	1518
920		OSG Carbide Bur Medium Right Hand Spiral	5/32" - 3/16" 4.00 - 5.00mm	Inch Metric CARBIDE BR STUB REG LONG	1184	1518

CONTINUED

List	Item	Brand & List Name	Size Range	Features		Product Page	Tech Page
Indexable Face Milling Cutters							
52700		OSG PHOENIX PAS	2.000 - 6.000"	45° Face Mill, 2-Sided Square Insert, Bore	Inch	1185	1525
78020		OSG PHOENIX PAS	50.00 - 125.00mm	45° Face Mill, 2-Sided Square Insert, Bore	Metric	1186	1525
52800		OSG PHOENIX PAO	2.000 - 8.000"	45° Face Mill, 2-Sided Octagon Insert, Bore	Inch	1189	1526
78120		OSG PHOENIX PAO	50.00 - 200.00mm	45° Face Mill, 2-Sided Octagon Insert, Bore	Metric	1190	1526
78036		OSG PHOENIX PFAL	50.00 - 160.00mm	Finishing Cutter for Aluminum, Bore	Metric	1260	1539-1541
6440		EXOCARB® DISC CUTTER S	80.00 - 125.00mm	Face Milling Cutter for Small Machines, Roughing	Metric	1327	1558
6441		EXOCARB® DISC CUTTER PRO	80.00 - 125.00mm	Face Milling Cutter for Small Machines, Finishing	Metric	1330	1558
6640		EXOCARB® DISC CUTTER ARBOR	-	Face Mill Arbor for Small Machines, BT30, CAT40 & HSK40A	Metric	1333	-
Indexable Shoulder Cutters							
52900		OSG PHOENIX PSF	1.000 - 1.500"	90° Shoulder Cutter, Square Insert, SA/FA	Inch	1193	1527
78030		OSG PHOENIX PSF	25.00 - 40.00mm	90° Shoulder Cutter, Square Insert, SS	Metric	1194	1527
52901		OSG PHOENIX PSF	2.000 - 3.000"	90° Shoulder Cutter, Square Insert, Bore	Inch	1195	1527
78130		OSG PHOENIX PSF	50.00 - 80.00mm	90° Shoulder Cutter, Square Insert, Bore	Metric	1196	1527
78013		OSG PHOENIX PSE	0.375 - 1.500"	90° Shoulder Cutter, SA/FA	Inch	1205-1206	1529
78011		OSG PHOENIX PSE	10.00 - 63.00mm	90° Shoulder Cutter, SS	Metric	1207-1208	1529
78012		OSG PHOENIX PSE	2.000 - 6.000"	90° Shoulder Cutter, Bore	Inch	1209	1529
78010		OSG PHOENIX PSE	40.00 - 125.00mm	90° Shoulder Cutter, Bore	Metric	1210	1529
52601		OSG PHOENIX PSE	0.375 - 1.500"	90° Shoulder Cutter, ASF	Inch	1211	1529
78016		OSG PHOENIX PSE	10.00 - 40.00mm	90° Shoulder Cutter, SF	Metric	1212	1529
53100		OSG PHOENIX PSTW	2.000 - 6.000"	90° Shoulder Cutter, 2-Sided Triangle Insert, Bore	Inch	1225	1531
78131		OSG PHOENIX PSTW	50.00 - 125.00mm	90° Shoulder Cutter, 2-Sided Triangle Insert, Bore	Metric	1226	1531

List	Item	Brand & List Name	Size Range	Features		Product Page	Tech Page
Indexable Roughing Cutters							
53200		OSG PHOENIX PSFL	1.250 - 1.500"	90° Roughing Cutter, Square Insert, SA/FA	Inch	1199	1528
78037		OSG PHOENIX PSFL	32.00 - 40.00mm	90° Roughing Cutter, Square Insert, SS	Metric	1200	1528
53201		OSG PHOENIX PSFL	2.000 - 4.000"	90° Roughing Cutter, Square Insert, Bore	Inch	1201	1528
78137		OSG PHOENIX PSFL	50.00 - 80.00mm	90° Roughing Cutter, Square Insert, Bore	Metric	1202	1528
53000		OSG PHOENIX PSEL	1.000 - 1.500"	90° Roughing Cutter, SA/FA	Inch	1217	1530
78029		OSG PHOENIX PSEL	25.00 - 50.00mm	90° Roughing Cutter, SS	Metric	1218	1530
53001		OSG PHOENIX PSEL	2.000 - 3.000"	90° Roughing Cutter, Bore	Inch	1219	1530
78028		OSG PHOENIX PSEL	50.00 - 80.00mm	90° Roughing Cutter, Bore	Metric	1220	1530
Indexable Multi-Function Cutters							
53400		OSG PHOENIX PMD	1.000 - 1.250"	Multi-Function Cutter, SA	Inch	1229	1532-1533
78234		OSG PHOENIX PMD	20.00 - 32.00mm	Multi-Function Cutter, SS	Metric	1230	1532-1533
52606		OSG PHOENIX PMD	1.000 - 1.250"	Multi-Function Cutter, ASF	Inch	1231	1532-1533
78334		OSG PHOENIX PMD	20.00 - 32.00mm	Multi-Function Cutter, SF	Metric	1232	1532-1533
Indexable High Feed Cutters							
78009		OSG PHOENIX PHC	0.625 - 1.500"	High Feed Radius Cutter, SA/FA	Inch	1238-1239	1534-1535
78007		OSG PHOENIX PHC	16.00 - 63.00mm	High Feed Radius Cutter, SS	Metric	1240-1241	1534-1535
78008		OSG PHOENIX PHC	2.000 - 6.000"	High Feed Radius Cutter, Bore	Inch	1242	1534-1535
78006		OSG PHOENIX PHC	40.00 - 100.00mm	High Feed Radius Cutter, Bore	Metric	1243	1534-1535
52603		OSG PHOENIX PHC	0.625 - 1.500"	High Feed Radius Cutter, ASF	Inch	1244	1534-1535
78015		OSG PHOENIX PHC	16.00 - 40.00mm	High Feed Radius Cutter, SF	Metric	1245	1534-1535
Indexable Radius Cutters							
78005		OSG PHOENIX PRC	1.000 - 1.500"	Radius Cutter, SA	Inch	1248	1536-1537
78003		OSG PHOENIX PRC	20.00 - 63.00mm	Radius Cutter, SS	Metric	1249	1536-1537
78004		OSG PHOENIX PRC	2.000 - 6.000"	Radius Cutter, Bore	Inch	1250	1536-1537
78002		OSG PHOENIX PRC	50.00 - 100.00mm	Radius Cutter, Bore	Metric	1251	1536-1537
52602		OSG PHOENIX PRC	1.000 - 1.500"	Radius Cutter, ASF	Inch	1252	1536-1537
78017		OSG PHOENIX PRC	20.00 - 40.00mm	Radius Cutter, SF	Metric	1253	1536-1537

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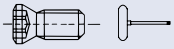
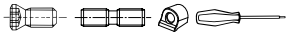
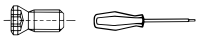
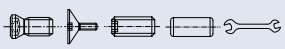
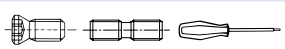
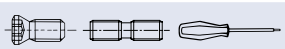
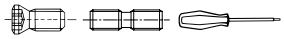
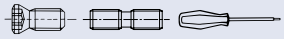
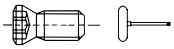
List	Item	Brand & List Name	Size Range	Features		Product Page	Tech Page
Indexable Radius Cutters (Continued)							
6420		OSG PHOENIX PDR	40.00 - 50.00mm	Deep Feed Radius Cutter, SS	Metric	1256	1538
6450		OSG PHOENIX PDR	63.00 - 125.00mm	Deep Feed Radius Cutter, Bore	Metric	1257	1538
52200		OSG PHOENIX PFR	0.250 - 1.250"	Finishing Radius End Mill, SA	Inch	1274	1544-1545
78320		OSG PHOENIX PFR	6.00 - 32.00mm	Finishing Radius End Mill, SS	Metric	1275	1544-1545
52605		OSG PHOENIX PFR	0.375 - 1.000"	Finishing Radius End Mill, ASF	Inch	1276	1544-1545
78220		OSG PHOENIX PFR	10.00 - 32.00mm	Finishing Radius End Mill, SF	Metric	1277	1544-1545
Indexable Ball Nose Cutters							
52100		OSG PHOENIX PFB	0.250 - 1.250"	Finishing Ball End Mill, SA/TPA	Inch	1263-1264	1542-1543
78014		OSG PHOENIX PFB	8.00 - 32.00mm	Finishing Ball End Mill, SS	Metric	1265	1542-1543
52604		OSG PHOENIX PFB	0.375 - 1.000"	Finishing Ball End Mill, ASF	Inch	1266	1542-1543
78114		OSG PHOENIX PFB	10.00 - 30.00mm	Finishing Ball End Mill, SF	Metric	1267	1542-1543
Indexable Screw Fit							
52601		OSG PHOENIX PSE	0.375 - 1.500"	90° Shoulder Cutter, ASF	Inch	1285	1529
78016		OSG PHOENIX PSE	10.00 - 40.00mm	90° Shoulder Cutter, SF	Metric	1286	1529
52606		OSG PHOENIX PMD	1.000 - 1.250"	Multi-Function Cutter, ASF	Inch	1287	1532-1533
78334		OSG PHOENIX PMD	20.00 - 32.00mm	Multi-Function Cutter, SF	Metric	1287	1532-1533
52603		OSG PHOENIX PHC	0.625 - 1.500"	High Feed Radius Cutter, ASF	Inch	1288	1534-1535
78015		OSG PHOENIX PHC	16.00 - 40.00mm	High Feed Radius Cutter, SF	Metric	1289	1534-1535
52602		OSG PHOENIX PRC	1.000 - 1.500"	Radius Cutter, ASF	Inch	1290	1536-1537
78017		OSG PHOENIX PRC	20.00 - 40.00mm	Radius Cutter, SF	Metric	1290	1536-1537
52605		OSG PHOENIX PFR	0.375 - 1.000"	Finishing Radius End Mill, ASF	Inch	1293	1544-1545
78220		OSG PHOENIX PFR	10.00 - 32.00mm	Finishing Radius End Mill, SF	Metric	1294	1544-1545
52604		OSG PHOENIX PFB	0.375 - 1.000"	Finishing Ball End Mill, ASF	Inch	1291	1542-1543
78114		OSG PHOENIX PFB	10.00 - 30.00mm	Finishing Ball End Mill, SF	Metric	1292	1542-1543
52600	Carbide 	OSG PHOENIX SF	-	Screw Fit Arbor, SA	Inch	1295	-
78019	Steel 	OSG PHOENIX SF	-	Screw Fit Arbor, SS	Metric	1296	-
78025		OSG PHOENIX SF	-	Screw Fit Arbor, BT		1297	-
78125		OSG PHOENIX SF	-	Screw Fit Arbor, HSK		1298	-

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
Exhangeable Head End Mills						
78PXSE		OSG PHOENIX PXM	0.375 - 1.000" 10.00 - 25.00mm	PXSE, 4 Flute, Square & Corner Radius Inch Metric	1299	1546
78PXSE-O		OSG PHOENIX PXM	0.500 - 1.000" 12.00 - 25.00mm	PXSE, 4 Flute, Square & Corner Radius, Coolant-Through Inch Metric	1300	1546
78PXVC		OSG PHOENIX PXM	0.375 - 1.250" 10.00 - 32.00mm	PXVC, 4 Flute, Square & Corner Radius Inch Metric	1301-1302	1547
78PXSM		OSG PHOENIX PXM	0.375 - 1.000" 10.00 - 25.00mm	PXSM, Multiple Flute, Square & Corner Radius Inch Metric	1303-1304	1548
78PXSH		OSG PHOENIX PXM	0.500 - 1.000" 12.00 - 25.00mm	PXSH, Multiple Flute, Square Inch Metric	1305	1549-1550
78PXNL		OSG PHOENIX PXM	0.375 - 1.000" 10.00 - 25.00mm	PXNL, 4 Flute, Roughing, Low Helix Inch Metric	1306	1551
78PXNL-O		OSG PHOENIX PXM	0.500 - 1.000" 12.00 - 25.00mm	PXNL, 4 Flute, Roughing, Low Helix, Coolant-Through Inch Metric	1307	1551
78PXNH		OSG PHOENIX PXM	0.375 - 1.000" 10.00 - 25.00mm	PXNH, 4 Flute, Roughing, High Helix Inch Metric	1308	1551
78PXNH-O		OSG PHOENIX PXM	0.500 - 1.000" 12.00 - 25.00mm	PXNH, 4 Flute, Roughing, High Helix, Coolant-Through Inch Metric	1309	1551
78PXRE		OSG PHOENIX PXM	0.375 - 1.000" 10.00 - 20.00mm	PXRE, Multiple Flute, Straight Flute, Corner Radius Inch Metric	1310	1552
78PXDR		OSG PHOENIX PXM	0.375 - 1.000" 10.00 - 20.00mm	PXDR, 3 Flute, Helical Flute, Corner Radius Inch Metric	1311	1552-1553
78PXHF-AM		OSG PHOENIX PXM	0.500 - 1.000" 12.00 - 20.00mm	PXHF, 6 Flute, High Feed, Corner Radius, Coolant-Through Inch Metric	1312	1554-1555
78PXBE		OSG PHOENIX PXM	0.375 - 1.000" 10.00 - 20.00mm	PXBE, 3 Flute, Ball End Inch Metric	1313	1556
78PXBE-O		OSG PHOENIX PXM	0.500 - 0.750" 12.00 - 20.00mm	PXBE, 3 Flute, Ball End, Coolant-Through Inch Metric	1314	1556
78PXBM		OSG PHOENIX PXM	0.375 - 1.000" 10.00 - 20.00mm	PXBM, Multiple Flute, Ball End Inch Metric	1315	1557
52300		OSG PHOENIX PXM SHANKS	-	PXM SA/TPA Inch	1316	-
52321		OSG PHOENIX PXM JOINTS	-	PXMJ Joint Inch	1317	-
52319		OSG PHOENIX PXM SHANKS	-	PXM SA/TPA, Coolant-Through Inch	1318	-
52320		OSG PHOENIX PXM JOINTS	-	PXMJ-O JOINT, Coolant-Through Inch	1319	-
78018		OSG PHOENIX PXM SHANKS	-	PXM SS/TP Metric	1320	-
78021		OSG PHOENIX PXM JOINTS	-	PXMJ Joint Metric	1321	-
78035		OSG PHOENIX PXM SHANKS	-	PXM SS/TPA, Coolant-Through Metric	1322	-
78022		OSG PHOENIX PXM JOINTS	-	PXMJ-O Joint, Coolant-Through Metric	1323	-
78340		OSG PHOENIX PXM COLLETS	-	PXMC Metric	1324	-

CONTINUED

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
Indexable Inserts						
78PAS		OSG PHOENIX PAS INSERTS	-		1187	1525
78PAO		OSG PHOENIX PAO INSERTS	-		1191	1526
78PFAL		OSG PHOENIX PFAL INSERTS	-		1261	1539-1541
6442		EXOCARB® DISC CUTTER S INSERTS	-		1328	1558
6541		EXOCARB® DISC CUTTER PRO INSERTS	-		1331	1558
78PSF		OSG PHOENIX PSF INSERTS	-		1197	1527
78PSE		OSG PHOENIX PSE INSERTS	-		1213-1215	1529
78PSTW		OSG PHOENIX PSTW INSERTS	-		1227	1531
78PSF (PSFL)		OSG PHOENIX PSFL INSERTS	-		1203	1528
78PSE (PSEL)		OSG PHOENIX PSEL INSERTS	-		1221 - 1223	1530
78PZAG (PMD)		OSG PHOENIX PMD INSERTS	-		1233	1532-1533
78PSE (PMD)		OSG PHOENIX PMD INSERTS	-		1234-1236	1532-1533
78PHC		OSG PHOENIX PHC INSERTS	-		1246	1534-1535
78PRC		OSG PHOENIX PRC INSERTS	-		1254	1536-1537
78PDR		OSG PHOENIX PDR INSERTS	-		1258	1538
78PFR		OSG PHOENIX PFR INSERTS	-		1278-1283	1544-1545
78PFB		OSG PHOENIX PFB INSERTS	-		1268-1272	1542-1543
Indexable Accessories						
7808H (PAS)		OSG PHOENIX PAS ACCESSORIES	-		1188	-
7808H (PAO)		OSG PHOENIX PAO ACCESSORIES	-		1192	-
7808H (PFAL)		OSG PHOENIX PFAL ACCESSORIES	-		1262	-
6442		EXOCARB® DISC CUTTER S ACCESSORIES	-		1329	-
6541		EXOCARB® DISC CUTTER PRO ACCESSORIES	-		1332	-
6640		EXOCARB® DISC CUTTER ARBOR ACCESSORIES	-		1334	-
7808H (PSF)		OSG PHOENIX PSF ACESSORIES	-		1198	-
7808H (PSE)		OSG PHOENIX PSE ACCESSORIES	-		1216	-
7808H (PSTW)		OSG PHOENIX PSTW ACCESSORIES	-		1228	-

List	Item	Brand & List Name	Size Range	Features	Product Page	Tech Page
Indexable Accessories (Continued)						
7808H (PSFL)		OSG PHOENIX PSFL ACESSORIES	-		1204	-
7808H (PSEL)		OSG PHOENIX PSEL ACCESSORIES	-		1224	-
7808H (PMD)		OSG PHOENIX PMD ACCESSORIES	-		1237	-
7808H (PHC)		OSG PHOENIX PHC ACCESSORIES	-		1247	-
7808H (PRC)		OSG PHOENIX PRC ACCESSORIES	-		1255	-
7808H (PDR)		OSG PHOENIX PDR ACCESSORIES	-		1259	-
7808H (PFR)		OSG PHOENIX PFR ACCESSORIES	-		1284	-
7808H (PFB)		OSG PHOENIX PFB ACCESSORIES	-		1273	-
7808H (PXM)		OSG PHOENIX PXM ACCESSORIES	-		1326	-
9903		HY-PRO SHRINK BASE HOLDERS	-	CAT, BT, and HSK 2-Piece Base Holders, for standard & coolant-through the tool operations Inch Metric	1325	-

A Brand *AE-VMSS*

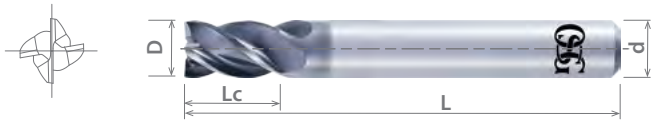
Advanced Performance Anti-Vibration Carbide End Mills

List 8206

A BRAND AE-VMSS

SPEED FEED 1336 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm



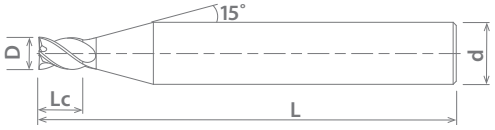
EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8556430	●	3.00	4.50	45.00	6.00	1
8556440	●	4.00	6.00	45.00	6.00	1
8556450	●	5.00	7.50	45.00	6.00	1
8556460	●	6.00	9.00	45.00	6.00	2
8556480	●	8.00	12.00	60.00	8.00	2
8556500	●	10.00	15.00	70.00	10.00	2
8556520	●	12.00	18.00	75.00	12.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

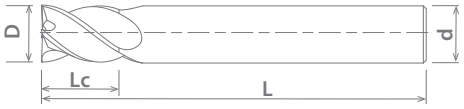
AEM



Type 1



Type 2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

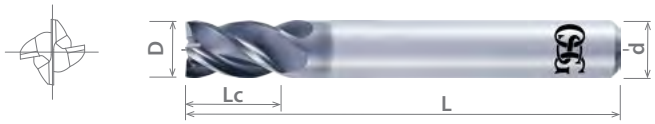
○ Good ◎ Best

List 8226

A BRAND AE-VMSS-RA, Right Angle Type

NEW | SPEED FEED 1336 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1mm ≤ D ≤ 6mm	+0 / -0.020mm

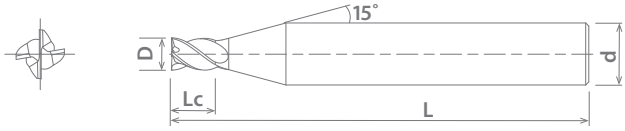


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8556550	▲	1.00	1.50	40.00	4.00	1
8556560	▲	2.00	3.00	40.00	4.00	1
8556570	▲	3.00	4.50	45.00	6.00	1
8556580	▲	4.00	6.00	45.00	6.00	1
8556590	▲	5.00	7.50	45.00	6.00	1
8556600	▲	6.00	9.00	45.00	6.00	2

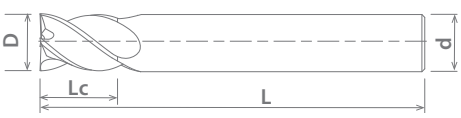
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type 1

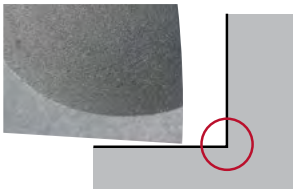


Type 2



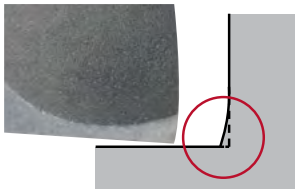
Right Angle Type for Milling Straight Corners

Right Angle Type
AE-VMSS,VMS(-RA)



Straight corners with no uncut residue.

Square Type
AE-VMSS,VMS



Choose the right angle type for milling straight corners!

Choose the square type for high processing efficiency!

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

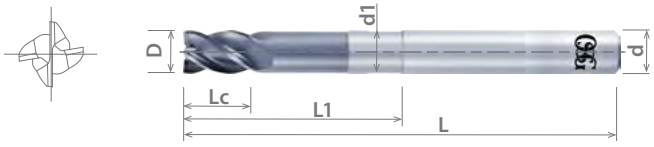
○ Good ◎ Best

List 8230

A BRAND AE-LN-VMSS, Long Neck

SPEED FEED 1337 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 7/16"	+0 / -0.0008"
1/2" ≤ D ≤ 1"	+0 / -0.0012"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (inch)	L1 (inch)	d1 (inch)	L (inch)	d (inch)
82300021	●	1/4	0.375	0.750	0.235	3.000	0.250
82300121	●	1/4	0.375	1.250	0.243	4.000	0.250
82300221	●	5/16	0.438	1.000	0.303	4.000	0.313
82300321	●	5/16	0.438	1.563	0.303	4.000	0.313
82300421	●	3/8	0.500	1.188	0.364	4.000	0.375
82300521	●	3/8	0.500	1.875	0.364	4.000	0.375
82300621	●	7/16	0.547	1.313	0.400	4.000	0.438
82300721	●	7/16	0.547	1.875	0.400	4.000	0.438
82300821	●	1/2	0.625	1.500	0.485	4.000	0.500
82300921	●	1/2	0.625	2.250	0.485	4.000	0.500
82301021	●	5/8	0.780	2.250	0.588	4.125	0.625
82301121	●	5/8	0.780	3.125	0.588	5.000	0.625
82301221	●	3/4	1.000	2.250	0.705	5.000	0.750
82301321	●	3/4	1.000	3.250	0.705	5.250	0.750
82301421	●	1	1.125	3.250	0.940	5.500	1.000
82301521	●	1	1.125	5.000	0.940	7.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

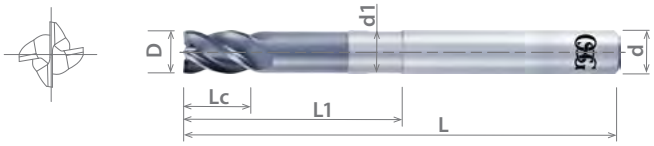
○ Good ◎ Best

List 8235

A BRAND AE-LN-VMSS, Long Neck

SPEED FEED 1337 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
8556618	●	6.00	9.00	5.80	18.00	60.00	6.00
8556630	●	6.00	9.00	5.80	30.00	70.00	6.00
8556724	●	8.00	12.00	7.70	24.00	70.00	8.00
8556740	●	8.00	12.00	7.70	40.00	80.00	8.00
8556830	●	10.00	15.00	9.70	30.00	80.00	10.00
8556850	●	10.00	15.00	9.70	50.00	100.00	10.00
8556936	●	12.00	18.00	11.70	36.00	90.00	12.00
8556960	●	12.00	18.00	11.70	60.00	110.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

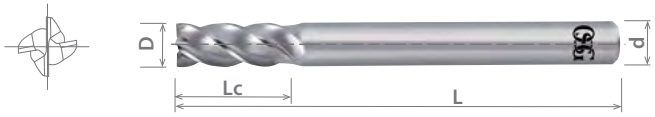
○ Good ◎ Best

List 8200

A BRAND AE-VMS, 4 Flute, Multiple Length

SPEED FEED 1338-1339 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHANK h6 | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
5/64" ≤ D ≤ 7/16"	+0 / -0.0008"
1/2" ≤ D ≤ 1"	+0 / -0.0012"

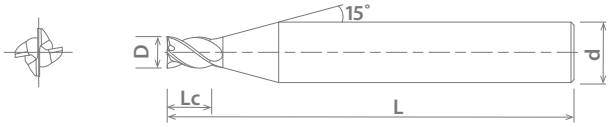


EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (inch)	Overall Length L (inch)	Shank Diameter d (inch)	Type
82004421	●	5/64	0.117	2.000	0.125	1
82004621	●	3/32	0.141	2.000	0.125	1
82004821	●	7/64	0.164	2.000	0.125	1
82005021	●	1/8	0.188	2.000	0.125	1
82005221	●	9/64	0.211	2.000	0.188	1
82005421	●	5/32	0.234	2.000	0.188	1
82000021	●	3/16	0.438	2.000	0.188	2
82000221	●	1/4	0.438	2.500	0.250	2
82000421	●	5/16	0.813	2.500	0.313	2
82000621	●	3/8	0.500	2.500	0.375	2
82000821	●	3/8	0.875	2.500	0.375	2
82001021	●	7/16	1.000	2.750	0.438	2
82001221	●	1/2	0.625	2.500	0.500	2
82001421	●	1/2	1.000	3.000	0.500	2
82001621	●	1/2	1.250	3.500	0.500	2
82001821	●	5/8	0.750	3.000	0.625	2
82002021	●	5/8	1.250	3.500	0.625	2
82002221	●	5/8	1.625	5.000	0.625	2
82002421	●	3/4	0.875	3.500	0.750	2
82002621	●	3/4	1.500	4.000	0.750	2
82002821	●	3/4	1.625	4.000	0.750	2
82003021	●	1	1.500	4.000	1.000	2
82003221	●	1	2.000	5.000	1.000	2
82003421	●	1	2.500	5.000	1.000	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type 1



Type 2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

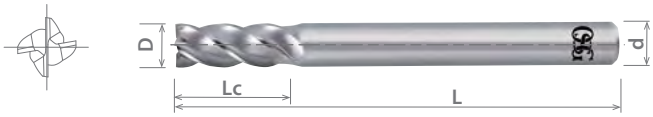
○ Good ◎ Best

List 8205

A BRAND AE-VMS

SPEED FEED 1338-1339 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHANK h6 | REG | PACKED 1 PIECE

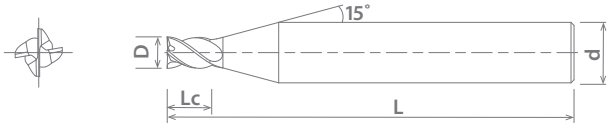
Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm
16mm ≤ D ≤ 25mm	+0 / -0.030mm

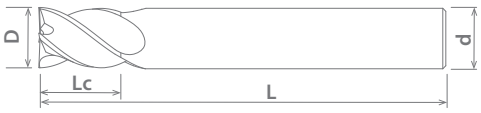


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8555830	●	3.00	8.00	60.00	6.00	1
8555840	●	4.00	11.00	60.00	6.00	1
8555850	●	5.00	13.00	60.00	6.00	1
8555860	●	6.00	13.00	60.00	6.00	2
8555880	●	8.00	19.00	70.00	8.00	2
8555900	●	10.00	22.00	80.00	10.00	2
8555920	●	12.00	26.00	90.00	12.00	2
8555960	●	16.00	32.00	100.00	16.00	2
8556000	●	20.00	40.00	110.00	20.00	2
8556010	●	25.00	50.00	120.00	25.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM





P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

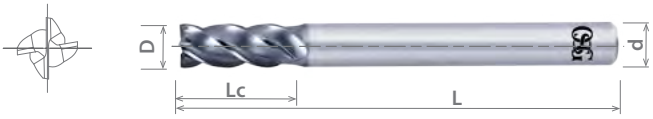
○ Good ◎ Best

List 8225

A BRAND AE-VMS-RA, Right Angle Type

NEW | SPEED FEED 1338-1339 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHANK h6 | REG | PACKED 1 PIECE

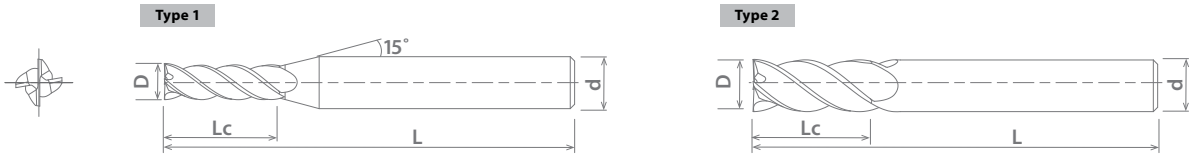
Cutting Diameter Tolerance	
3mm ≤ D ≤ 6mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8555730	▲	3.00	8.00	60.00	6.00	1
8555740	▲	4.00	11.00	60.00	6.00	1
8555750	▲	5.00	13.00	60.00	6.00	1
8555760	▲	6.00	13.00	60.00	6.00	2

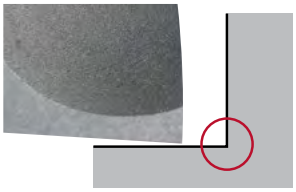
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM



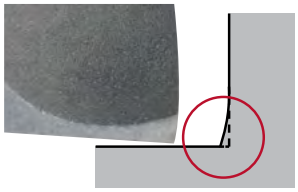
Right Angle Type for Milling Straight Corners

Right Angle Type
AE-VMSS,VMS(-RA)



Straight corners with no uncut residue.

Square Type
AE-VMSS,VMS



Choose the right angle type for milling straight corners!

Choose the square type for high processing efficiency!

See page 6 for details

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

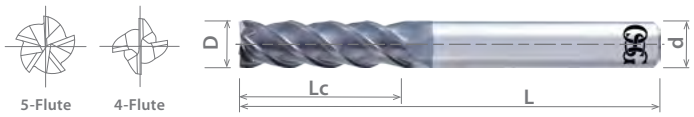
○ Good ◎ Best

List 8201

A BRAND AE-VML

NEW SIZES | SPEED FEED 1340-1343 | CARBIDE | DUARISE | 42-44° | SHANK h6 | LONG | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 3/8"	+0 / -0.0008"
1/2" ≤ D ≤ 1"	+0 / -0.0012"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
82010021	●	1/4	0.750	2.750	0.250	4
82010121	●	1/4	1.000	2.750	0.250	4
82010221	●	5/16	0.938	3.500	0.313	4
82010321	●	5/16	1.250	3.500	0.313	4
82010421	●	3/8	1.125	3.750	0.375	4
82010521	●	3/8	1.500	4.000	0.375	4
82010621	●	1/2	1.500	4.000	0.500	4
82010721	●	1/2	2.000	4.500	0.500	4
82010821	●	5/8	1.875	5.000	0.625	5
82010921	●	5/8	2.500	5.500	0.625	5
82011021	●	3/4	2.250	5.500	0.750	5
82011121	●	3/4	3.000	6.000	0.750	5
82011221	●	1	3.000	7.000	1.000	5
82011321	●	1	4.000	7.000	1.000	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

List 8207

A BRAND AE-VML

NEW SIZES | SPEED FEED 1340-1343 | CARBIDE | DUARISE | 42-44° | SHANK h6 | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.020mm
16mm ≤ D ≤ 20mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
8556320	●	6.00	19.00	70.00	6.00	4
8556328	●	6.00	24.00	70.00	6.00	4
8556322	●	8.00	25.00	80.00	8.00	4
8556330	●	8.00	32.00	90.00	8.00	4
8556324	●	10.00	31.00	90.00	10.00	4
8556332	●	10.00	40.00	100.00	10.00	4
8556326	●	12.00	38.00	100.00	12.00	4
8556334	●	12.00	48.00	110.00	12.00	4
8556374	●	16.00	50.00	125.00	16.00	5
8556378	●	16.00	64.00	140.00	16.00	5
8556376	●	20.00	62.00	135.00	20.00	5
8556380	●	20.00	80.00	155.00	20.00	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

List 8202

A BRAND AE-NIK-VML, Nicked

NEW SIZES | SPEED FEED 1340-1343 | CARBIDE | DUARISE | 42-44° | SHANK h6 | LONG | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 3/8"	+0 / -0.0008"
1/2" ≤ D ≤ 1"	+0 / -0.0012"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
82020021	●	1/4	0.750	2.750	0.250	4
82020121	●	1/4	1.000	2.750	0.250	4
82020221	●	5/16	0.938	3.500	0.313	4
82020321	●	5/16	1.250	3.500	0.313	4
82020421	●	3/8	1.125	3.750	0.375	4
82020521	●	3/8	1.500	4.000	0.375	4
82020621	●	1/2	1.500	4.000	0.500	4
82020721	●	1/2	2.000	4.500	0.500	4
82020821	●	5/8	1.875	5.000	0.625	5
82020921	●	5/8	2.500	5.500	0.625	5
82021021	●	3/4	2.250	5.500	0.750	5
82021121	●	3/4	3.000	6.000	0.750	5
82021221	●	1	3.000	7.000	1.000	5
82021321	●	1	4.000	7.000	1.000	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

A Brand *AE-NIK-VML*

Advanced Performance Anti-Vibration Nicked Carbide End Mills

List 8208

NEW SIZES | SPEED FEED 1340-1343 | CARBIDE | DUARISE | 42-44° | SHANK h6 | LONG | PACKED 1 PIECE

A BRAND AE-NIK-VML, Nicked

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.020mm
16mm ≤ D ≤ 20mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
8556321	●	6.00	19.00	70.00	6.00	4
8556329	●	6.00	24.00	70.00	6.00	4
8556323	●	8.00	25.00	80.00	8.00	4
8556331	●	8.00	32.00	90.00	8.00	4
8556325	●	10.00	31.00	90.00	10.00	4
8556333	●	10.00	40.00	100.00	10.00	4
8556327	●	12.00	38.00	100.00	12.00	4
8556335	●	12.00	48.00	110.00	12.00	4
8556375	●	16.00	50.00	125.00	16.00	5
8556379	●	16.00	64.00	140.00	16.00	5
8556377	●	20.00	62.00	135.00	20.00	5
8556381	●	20.00	80.00	155.00	20.00	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

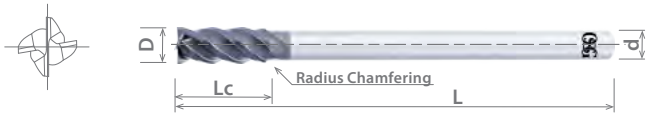
○ Good ◎ Best

List 8245

A BRAND AE-VMFE

NEW | SPEED FEED 1344 | CARBIDE | DUARISE | 4 FLUTE | 40-44° | SHANK h4 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8549916	●	6.00	15.00	100.00	4.00
8549918	●	8.00	20.00	110.00	6.00
8549920	●	10.00	25.00	130.00	8.00
8549922	●	12.00	30.00	150.00	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: The radius chamfering is not a full radius since it is for preventing streaks during step milling.

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

A Brand *AE-VTSS*

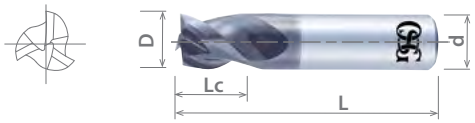
Anti-Vibration, Multi-functional Carbide End Mill Compatible with CNC Lathes

List 8233

A BRAND AE-VTSS

NEW | SPEED FEED 1345-1346 | CARBIDE | DUARISE | 3 FLUTE | 40-43° | SHRINK FIT | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.0008"

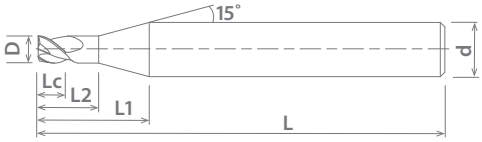


EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Non-Taper Neck Length L2 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Type
82330021	●	1/8	0.188	-	-	2.000	0.125	2
82330121	○	9/64	0.211	0.386	0.299	2.000	0.188	1
82330221	○	5/32	0.234	0.378	0.323	2.000	0.188	1
82330321	●	3/16	0.281	-	-	2.000	0.188	2
82330421	●	1/4	0.250	-	-	2.000	0.250	2
82330521	●	3/8	0.375	-	-	2.500	0.375	2
82330621	●	1/2	0.500	-	-	2.500	0.375	3

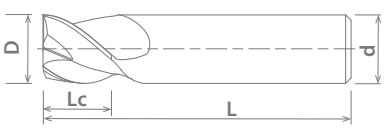
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type 1



Type 2



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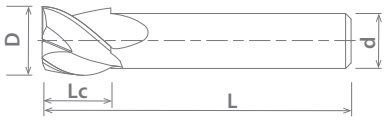


P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		

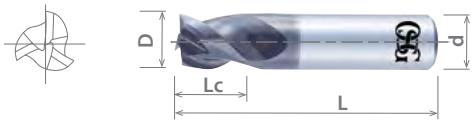
○ Good ◎ Best

List 8333

A BRAND AE-VTSS

NEW | SPEED FEED 1345-1346 | CARBIDE | DUARISE | 3 FLUTE | 40-43° | SHRINK FIT | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm

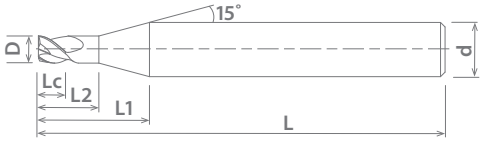


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Non-Taper Neck Length L2 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8557251	●	3.00	4.50	12.20	6.00	45.00	6.00	1
8557252	●	4.00	6.00	11.90	7.00	45.00	6.00	1
8557253	●	5.00	6.00	11.70	9.00	45.00	6.00	1
8557254	●	6.00	6.00	-	-	45.00	6.00	2
8557255	●	8.00	8.00	-	-	45.00	8.00	2
8557256	●	10.00	10.00	-	-	45.00	10.00	2
8557257	●	12.00	12.00	-	-	50.00	10.00	3

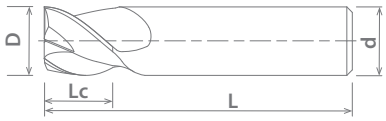
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type 1



Type 2



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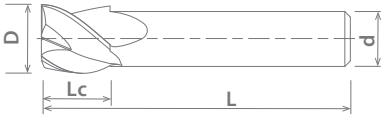


P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		

○ Good ◎ Best

A Brand AE-MSS-H

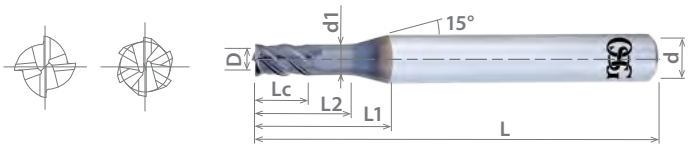
Advanced Performance Carbide End Mills with DUROREY Coating

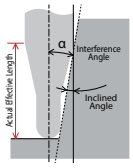
List 8441

A BRAND AE-MSS-H, Reduced Neck

NEW | SPEED FEED 1347 | CARBIDE | DURAREY | 43° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1/2"	+0 / -0.0008"



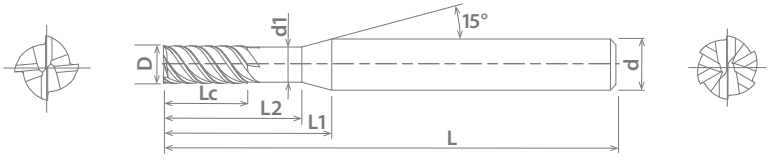


EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Non-Taper Neck Length L2 (Inch)	Neck Dia. d1 (Inch)	Inter-ference Angle α (°)	Effective Neck Length by Incline Angle 0.5° (Inch)	1.0° (Inch)	1.5° (Inch)	2.0° (Inch)	3.0° (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	No. of Flutes	Type	Center Cutting
84410023	●	1/16	0.094	0.304	0.188	0.061	9.9	0.194	0.201	0.208	0.216	0.234	2.500	0.250	4	1	-
84410123	●	5/64	0.117	0.380	0.234	0.076	8.8	0.242	0.250	0.259	0.269	0.291	2.500	0.250	4	1	-
84410223	●	3/32	0.141	0.456	0.281	0.092	7.8	0.290	0.301	0.311	0.323	0.349	2.500	0.250	4	1	-
84410323	●	7/64	0.164	0.532	0.328	0.105	6.8	0.339	0.351	0.364	0.377	0.408	2.500	0.250	4	1	-
84410423	●	1/8	0.188	0.608	0.375	0.119	5.9	0.388	0.401	0.416	0.431	0.466	2.500	0.250	4	1	-
84410523	●	5/32	0.234	0.760	0.469	0.150	4.2	0.485	0.502	0.520	0.539	0.583	2.500	0.250	4	1	-
84410623	●	3/16	0.281	0.912	0.563	0.182	2.6	0.582	0.602	0.624	0.647	-	2.500	0.250	4	1	-
84410723	●	7/32	0.328	1.064	0.656	0.213	1.3	0.678	0.705	-	-	-	2.500	0.250	4	1	-
84410823	●	1/4	0.375	-	0.750	0.244	-	-	-	-	-	-	2.500	0.250	6	2	●
84410923	●	9/32	0.422	1.369	0.844	0.275	1.0	0.872	-	-	-	-	3.000	0.313	6	1	-
84411023	●	5/16	0.469	-	0.938	0.307	-	-	-	-	-	-	3.000	0.313	6	2	●
84411123	●	3/8	0.563	-	1.125	0.369	-	-	-	-	-	-	3.500	0.375	6	2	●
84411223	●	7/16	0.656	-	1.313	0.432	-	-	-	-	-	-	3.500	0.438	6	2	●
84411323	●	1/2	0.750	-	1.500	0.492	-	-	-	-	-	-	4.000	0.500	6	2	●

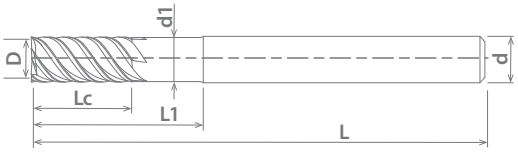
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

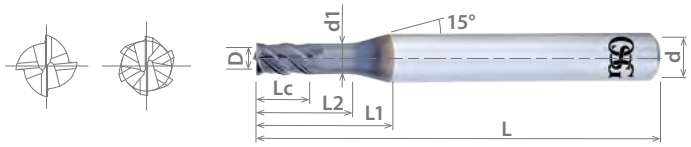
○ Good ◎ Best

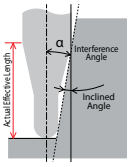
List 8541

A BRAND AE-MSS-H, Reduced Neck

NEW | SPEED FEED 1347 | CARBIDE | DUROREY | 43° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm



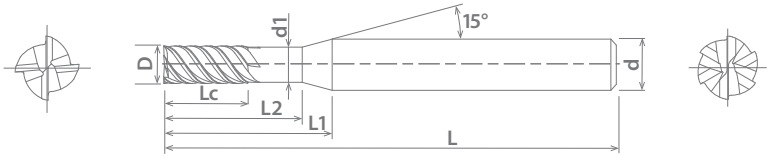


EDP Number		Dia.	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Dia.	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Dia.	No. of Flutes	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)		
8549830	●	3.00	4.50	14.80	9.00	2.85	5.8	9.46	9.87	10.23	10.62	11.48	45.00	6.00	4	1
8549831	●	4.00	6.00	16.00	12.00	3.85	3.6	12.60	13.09	13.56	14.07	15.21	50.00	6.00	4	1
8549832	●	5.00	7.50	17.10	15.00	4.85	1.7	15.72	16.30	16.88	-	-	60.00	6.00	4	1
8549833	●	6.00	9.00	-	18.00	5.85	-	-	-	-	-	-	80.00	6.00	6	2
8549834	●	8.00	12.00	-	24.00	7.85	-	-	-	-	-	-	90.00	8.00	6	2
8549835	●	10.00	15.00	-	30.00	9.85	-	-	-	-	-	-	100.00	10.00	6	2
8549836	●	12.00	18.00	-	36.00	11.80	-	-	-	-	-	-	110.00	12.00	6	2

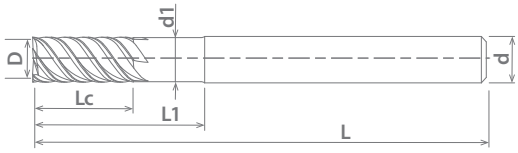
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

○ Good ◎ Best

A Brand AE-MS-H

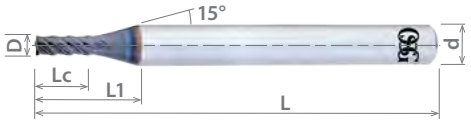
Advanced Performance Carbide End Mills with DUROREY Coating

List 8440

A BRAND AE-MS-H

SPEED FEED 1348-1349 | CARBIDE | DUROREY | 43° | SHANK h6 | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.0008"

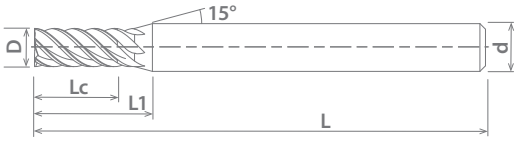


EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type	Center Cutting
84400023	●	1/16	0.188	0.600	2.500	0.250	4	1	-
84400123	●	5/64	0.250	0.646	2.500	0.250	4	1	-
84400223	●	3/32	0.313	0.698	2.500	0.250	4	1	-
84400323	●	7/64	0.313	0.668	2.500	0.250	4	1	-
84400423	●	1/8	0.375	0.686	2.500	0.250	4	1	●
84400523	●	5/32	0.500	0.825	2.500	0.250	4	1	●
84400623	●	3/16	0.500	0.767	2.500	0.250	4	1	●
84400723	○	7/32	0.625	0.871	2.500	0.250	4	1	●
84400823	●	1/4	0.625	-	2.500	0.250	6	2	●
84400923	●	9/32	0.750	1.033	2.500	0.313	6	2	●
84401023	●	5/16	0.750	-	2.750	0.313	6	2	●
84401123	●	3/8	1.000	-	3.000	0.375	6	2	●
84401223	●	7/16	1.125	-	3.000	0.438	6	2	●
84401323	●	1/2	1.125	-	3.500	0.500	6	2	●
84401423	●	5/8	1.500	-	4.000	0.625	6	2	●
84401523	●	3/4	1.750	-	4.250	0.750	6	2	●
84401623	●	1	2.500	-	4.500	1.000	8	2	-

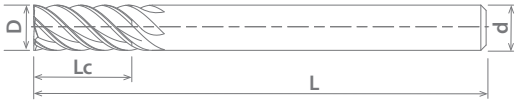
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

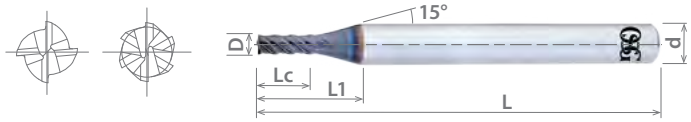
○ Good ◎ Best

List 8540

A BRAND AE-MS-H

NEW SIZES | SPEED FEED 1348-1349 | CARBIDE | DUROREY | 43° | SHANK h6 | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1mm ≤ D ≤ 20mm	+0 / -0.020mm

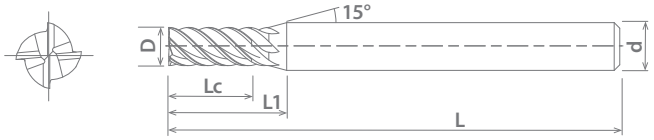


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes	Type	Center Cutting
8549710	●	1.00	2.50	12.70	60.00	6.00	4	1	-
8549715	●	1.50	3.80	13.00	60.00	6.00	4	1	-
85400023	○	1.50	4.00	-	60.00	6.00	4	1	-
8549720	●	2.00	5.00	13.90	60.00	6.00	4	1	-
85400123	○	2.00	6.00	-	60.00	6.00	4	1	-
8549725	●	2.50	6.30	14.50	60.00	6.00	4	1	-
85400223	●	2.50	8.00	-	60.00	6.00	4	1	-
8549730	●	3.00	7.50	15.40	60.00	6.00	4	1	●
85400323	●	3.00	8.00	-	60.00	6.00	4	1	●
8549740	●	4.00	10.00	16.10	60.00	6.00	4	1	●
8549750	●	5.00	12.50	16.70	60.00	6.00	4	1	●
8549760	●	6.00	15.00	-	60.00	6.00	6	2	●
8549780	●	8.00	20.00	-	70.00	8.00	6	2	●
8549810	●	10.00	25.00	-	80.00	10.00	6	2	●
8549812	●	12.00	30.00	-	90.00	12.00	6	2	●
8549816	●	16.00	40.00	-	105.00	16.00	6	2	●
8549820	●	20.00	50.00	-	120.00	20.00	6	2	●

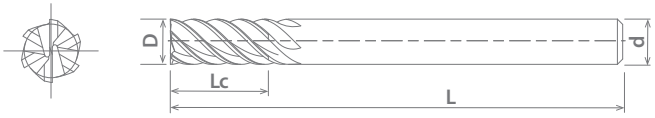
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

○ Good ◎ Best

A Brand AE-ML-H

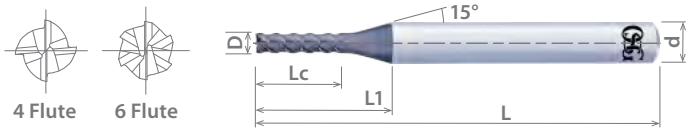
Advanced Performance Carbide End Mills with Long LOC for Hardened Steels

List 8442

A BRAND AE-ML-H

NEW | SPEED FEED 1350 | CARBIDE | DUROREY | 43° | SHANK h6 | LONG | PACKED 1 PIECE

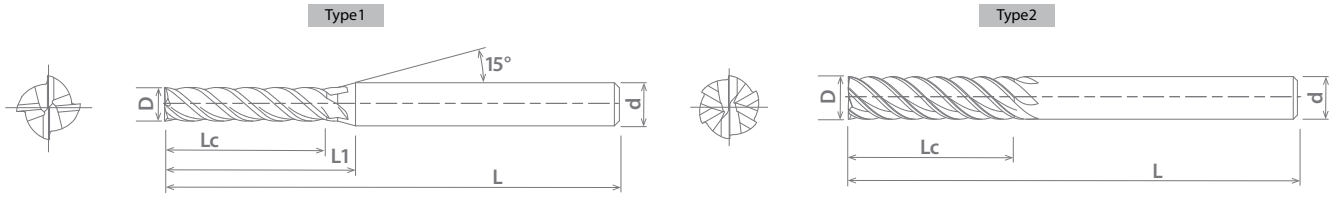
Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.0008"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type
84420123	●	1/8	0.500	0.863	2.500	0.250	4	1
84420223	●	3/16	0.750	1.046	2.500	0.250	4	1
84420323	●	1/4	1.000	-	2.750	0.250	6	2
84420423	●	5/16	1.250	-	3.750	0.313	6	2
84420523	●	3/8	1.500	-	4.000	0.375	6	2
84420623	●	1/2	2.000	-	4.500	0.500	6	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

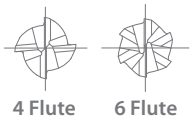
○ Good ◎ Best

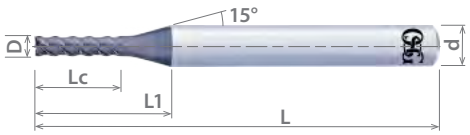
List 8542

A BRAND AE-ML-H

NEW | SPEED FEED 1350 | CARBIDE | DUROREY | 43° | SHANK h6 | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm



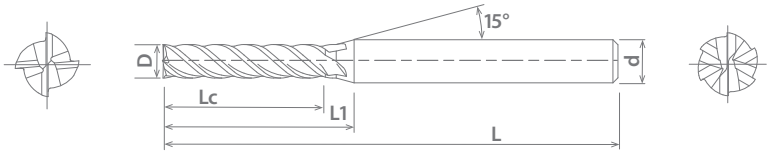


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes	Type
8550010	●	3.00	12.00	19.90	60.00	6.00	4	1
8550011	●	4.00	16.00	22.10	60.00	6.00	4	1
8550012	●	5.00	20.00	24.20	70.00	6.00	4	1
8550013	●	6.00	24.00	-	70.00	6.00	6	2
8550014	●	8.00	32.00	-	80.00	8.00	6	2
8550015	●	10.00	40.00	-	100.00	10.00	6	2
8550016	●	12.00	48.00	-	110.00	12.00	6	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○	○									○	○	◎	◎

○ Good ◎ Best

A Brand AE-VTS-N

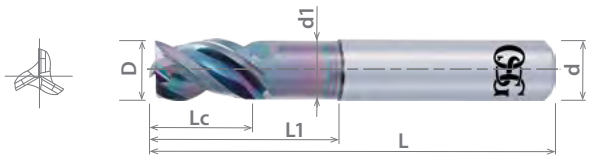
Advanced Performance DLC Coated End Mills for Non-Ferrous Materials

List 8830

A BRAND AE-VTS-N, Reduced Neck

NEW | SPEED FEED 1351-1352 | CARBIDE | DLC-IGUSS | 3 FLUTE | 40-43° | SHRINK FIT | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.0008"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
88300009	●	1/8	0.250	0.375	0.120	2.250	0.125
88300109	●	3/16	0.375	0.563	0.181	2.250	0.188
88300209	●	1/4	0.500	0.750	0.242	2.500	0.250
88300309	●	5/16	0.750	0.938	0.305	3.000	0.313
88300409	●	3/8	0.875	1.125	0.367	3.000	0.375
88300509	●	1/2	1.125	1.500	0.488	3.250	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

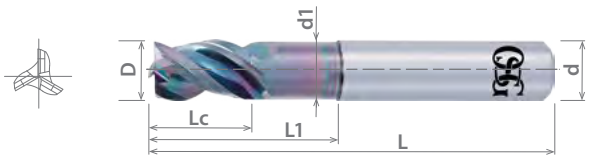
○ Good ◎ Best

List 8930

A BRAND AE-VTS-N, Reduced Neck

NEW | SPEED FEED 1351-1352 | CARBIDE | DLC-IGUSS | 3 FLUTE | 40-43° | SHRINK FIT | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1mm ≤ D ≤ 12mm	+0 / -0.020mm

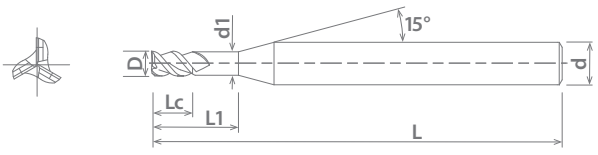


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8557243	●	1.00	1.50	3.00	0.95	45.00	4.00	1
8557244	●	1.50	2.30	4.50	1.45	45.00	4.00	1
8557245	●	2.00	3.00	6.00	1.95	45.00	4.00	1
8557246	●	2.50	3.80	7.50	2.40	45.00	4.00	1
8557360	●	3.00	4.50	9.00	2.85	55.00	6.00	1
8557361	●	4.00	6.00	12.00	3.80	55.00	6.00	1
8557362	●	5.00	7.50	15.00	4.80	55.00	6.00	1
8557363	●	6.00	9.00	18.00	5.80	60.00	6.00	2
8557364	●	8.00	12.00	24.00	7.70	70.00	8.00	2
8557365	●	10.00	15.00	30.00	9.70	75.00	10.00	2
8557366	●	12.00	18.00	36.00	11.70	80.00	12.00	2

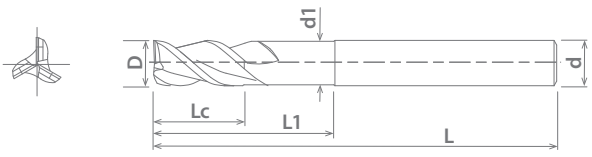
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

○ Good ◎ Best

A Brand AE-TL-N

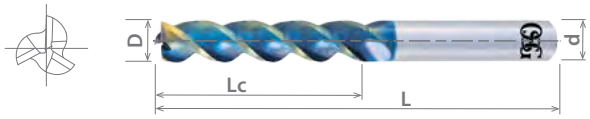
Advanced Performance DLC Coated End Mills for Non-Ferrous Materials

List 8630

A BRAND AE-TL-N

SPEED FEED 1353 | CARBIDE | DLC | 3 FLUTE | 41° | SHRINK FIT | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0008"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
86300009	●	1/8	0.375	1.500	0.125
86300109	●	1/8	0.500	2.500	0.125
86300209	●	3/16	0.563	2.000	0.188
86300309	●	3/16	0.750	2.250	0.188
86300409	●	1/4	0.750	2.500	0.250
86300509	●	1/4	1.000	2.500	0.250
86300609	●	1/4	1.250	3.000	0.250
86300709	●	5/16	0.938	2.500	0.313
86300809	●	3/8	1.125	3.000	0.375
86300909	●	3/8	1.500	4.000	0.375
86301009	●	1/2	1.500	4.000	0.500
86301109	●	1/2	2.000	4.000	0.500
86301209	●	1/2	2.500	5.000	0.500
86301309	●	5/8	1.875	5.000	0.625
86301409	●	5/8	2.500	5.000	0.625
86301509	●	5/8	3.125	6.000	0.625
86301609	●	3/4	2.250	5.000	0.750
86301709	●	3/4	3.000	6.000	0.750
86301809	●	1	3.000	6.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340						◎	◎						

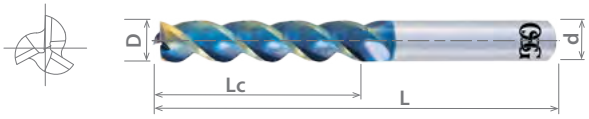
○ Good ◎ Best

List 8730

A BRAND AE-TL-N

SPEED FEED 1353 | CARBIDE | DLC | 3 FLUTE | 41° | SHRINK FIT | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm

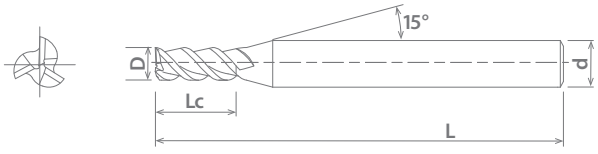


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8557340	●	3.00	9.00	55.00	6.00	1
8557350	●	3.00	15.00	55.00	6.00	1
8557341	●	4.00	12.00	55.00	6.00	1
8557351	●	4.00	20.00	60.00	6.00	1
8557342	●	5.00	15.00	55.00	6.00	1
8557352	●	5.00	25.00	65.00	6.00	1
8557343	●	6.00	18.00	60.00	6.00	2
8557353	●	6.00	30.00	75.00	6.00	2
8557344	●	8.00	24.00	70.00	8.00	2
8557354	●	8.00	40.00	90.00	8.00	2
8557345	●	10.00	30.00	75.00	10.00	2
8557355	●	10.00	50.00	100.00	10.00	2
8557346	●	12.00	36.00	80.00	12.00	2
8557356	●	12.00	60.00	110.00	12.00	2

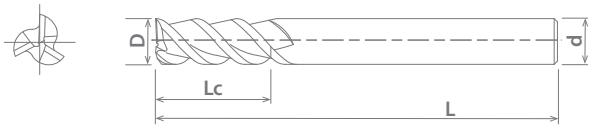
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

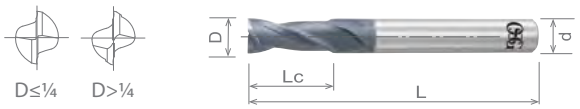
○ Good ◎ Best

List 3619

EXOCARB® WXL®-1.5D-DE

SPEED FEED 1354 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 7/16"	+0 / -0.0008"
1/2" ≤ D	+0 / -0.0012"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
36190001	●	1/16	0.094	2.000	0.125
36190002	●	5/64	0.125	2.000	0.125
36190003	●	3/32	0.141	2.000	0.125
36190004	●	7/64	0.172	2.000	0.125
36190005	●	1/8	0.188	2.000	0.125
36190006	●	5/32	0.234	2.000	0.188
36190007	●	3/16	0.281	2.000	0.188
36190008	●	1/4	0.375	2.500	0.250
36190009	●	5/16	0.469	2.500	0.313
36190010	●	3/8	0.563	2.750	0.375
36190011	●	7/16	0.656	3.000	0.438
36190012	●	1/2	0.750	3.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ Good ◎ Best

List 3720

EXOCARB® WXL®-1.5D-DE

SPEED FEED 1355-1356 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.1mm ≤ D ≤ 6mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3181801	●	0.10	0.15	45.00	4.00
3181802	●	0.20	0.30	45.00	4.00
3181803	●	0.30	0.45	45.00	4.00
3181804	●	0.40	0.60	45.00	4.00
3181805	●	0.50	0.75	45.00	4.00
3181806	●	0.60	0.90	45.00	4.00
3181807	●	0.70	1.10	45.00	4.00
3181808	●	0.80	1.20	45.00	4.00
3181809	●	0.90	1.40	45.00	4.00
3181810	●	1.00	1.50	45.00	4.00
3181811	●	1.10	1.70	45.00	4.00
3181812	●	1.20	1.80	45.00	4.00
3181813	●	1.30	2.00	45.00	4.00
3181814	●	1.40	2.10	45.00	4.00
3181815	●	1.50	2.30	45.00	4.00
3181816	●	1.60	2.40	45.00	4.00
3181817	●	1.70	2.60	45.00	4.00
3181818	●	1.80	2.70	45.00	4.00
3181819	●	1.90	2.90	45.00	4.00
3181820	●	2.00	3.00	45.00	4.00
3181821	●	2.10	3.20	45.00	4.00
3181822	●	2.20	3.30	45.00	4.00
3181823	●	2.30	3.50	45.00	4.00
3181824	●	2.40	3.60	45.00	4.00
3181825	●	2.50	3.80	45.00	4.00
3181826	●	2.60	3.90	45.00	4.00
3181827	●	2.70	4.10	45.00	4.00
3181828	●	2.80	4.20	45.00	4.00
3181829	●	2.90	4.40	45.00	4.00
3181830	●	3.00	4.50	45.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3181831	●	3.10	4.70	45.00	6.00
3181832	●	3.20	4.80	45.00	6.00
3181833	●	3.30	5.00	45.00	6.00
3181834	●	3.40	5.10	45.00	6.00
3181835	●	3.50	5.30	45.00	6.00
3181836	●	3.60	5.40	45.00	6.00
3181837	●	3.70	5.60	45.00	6.00
3181838	●	3.80	5.70	45.00	6.00
3181839	●	3.90	5.90	45.00	6.00
3181840	●	4.00	6.00	45.00	6.00
3181841	●	4.10	6.20	50.00	6.00
3181842	●	4.20	6.30	50.00	6.00
3181843	●	4.30	6.50	50.00	6.00
3181844	●	4.40	6.60	50.00	6.00
3181845	●	4.50	6.80	50.00	6.00
3181846	●	4.60	6.90	50.00	6.00
3181847	●	4.70	7.10	50.00	6.00
3181848	●	4.80	7.20	50.00	6.00
3181849	●	4.90	7.40	50.00	6.00
3181850	●	5.00	7.50	50.00	6.00
3181851	●	5.10	7.70	50.00	6.00
3181852	●	5.20	7.80	50.00	6.00
3181853	●	5.30	8.00	50.00	6.00
3181854	●	5.40	8.10	50.00	6.00
3181855	●	5.50	8.30	50.00	6.00
3181856	●	5.60	8.40	50.00	6.00
3181857	●	5.70	8.60	50.00	6.00
3181858	●	5.80	8.70	50.00	6.00
3181859	●	5.90	8.90	50.00	6.00
3181860	●	6.00	9.00	50.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

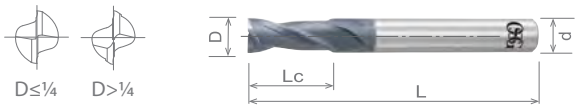
○ Good ◎ Best

List 3620

EXOCARB® WXL®-2D-DE

SPEED FEED 1357 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 7/16"	+0 / -0.0008"
1/2" ≤ D ≤ 3/4"	+0 / -0.0012"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
36200001	●	1/16	0.125	2.000	0.125
36200002	●	5/64	0.156	2.000	0.125
36200003	●	3/32	0.188	2.000	0.125
36200004	●	7/64	0.219	2.000	0.125
36200005	●	1/8	0.250	2.000	0.125
36200006	●	5/32	0.313	2.000	0.188
36200007	●	3/16	0.375	2.000	0.188
36200008	●	7/32	0.438	2.000	0.250
36200009	●	1/4	0.500	2.500	0.250
36200010	●	9/32	0.563	2.500	0.313
36200011	●	5/16	0.625	2.500	0.313
36200012	●	3/8	0.750	2.750	0.375
36200013	●	7/16	0.875	3.000	0.438
36200014	●	1/2	1.000	3.000	0.500
36200015	●	5/8	1.250	3.500	0.625
36200016	●	3/4	1.500	4.000	0.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

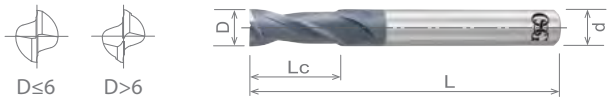
○ Good ◎ Best

List 3721

EXOCARB® WXL®-2D-DE

SPEED FEED 1358-1359 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.1mm ≤ D ≤ 12mm	+0 / -0.020mm
16mm ≤ D ≤ 20mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3182001	●	0.10	0.20	45.00	4.00
3182002	●	0.20	0.40	45.00	4.00
3182003	●	0.30	0.60	45.00	4.00
3182004	●	0.40	0.80	45.00	4.00
3182005	●	0.50	1.00	45.00	4.00
3182006	●	0.60	1.20	45.00	4.00
3182007	●	0.70	1.40	45.00	4.00
3182008	●	0.80	1.60	45.00	4.00
3182009	●	0.90	1.80	45.00	4.00
3182010	●	1.00	2.00	45.00	4.00
3182011	●	1.10	2.20	45.00	4.00
3182012	●	1.20	2.40	45.00	4.00
3182013	●	1.30	2.60	45.00	4.00
3182014	●	1.40	2.80	45.00	4.00
3182015	●	1.50	3.00	45.00	4.00
3182016	●	1.60	3.20	45.00	4.00
3182017	●	1.70	3.40	45.00	4.00
3182018	●	1.80	3.60	45.00	4.00
3182019	●	1.90	3.80	45.00	4.00
3182020	●	2.00	4.00	45.00	4.00
3182021	●	2.10	4.20	45.00	4.00
3182022	●	2.20	4.40	45.00	4.00
3182023	●	2.30	4.60	45.00	4.00
3182024	●	2.40	4.80	45.00	4.00
3182025	●	2.50	5.00	45.00	4.00
3182026	●	2.60	5.20	45.00	4.00
3182027	●	2.70	5.40	45.00	4.00
3182028	●	2.80	5.60	45.00	4.00
3182029	●	2.90	5.80	45.00	4.00
3182030	●	3.00	6.00	45.00	6.00
3182031	●	3.10	6.20	45.00	6.00
3182032	●	3.20	6.40	45.00	6.00
3182033	●	3.30	6.60	45.00	6.00
3182034	●	3.40	6.80	45.00	6.00
3182035	●	3.50	7.00	45.00	6.00
3182036	●	3.60	7.20	45.00	6.00
3182037	●	3.70	7.40	45.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3182038	●	3.80	7.60	45.00	6.00
3182039	●	3.90	7.80	45.00	6.00
3182040	●	4.00	8.00	45.00	6.00
3182041	●	4.10	8.20	50.00	6.00
3182042	●	4.20	8.40	50.00	6.00
3182043	●	4.30	8.60	50.00	6.00
3182044	●	4.40	8.80	50.00	6.00
3182045	●	4.50	9.00	50.00	6.00
3182046	●	4.60	9.20	50.00	6.00
3182047	●	4.70	9.40	50.00	6.00
3182048	●	4.80	9.60	50.00	6.00
3182049	●	4.90	9.80	50.00	6.00
3182050	●	5.00	10.00	50.00	6.00
3182051	●	5.10	10.20	50.00	6.00
3182052	●	5.20	10.40	50.00	6.00
3182053	●	5.30	10.60	50.00	6.00
3182054	●	5.40	10.80	50.00	6.00
3182055	●	5.50	11.00	50.00	6.00
3182056	●	5.60	11.20	50.00	6.00
3182057	●	5.70	11.40	50.00	6.00
3182058	●	5.80	11.60	50.00	6.00
3182059	●	5.90	11.80	50.00	6.00
3182060	●	6.00	12.00	50.00	6.00
3182065	●	6.50	13.00	60.00	8.00
3182070	●	7.00	14.00	60.00	8.00
3182075	●	7.50	15.00	60.00	8.00
3182080	●	8.00	16.00	60.00	8.00
3182085	●	8.50	17.00	70.00	10.00
3182090	●	9.00	18.00	70.00	10.00
3182095	●	9.50	19.00	70.00	10.00
3182100	●	10.00	20.00	70.00	10.00
3182110	●	11.00	22.00	75.00	12.00
3182120	●	12.00	24.00	75.00	12.00
3182160	●	16.00	32.00	90.00	16.00
3182180	●	18.00	36.00	90.00	16.00
3182200	●	20.00	40.00	100.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

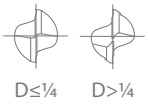
○ Good ◎ Best

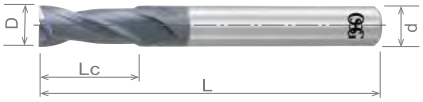
List 3621

EXOCARB® WXL®-3D-DE

SPEED FEED 1357 | CARBIDE | WXL | 2 FLUTE | 35° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 7/16"	+0 / -0.0008"
1/2" ≤ D ≤ 3/4"	+0 / -0.0012"





EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
36210001	●	1/16	0.188	2.000	0.125
36210002	●	5/64	0.234	2.000	0.125
36210003	●	3/32	0.281	2.000	0.125
36210004	●	7/64	0.328	2.000	0.125
36210005	●	1/8	0.375	2.000	0.125
36210006	●	5/32	0.469	2.000	0.188
36210007	●	3/16	0.563	2.250	0.188
36210008	●	7/32	0.656	2.500	0.250
36210009	●	1/4	0.750	2.500	0.250
36210010	●	9/32	0.844	2.750	0.313
36210011	●	5/16	0.938	2.750	0.313
36210012	●	3/8	1.125	3.000	0.375
36210013	●	7/16	1.313	3.250	0.438
36210014	●	1/2	1.500	3.500	0.500
36210015	●	5/8	1.875	4.250	0.625
36210016	●	3/4	2.250	5.000	0.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ Good ◎ Best

List 3722

EXOCARB® WXL®-3D-DE

SPEED FEED 1360-1361 | CARBIDE | WXL | 2 FLUTE | 35° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.1mm ≤ D ≤ 12mm	+0 / -0.020mm
16mm ≤ D ≤ 20mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3182401	●	0.10	0.30	45.00	4.00
3182402	●	0.20	0.60	45.00	4.00
3182403	●	0.30	0.90	45.00	4.00
3182404	●	0.40	1.20	45.00	4.00
3182405	●	0.50	1.50	45.00	4.00
3182406	●	0.60	1.80	45.00	4.00
3182407	●	0.70	2.10	45.00	4.00
3182408	●	0.80	2.40	45.00	4.00
3182409	●	0.90	2.70	45.00	4.00
3182410	●	1.00	3.00	45.00	4.00
3182411	●	1.10	3.30	45.00	4.00
3182412	●	1.20	3.60	45.00	4.00
3182413	●	1.30	3.90	45.00	4.00
3182414	●	1.40	4.20	45.00	4.00
3182415	●	1.50	4.50	45.00	4.00
3182416	●	1.60	4.80	45.00	4.00
3182417	●	1.70	5.10	45.00	4.00
3182418	●	1.80	5.40	45.00	4.00
3182419	●	1.90	5.70	45.00	4.00
3182420	●	2.00	6.00	45.00	4.00
3182421	●	2.10	6.30	45.00	4.00
3182422	●	2.20	6.60	45.00	4.00
3182423	●	2.30	6.90	45.00	4.00
3182424	●	2.40	7.20	45.00	4.00
3182425	●	2.50	7.50	45.00	4.00
3182426	●	2.60	7.80	45.00	4.00
3182427	●	2.70	8.10	45.00	4.00
3182428	●	2.80	8.40	45.00	4.00
3182429	●	2.90	8.70	45.00	4.00
3182430	●	3.00	9.00	45.00	6.00
3182431	●	3.10	9.30	45.00	6.00
3182432	●	3.20	9.60	45.00	6.00
3182433	●	3.30	9.90	45.00	6.00
3182434	●	3.40	10.20	45.00	6.00
3182435	●	3.50	10.50	45.00	6.00
3182436	●	3.60	10.80	45.00	6.00
3182437	●	3.70	11.10	45.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3182438	●	3.80	11.40	45.00	6.00
3182439	●	3.90	11.70	45.00	6.00
3182440	●	4.00	12.00	50.00	6.00
3182441	●	4.10	12.30	50.00	6.00
3182442	●	4.20	12.60	50.00	6.00
3182443	●	4.30	12.90	50.00	6.00
3182444	●	4.40	13.20	50.00	6.00
3182445	●	4.50	13.50	50.00	6.00
3182446	●	4.60	13.80	55.00	6.00
3182447	●	4.70	14.10	55.00	6.00
3182448	●	4.80	14.40	55.00	6.00
3182449	●	4.90	14.70	55.00	6.00
3182450	●	5.00	15.00	55.00	6.00
3182451	●	5.10	15.30	55.00	6.00
3182452	●	5.20	15.60	55.00	6.00
3182453	●	5.30	15.90	55.00	6.00
3182454	●	5.40	16.20	55.00	6.00
3182455	●	5.50	16.50	60.00	6.00
3182456	●	5.60	16.80	60.00	6.00
3182457	●	5.70	17.10	60.00	6.00
3182458	●	5.80	17.40	60.00	6.00
3182459	●	5.90	17.70	60.00	6.00
3182460	●	6.00	18.00	60.00	6.00
3182465	●	6.50	19.50	65.00	8.00
3182470	●	7.00	21.00	65.00	8.00
3182475	●	7.50	22.50	70.00	8.00
3182480	●	8.00	24.00	70.00	8.00
3182485	●	8.50	22.50	70.00	10.00
3182490	●	9.00	27.00	75.00	10.00
3182495	●	9.50	28.50	75.00	10.00
3182500	●	10.00	30.00	80.00	10.00
3182510	●	11.00	33.00	80.00	12.00
3182520	●	12.00	36.00	90.00	12.00
3182560	●	16.00	48.00	110.00	16.00
3182580	●	18.00	54.00	130.00	16.00
3182600	●	20.00	60.00	130.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7065	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

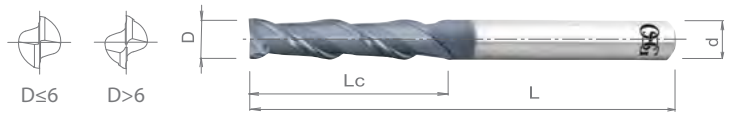
○ Good ◎ Best

List 3723

EXOCARB® WXL®-4D-DE

SPEED FEED 1362-1363 | CARBIDE | WXL | 2 FLUTE | 40° | SHANK h6 | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.1mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3182602	●	0.20	0.80	45.00	4.00
3182603	●	0.30	1.20	45.00	4.00
3182604	●	0.40	1.60	45.00	4.00
3182605	●	0.50	2.00	45.00	4.00
3182606	●	0.60	2.40	45.00	4.00
3182607	●	0.70	2.80	45.00	4.00
3182608	●	0.80	3.20	45.00	4.00
3182609	●	0.90	3.60	45.00	4.00
3182610	●	1.00	4.00	45.00	4.00
3182611	●	1.10	4.40	45.00	4.00
3182612	●	1.20	4.80	45.00	4.00
3182613	●	1.30	5.20	45.00	4.00
3182614	●	1.40	5.60	45.00	4.00
3182615	●	1.50	6.00	45.00	4.00
3182616	●	1.60	6.40	45.00	4.00
3182617	●	1.70	6.80	45.00	4.00
3182618	●	1.80	7.20	45.00	4.00
3182619	●	1.90	7.60	45.00	4.00
3182620	●	2.00	8.00	45.00	4.00
3182621	●	2.10	8.40	45.00	4.00
3182622	●	2.20	8.80	45.00	4.00
3182623	●	2.30	9.20	45.00	4.00
3182624	●	2.40	9.60	45.00	4.00
3182625	●	2.50	10.00	45.00	4.00
3182626	●	2.60	10.40	50.00	4.00
3182627	●	2.70	10.80	50.00	4.00
3182628	●	2.80	11.20	50.00	4.00
3182629	●	2.90	11.60	50.00	4.00
3182630	●	3.00	12.00	50.00	6.00
3182631	●	3.10	12.40	50.00	6.00
3182632	●	3.20	12.80	50.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3182633	●	3.30	13.20	50.00	6.00
3182634	●	3.40	13.60	50.00	6.00
3182635	●	3.50	14.00	50.00	6.00
3182636	●	3.60	14.40	50.00	6.00
3182637	●	3.70	14.80	50.00	6.00
3182638	●	3.80	15.20	50.00	6.00
3182639	●	3.90	15.60	50.00	6.00
3182640	●	4.00	16.00	55.00	6.00
3182641	●	4.10	16.40	55.00	6.00
3182642	●	4.20	16.80	55.00	6.00
3182643	●	4.30	17.20	55.00	6.00
3182644	●	4.40	17.60	55.00	6.00
3182645	●	4.50	18.00	55.00	6.00
3182646	●	4.60	18.40	55.00	6.00
3182647	●	4.70	18.80	55.00	6.00
3182648	●	4.80	19.20	55.00	6.00
3182649	●	4.90	19.60	55.00	6.00
3182650	●	5.00	20.00	60.00	6.00
3182651	●	5.10	20.40	60.00	6.00
3182652	●	5.20	20.80	60.00	6.00
3182653	●	5.30	21.20	60.00	6.00
3182654	●	5.40	21.60	60.00	6.00
3182655	●	5.50	22.00	65.00	6.00
3182656	●	5.60	22.40	65.00	6.00
3182657	●	5.70	22.80	65.00	6.00
3182658	●	5.80	23.20	65.00	6.00
3182659	●	5.90	23.60	65.00	6.00
3182660	●	6.00	24.00	65.00	6.00
3182680	●	8.00	32.00	80.00	8.00
3182700	●	10.00	40.00	90.00	10.00
3182720	●	12.00	48.00	100.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

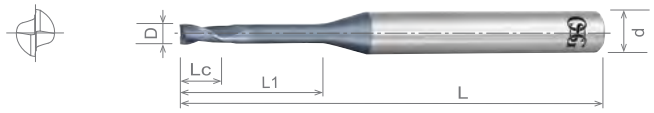
○ Good ◎ Best

List 3791

EXOCARB® WXL®-LN-EDS, Long Neck, Rib Processing

SPEED FEED 1364-1367 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.2mm ≤ D ≤ 5mm	+0 / -0.015mm



EDP Number		Dia. D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)
3131201	●	0.20	0.30	0.50	45.00	4.00
3131202	●	0.20	0.30	1.00	45.00	4.00
3131203	●	0.20	0.30	1.50	45.00	4.00
3131204	●	0.20	0.30	2.00	45.00	4.00
3131205	●	0.20	0.30	2.50	45.00	4.00
3131206	●	0.20	0.30	3.00	45.00	4.00
3131207	●	0.20	0.30	3.50	45.00	4.00
3131208	●	0.20	0.30	4.00	45.00	4.00
3131302	●	0.30	0.45	1.00	45.00	4.00
3131303	●	0.30	0.45	1.50	45.00	4.00
3131304	●	0.30	0.45	2.00	45.00	4.00
3131305	●	0.30	0.45	2.50	45.00	4.00
3131306	●	0.30	0.45	3.00	45.00	4.00
3131308	●	0.30	0.45	4.00	45.00	4.00
3131310	●	0.30	0.45	5.00	45.00	4.00
3131312	●	0.30	0.45	6.00	45.00	4.00
3131318	●	0.30	0.45	9.00	45.00	4.00
3131403	●	0.40	0.60	1.50	45.00	4.00
3131404	●	0.40	0.60	2.00	45.00	4.00
3131406	●	0.40	0.60	3.00	45.00	4.00
3131408	●	0.40	0.60	4.00	45.00	4.00
3131410	●	0.40	0.60	5.00	45.00	4.00
3131412	●	0.40	0.60	6.00	45.00	4.00
3131414	●	0.40	0.60	7.00	45.00	4.00
3131416	●	0.40	0.60	8.00	45.00	4.00
3131418	●	0.40	0.60	9.00	45.00	4.00
3131420	●	0.40	0.60	10.00	45.00	4.00
3131424	●	0.40	0.60	12.00	45.00	4.00
3131501	●	0.50	0.70	1.50	45.00	4.00
3131502	●	0.50	0.70	2.00	45.00	4.00
3131503	●	0.50	0.70	3.00	45.00	4.00
3131504	●	0.50	0.70	4.00	45.00	4.00
3131505	●	0.50	0.70	5.00	45.00	4.00
3131506	●	0.50	0.70	6.00	45.00	4.00
3131507	●	0.50	0.70	7.00	45.00	4.00
3131508	●	0.50	0.70	8.00	45.00	4.00
3131509	●	0.50	0.70	9.00	45.00	4.00
3131510	●	0.50	0.70	10.00	45.00	4.00
3131512	●	0.50	0.70	12.00	45.00	4.00
3131515	●	0.50	0.70	15.00	50.00	4.00
3131602	●	0.60	0.90	2.00	45.00	4.00
3131603	●	0.60	0.90	3.00	45.00	4.00
3131604	●	0.60	0.90	4.00	45.00	4.00
3131605	●	0.60	0.90	5.00	45.00	4.00
3131606	●	0.60	0.90	6.00	45.00	4.00
3131607	●	0.60	0.90	7.00	45.00	4.00
3131608	●	0.60	0.90	8.00	45.00	4.00
3131610	●	0.60	0.90	10.00	45.00	4.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Dia. D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)
3131612	●	0.60	0.90	12.00	45.00	4.00
3131615	●	0.60	0.90	15.00	50.00	4.00
3131618	●	0.60	0.90	18.00	50.00	4.00
3131702	●	0.70	1.00	2.00	45.00	4.00
3131704	●	0.70	1.00	4.00	45.00	4.00
3131706	●	0.70	1.00	6.00	45.00	4.00
3131708	●	0.70	1.00	8.00	45.00	4.00
3131710	●	0.70	1.00	10.00	45.00	4.00
3131804	●	0.80	1.20	4.00	45.00	4.00
3131806	●	0.80	1.20	6.00	45.00	4.00
3131808	●	0.80	1.20	8.00	45.00	4.00
3131810	●	0.80	1.20	10.00	45.00	4.00
3131812	●	0.80	1.20	12.00	45.00	4.00
3131814	●	0.80	1.20	14.00	50.00	4.00
3131816	●	0.80	1.20	16.00	50.00	4.00
3131820	●	0.80	1.20	20.00	55.00	4.00
3131824	●	0.80	1.20	24.00	60.00	4.00
3131904	●	0.90	1.35	4.00	45.00	4.00
3131906	●	0.90	1.35	6.00	45.00	4.00
3131908	●	0.90	1.35	8.00	45.00	4.00
3131910	●	0.90	1.35	10.00	45.00	4.00
3131915	●	0.90	1.35	15.00	50.00	4.00
3132003	●	1.00	1.50	3.00	45.00	4.00
3132004	●	1.00	1.50	4.00	45.00	4.00
3132005	●	1.00	1.50	5.00	45.00	4.00
3132006	●	1.00	1.50	6.00	45.00	4.00
3132007	●	1.00	1.50	7.00	45.00	4.00
3132008	●	1.00	1.50	8.00	45.00	4.00
3132009	●	1.00	1.50	9.00	45.00	4.00
3132010	●	1.00	1.50	10.00	45.00	4.00
3132012	●	1.00	1.50	12.00	45.00	4.00
3132014	●	1.00	1.50	14.00	50.00	4.00
3132016	●	1.00	1.50	16.00	50.00	4.00
3132018	●	1.00	1.50	18.00	55.00	4.00
3132020	●	1.00	1.50	20.00	55.00	4.00
3132022	●	1.00	1.50	22.00	60.00	4.00
3132025	●	1.00	1.50	25.00	60.00	4.00
3132030	●	1.00	1.50	30.00	70.00	4.00
3132204	●	1.20	1.80	4.00	45.00	4.00
3132206	●	1.20	1.80	6.00	45.00	4.00
3132208	●	1.20	1.80	8.00	45.00	4.00
3132210	●	1.20	1.80	10.00	45.00	4.00
3132212	●	1.20	1.80	12.00	45.00	4.00
3132214	●	1.20	1.80	14.00	50.00	4.00
3132216	●	1.20	1.80	16.00	50.00	4.00
3132220	●	1.20	1.80	20.00	55.00	4.00
3132406	●	1.40	2.10	6.00	45.00	4.00
3132408	●	1.40	2.10	8.00	45.00	4.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	◎	○	

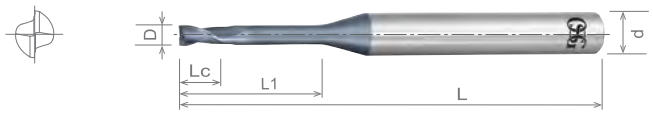
○ Good ◎ Best

List 3791 (Continued)

SPEED FEED 1364-1367 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

EXOCARB® WXL®-LN-EDS, Long Neck, Rib Processing

Cutting Diameter Tolerance	
0.2mm ≤ D ≤ 5mm	+0 / -0.015mm



EDP Number		Dia. D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)
3132410	●	1.40	2.10	10.00	45.00	4.00
3132412	●	1.40	2.10	12.00	45.00	4.00
3132414	●	1.40	2.10	14.00	50.00	4.00
3132416	●	1.40	2.10	16.00	50.00	4.00
3132422	●	1.40	2.10	22.00	60.00	4.00
3132504	●	1.50	2.30	4.00	45.00	4.00
3132506	●	1.50	2.30	6.00	45.00	4.00
3132508	●	1.50	2.30	8.00	45.00	4.00
3132510	●	1.50	2.30	10.00	45.00	4.00
3132512	●	1.50	2.30	12.00	45.00	4.00
3132514	●	1.50	2.30	14.00	50.00	4.00
3132516	●	1.50	2.30	16.00	50.00	4.00
3132518	●	1.50	2.30	18.00	55.00	4.00
3132520	●	1.50	2.30	20.00	55.00	4.00
3132525	●	1.50	2.30	25.00	60.00	4.00
3132530	●	1.50	2.30	30.00	70.00	4.00
3132538	●	1.50	2.30	38.00	80.00	4.00
3132540	●	1.50	2.30	40.00	80.00	4.00
3132545	●	1.50	2.30	45.00	80.00	4.00
3132606	●	1.60	2.40	6.00	45.00	4.00
3132608	●	1.60	2.40	8.00	45.00	4.00
3132610	●	1.60	2.40	10.00	45.00	4.00
3132612	●	1.60	2.40	12.00	45.00	4.00
3132614	●	1.60	2.40	14.00	50.00	4.00
3132616	●	1.60	2.40	16.00	50.00	4.00
3132618	●	1.60	2.40	18.00	55.00	4.00
3132620	●	1.60	2.40	20.00	55.00	4.00
3132806	●	1.80	2.70	6.00	45.00	4.00
3132808	●	1.80	2.70	8.00	45.00	4.00
3132810	●	1.80	2.70	10.00	45.00	4.00
3132812	●	1.80	2.70	12.00	45.00	4.00
3132814	●	1.80	2.70	14.00	50.00	4.00
3132816	●	1.80	2.70	16.00	50.00	4.00
3132818	●	1.80	2.70	18.00	55.00	4.00
3132820	●	1.80	2.70	20.00	55.00	4.00
3132825	●	1.80	2.70	25.00	60.00	4.00
3133006	●	2.00	3.00	6.00	45.00	4.00
3133008	●	2.00	3.00	8.00	45.00	4.00
3133010	●	2.00	3.00	10.00	45.00	4.00
3133012	●	2.00	3.00	12.00	45.00	4.00
3133014	●	2.00	3.00	14.00	50.00	4.00
3133016	●	2.00	3.00	16.00	50.00	4.00
3133018	●	2.00	3.00	18.00	55.00	4.00
3133020	●	2.00	3.00	20.00	55.00	4.00
3133025	●	2.00	3.00	25.00	60.00	4.00
3133030	●	2.00	3.00	30.00	70.00	4.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Dia. D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)
3133035	●	2.00	3.00	35.00	80.00	4.00
3133040	●	2.00	3.00	40.00	90.00	4.00
3133050	●	2.00	3.00	50.00	100.00	4.00
3133060	●	2.00	3.00	60.00	110.00	4.00
3133508	●	2.50	3.70	8.00	45.00	4.00
3133510	●	2.50	3.70	10.00	45.00	4.00
3133512	●	2.50	3.70	12.00	45.00	4.00
3133514	●	2.50	3.70	14.00	50.00	4.00
3133516	●	2.50	3.70	16.00	55.00	4.00
3133518	●	2.50	3.70	18.00	55.00	4.00
3133520	●	2.50	3.70	20.00	60.00	4.00
3133525	●	2.50	3.70	25.00	70.00	4.00
3133530	●	2.50	3.70	30.00	80.00	4.00
3133540	●	2.50	3.70	40.00	90.00	4.00
3133550	●	2.50	3.70	50.00	100.00	4.00
3134008	●	3.00	4.50	8.00	45.00	6.00
3134010	●	3.00	4.50	10.00	45.00	6.00
3134012	●	3.00	4.50	12.00	45.00	6.00
3134014	●	3.00	4.50	14.00	50.00	6.00
3134016	●	3.00	4.50	16.00	55.00	6.00
3134018	●	3.00	4.50	18.00	55.00	6.00
3134020	●	3.00	4.50	20.00	60.00	6.00
3134025	●	3.00	4.50	25.00	65.00	6.00
3134030	●	3.00	4.50	30.00	80.00	6.00
3134035	●	3.00	4.50	35.00	90.00	6.00
3134040	●	3.00	4.50	40.00	90.00	6.00
3134050	●	3.00	4.50	50.00	100.00	6.00
3135012	●	4.00	6.00	12.00	50.00	6.00
3135016	●	4.00	6.00	16.00	60.00	6.00
3135020	●	4.00	6.00	20.00	60.00	6.00
3135025	●	4.00	6.00	25.00	70.00	6.00
3135030	●	4.00	6.00	30.00	80.00	6.00
3135035	●	4.00	6.00	35.00	90.00	6.00
3135040	●	4.00	6.00	40.00	90.00	6.00
3135045	●	4.00	6.00	45.00	100.00	6.00
3135050	●	4.00	6.00	50.00	100.00	6.00
3135060	●	4.00	6.00	60.00	110.00	6.00
3136016	●	5.00	7.50	16.00	60.00	6.00
3136020	●	5.00	7.50	20.00	70.00	6.00
3136025	●	5.00	7.50	25.00	70.00	6.00
3136030	●	5.00	7.50	30.00	90.00	6.00
3136035	●	5.00	7.50	35.00	90.00	6.00
3136040	●	5.00	7.50	40.00	100.00	6.00
3136050	●	5.00	7.50	50.00	110.00	6.00
3136060	●	5.00	7.50	60.00	120.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	◎	○	

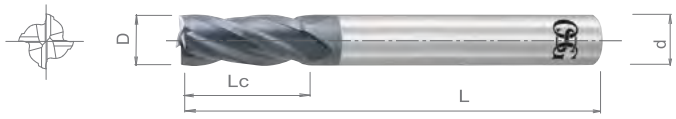
○ Good ◎ Best

List 3604

EXOCARB® WXL®-EMS

SPEED FEED 1368 | CARBIDE | WXL | 4 FLUTE | 30° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.0008"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
36040111	●	1/16	0.188	1.500	0.125
36040211	●	5/64	0.250	1.500	0.125
36040311	●	3/32	0.375	1.500	0.125
36040411	●	7/64	0.375	1.500	0.125
36040511	●	1/8	0.500	1.500	0.125
36040611	●	5/32	0.563	2.000	0.188
36040711	●	3/16	0.625	2.000	0.188
36040811	●	7/32	0.625	2.500	0.250
36040911	●	1/4	0.750	2.500	0.250
36041011	●	9/32	0.750	2.500	0.313
36041111	●	5/16	0.813	2.500	0.313
36041211	●	3/8	1.000	2.500	0.375
36041311	●	7/16	1.000	2.750	0.438
36041411	●	1/2	1.000	3.000	0.500
36041511	●	5/8	1.250	3.500	0.625
36041611	●	3/4	1.500	4.000	0.750
36041711	●	1	1.500	4.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

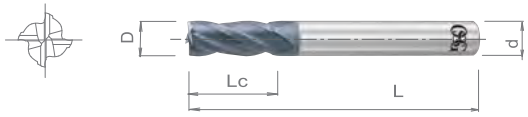
○ Good ◎ Best

List 3704

EXOCAR® WXL®-EMS

SPEED FEED 1369 | CARBIDE | WXL | 4 FLUTE | 30° | SHANK h6 | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L (mm)	d (mm)
3130510	●	1.00	2.50	40.00	4.00
3130515	●	1.50	4.00	40.00	4.00
3130520	●	2.00	6.00	40.00	4.00
3130525	●	2.50	8.00	40.00	4.00
3130530	●	3.00	8.00	45.00	6.00
3130535	●	3.50	10.00	45.00	6.00
3130540	●	4.00	11.00	45.00	6.00
3130545	●	4.50	11.00	45.00	6.00
3130550	●	5.00	13.00	50.00	6.00
3130560	●	6.00	13.00	50.00	6.00
3130570	●	7.00	16.00	60.00	8.00
3130580	●	8.00	19.00	60.00	8.00
3130590	●	9.00	19.00	70.00	10.00
3130600	●	10.00	22.00	70.00	10.00
3130620	●	12.00	26.00	75.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

List 3794

EXOCARB® WXL®-LN-EMS, Long Neck, Rib Processing

SPEED FEED 1370-1371 | CARBIDE | WXL | 4 FLUTE | 35° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1mm ≤ D ≤ 3mm	+0 / -0.015mm



EDP Number		Dia. D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Dia. d1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)
3172004	●	1.00	1.50	4.00	0.95	45.00	4.00
3172006	●	1.00	1.50	6.00	0.95	45.00	4.00
3172008	●	1.00	1.50	8.00	0.95	45.00	4.00
3172010	●	1.00	1.50	10.00	0.95	45.00	4.00
3172012	●	1.00	1.50	12.00	0.95	45.00	4.00
3172016	●	1.00	1.50	16.00	0.95	50.00	4.00
3172206	●	1.20	1.80	6.00	1.15	45.00	4.00
3172208	●	1.20	1.80	8.00	1.15	45.00	4.00
3172210	●	1.20	1.80	10.00	1.15	45.00	4.00
3172212	●	1.20	1.80	12.00	1.15	45.00	4.00
3172216	●	1.20	1.80	16.00	1.15	50.00	4.00
3172406	●	1.40	2.10	6.00	1.35	45.00	4.00
3172408	●	1.40	2.10	8.00	1.35	45.00	4.00
3172410	●	1.40	2.10	10.00	1.35	45.00	4.00
3172412	●	1.40	2.10	12.00	1.35	45.00	4.00
3172414	●	1.40	2.10	14.00	1.35	50.00	4.00
3172416	●	1.40	2.10	16.00	1.35	50.00	4.00
3172422	●	1.40	2.10	22.00	1.35	60.00	4.00
3172506	●	1.50	2.30	6.00	1.45	45.00	4.00
3172508	●	1.50	2.30	8.00	1.45	45.00	4.00
3172510	●	1.50	2.30	10.00	1.45	45.00	4.00
3172512	●	1.50	2.30	12.00	1.45	45.00	4.00
3172514	●	1.50	2.30	14.00	1.45	50.00	4.00
3172516	●	1.50	2.30	16.00	1.45	50.00	4.00
3172518	●	1.50	2.30	18.00	1.45	55.00	4.00
3172520	●	1.50	2.30	20.00	1.45	55.00	4.00
3172606	●	1.60	2.40	6.00	1.55	45.00	4.00
3172608	●	1.60	2.40	8.00	1.55	45.00	4.00
3172610	●	1.60	2.40	10.00	1.55	45.00	4.00
3172612	●	1.60	2.40	12.00	1.55	45.00	4.00
3172614	●	1.60	2.40	14.00	1.55	50.00	4.00
3172616	●	1.60	2.40	16.00	1.55	50.00	4.00
3172618	●	1.60	2.40	18.00	1.55	55.00	4.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Dia. D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Dia. d1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)
3172620	●	1.60	2.40	20.00	1.55	55.00	4.00
3172625	●	1.60	2.40	25.00	1.55	60.00	4.00
3172806	●	1.80	2.70	6.00	1.75	45.00	4.00
3172808	●	1.80	2.70	8.00	1.75	45.00	4.00
3172810	●	1.80	2.70	10.00	1.75	45.00	4.00
3172812	●	1.80	2.70	12.00	1.75	45.00	4.00
3172814	●	1.80	2.70	14.00	1.75	50.00	4.00
3172816	●	1.80	2.70	16.00	1.75	50.00	4.00
3172818	●	1.80	2.70	18.00	1.75	55.00	4.00
3172820	●	1.80	2.70	20.00	1.75	55.00	4.00
3172825	●	1.80	2.70	25.00	1.75	60.00	4.00
3173006	●	2.00	3.00	6.00	1.95	45.00	4.00
3173008	●	2.00	3.00	8.00	1.95	45.00	4.00
3173010	●	2.00	3.00	10.00	1.95	45.00	4.00
3173012	●	2.00	3.00	12.00	1.95	45.00	4.00
3173014	●	2.00	3.00	14.00	1.95	50.00	4.00
3173016	●	2.00	3.00	16.00	1.95	50.00	4.00
3173018	●	2.00	3.00	18.00	1.95	55.00	4.00
3173020	●	2.00	3.00	20.00	1.95	55.00	4.00
3173025	●	2.00	3.00	25.00	1.95	60.00	4.00
3173030	●	2.00	3.00	30.00	1.95	70.00	4.00
3173508	●	2.50	3.70	8.00	2.40	45.00	4.00
3173512	●	2.50	3.70	12.00	2.40	45.00	4.00
3173516	●	2.50	3.70	16.00	2.40	55.00	4.00
3173520	●	2.50	3.70	20.00	2.40	60.00	4.00
3173525	●	2.50	3.70	25.00	2.40	70.00	4.00
3174008	●	3.00	4.50	8.00	2.85	45.00	6.00
3174012	●	3.00	4.50	12.00	2.85	45.00	6.00
3174016	●	3.00	4.50	16.00	2.85	55.00	6.00
3174020	●	3.00	4.50	20.00	2.85	60.00	6.00
3174025	●	3.00	4.50	25.00	2.85	65.00	6.00
3174030	●	3.00	4.50	30.00	2.85	80.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

List 3642

EXOCARB® WXL®-EML

SPEED FEED 1372 | CARBIDE | WXL | 4 FLUTE | 30° | SHANK h6 | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1/2"	+0 / -0.0008"
5/8" ≤ D	+0 / -0.0012"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
36420012	●	1/16	0.250	1.500	0.125
36420112	○	5/64	0.313	1.500	0.125
36420212	●	3/32	0.500	1.500	0.125
36420312	○	7/64	0.500	1.500	0.125
36420412	●	1/8	0.625	1.500	0.125
36420512	●	5/32	0.688	2.000	0.188
36420612	●	3/16	0.750	2.000	0.188
36420712	●	7/32	0.875	2.500	0.250
36420812	●	1/4	1.000	2.500	0.250
36420912	●	5/16	1.125	3.000	0.313
36421012	●	3/8	1.375	4.000	0.375
36421112	●	1/2	1.625	4.000	0.500
36421212	●	5/8	2.000	5.000	0.625

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

List 3742

EXOCARB® WXL®-EML

SPEED FEED 1372 | CARBIDE | WXL | 4 FLUTE | 30° | SHANK h6 | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 26mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
37420000	●	3.00	12.00	50.00	6.00
37420001	●	3.50	14.00	50.00	6.00
37420002	●	4.00	17.00	50.00	6.00
37420003	●	4.50	17.00	50.00	6.00
37420004	●	5.00	20.00	60.00	6.00
37420005	●	5.50	20.00	60.00	6.00
37420006	●	6.00	20.00	60.00	6.00
37420007	●	6.50	24.00	70.00	8.00
37420008	●	7.00	24.00	70.00	8.00
37420009	●	7.50	24.00	70.00	8.00
37420010	●	8.00	28.00	70.00	8.00
37420011	●	8.50	28.00	80.00	10.00
37420012	●	9.00	28.00	80.00	10.00
37420013	●	9.50	28.00	80.00	10.00
37420014	●	10.00	34.00	80.00	10.00
37420015	●	10.50	34.00	90.00	12.00
37420016	●	11.00	34.00	90.00	12.00
37420017	●	11.50	34.00	90.00	12.00
37420018	●	12.00	40.00	90.00	12.00
37420019	●	13.00	40.00	100.00	12.00
37420020	●	14.00	40.00	100.00	12.00
37420021	●	15.00	40.00	105.00	16.00
37420022	●	16.00	48.00	115.00	16.00
37420023	●	18.00	48.00	115.00	16.00
37420024	●	20.00	56.00	125.00	20.00
37420025	●	23.00	67.00	140.00	25.00
37420026	●	24.00	67.00	140.00	25.00
37420027	●	25.00	67.00	140.00	25.00
37420028	●	26.00	67.00	140.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

List 9140

EXOCARB® MAX HARD-EMS

SPEED FEED	CARBIDE	WXS	6 FLUTE	45°			SHANK h6	REG	PACKED 1 PIECE
1373									

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
91400311	●	3.00	8.00	45.00	6.00
91400411	●	4.00	11.00	45.00	6.00
91400511	●	5.00	13.00	50.00	6.00
91400611	●	6.00	13.00	50.00	6.00
91400811	●	8.00	19.00	60.00	8.00
91401011	●	10.00	22.00	70.00	10.00
91401211	●	12.00	26.00	75.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	○

○ Good ◎ Best

List 2100

EXOCARB® AERO UVX-TI-5FL

SPEED FEED	CARBIDE	EXO	5 FLUTE	41-43°			SHANK	STUB	REG	LONG	PACKED
1374							h6				1 PIECE

Cutting Diameter Tolerance	
1/2" ≤ D ≤ 1-1/4"	+0 / -0.002"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
21000711	●	1/2	0.625	2.500	0.500
21000811	●	1/2	1.000	3.000	0.500
21000911	●	1/2	1.250	3.500	0.500
21001011	●	1/2	1.625	3.500	0.500
21001111	●	5/8	1.250	3.500	0.625
21001211	●	5/8	1.875	4.000	0.625
21001311	●	3/4	1.500	4.000	0.750
21001411	●	3/4	2.250	5.000	0.750
21001511	●	1	1.500	4.000	1.000
21001611	●	1	3.000	6.000	1.000
21001711	●	1-1/4	1.500	4.000	1.250
21001811	●	1-1/4	3.000	6.000	1.250
21001911	●	1-1/4	4.000	7.000	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					○	○	○					◎				

○ Good ◎ Best

EXOCARB® AERO UVX-Ti

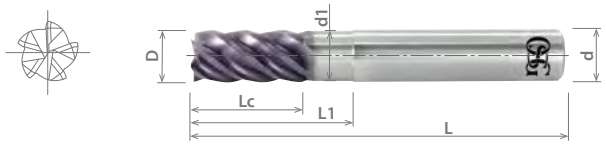
Variable Lead End Mill for Titanium Alloy

List 2102

EXOCARB® AERO UVX-TI-LN-5FL, Reduced Neck

SPEED FEED	CARBIDE	EXO	5 FLUTE	41-43°			SHANK	REG	PACKED
1374							h6		1 PIECE

Cutting Diameter Tolerance	
1/2" ≤ D ≤ 1-1/4"	+0 / -0.002"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
21020011	●	1/2	1.000	1.500	0.480	3.500	0.500
21020111	●	5/8	1.250	1.875	0.605	4.000	0.625
21020211	●	3/4	1.500	2.250	0.730	6.500	0.750
21020311	●	1	2.000	3.000	0.980	5.500	1.000
21020411	●	1-1/4	2.500	3.750	1.230	6.000	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					○	○	○					◎				

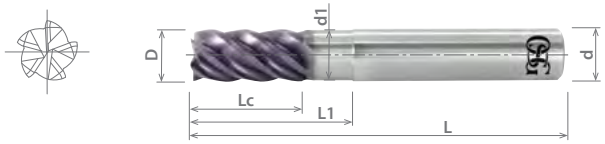
○ Good ◎ Best

List 2104

EXOCARB® AERO UVX-TI-LN-5FL, Reduced Neck

SPEED FEED	CARBIDE	EXO	5 FLUTE	41-43°			SHANK	REG	PACKED
1375							h6		1 PIECE

Cutting Diameter Tolerance	
12mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
8555320	●	12.00	24.00	36.00	11.50	90.00	12.00
8555360	●	16.00	32.00	48.00	15.50	100.00	16.00
8555400	●	20.00	40.00	60.00	19.50	120.00	20.00
8555450	●	25.00	50.00	75.00	24.50	140.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					○	○	○					◎				

○ Good ◎ Best

EXOCARB® AERO DLC-CR

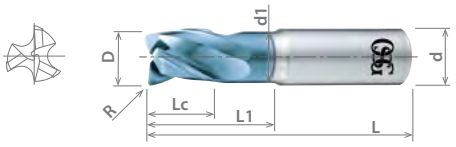
High Speed Carbide End Mills for Aluminum Alloy

List 2873

EXOCARB® AERO-ETS

SPEED FEED 1376 | CARBIDE | DLC | 3 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/2" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
28730050	●	1/2	-	0.750	2.205	0.461	4.000	0.500
28730000	●	1/2	0.030	0.750	2.205	0.461	4.000	0.500
28730100	●	1/2	0.060	0.750	2.205	0.461	4.000	0.500
28730200	●	1/2	0.090	0.750	2.205	0.461	4.000	0.500
28730300	●	1/2	0.120	0.750	2.205	0.461	4.000	0.500
28731050	●	5/8	-	1.000	2.205	0.559	4.000	0.625
28731000	●	5/8	0.030	1.000	2.205	0.559	4.000	0.625
28731100	●	5/8	0.060	1.000	2.205	0.559	4.000	0.625
28731200	●	5/8	0.090	1.000	2.205	0.559	4.000	0.625
28731300	●	5/8	0.120	1.000	2.205	0.559	4.000	0.625
28731400	●	5/8	0.190	1.000	2.205	0.559	4.000	0.625
28732050	●	3/4	-	1.125	2.205	0.669	4.000	0.750
28732100	●	3/4	0.030	1.125	2.205	0.669	4.000	0.750
28732200	●	3/4	0.060	1.125	2.205	0.669	4.000	0.750
28732300	●	3/4	0.090	1.125	2.205	0.669	4.000	0.750
28732400	●	3/4	0.120	1.125	2.205	0.669	4.000	0.750
28732500	●	3/4	0.190	1.125	2.205	0.669	4.000	0.750
28734050	●	7/8	-	1.313	2.205	0.787	4.000	0.875
28734400	●	7/8	0.030	1.313	2.205	0.787	4.000	0.875
28734500	●	7/8	0.060	1.313	2.205	0.787	4.000	0.875
28734600	●	7/8	0.090	1.313	2.205	0.787	4.000	0.875
28734700	●	7/8	0.120	1.313	2.205	0.787	4.000	0.875
28734800	●	7/8	0.190	1.313	2.205	0.787	4.000	0.875
28735050	●	1	-	1.500	2.205	0.921	4.000	1.000
28735500	●	1	0.030	1.500	2.205	0.921	4.000	1.000
28735600	●	1	0.060	1.500	2.205	0.921	4.000	1.000
28735700	●	1	0.090	1.500	2.205	0.921	4.000	1.000
28735800	●	1	0.120	1.500	2.205	0.921	4.000	1.000
28735900	●	1	0.190	1.500	2.205	0.921	4.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340						◎	◎						

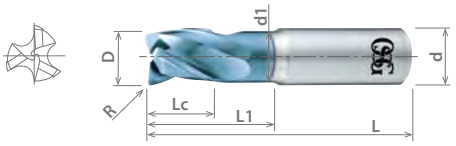
○ Good ◎ Best

List 2973

EXOCARB® AERO-ETS

SPEED FEED 1376 | CARBIDE | DLC | 3 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
12mm ≤ D ≤ 25mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8533249	●	12.00	-	18.00	55.00	11.00	100.00	12.00
8533250	●	12.00	1.00	18.00	55.00	11.00	100.00	12.00
8533251	●	12.00	1.60	18.00	55.00	11.00	100.00	12.00
8533252	●	12.00	3.00	18.00	55.00	11.00	100.00	12.00
8533253	●	16.00	-	24.00	55.00	14.40	100.00	16.00
8533254	●	16.00	1.00	24.00	55.00	14.40	100.00	16.00
8533255	●	16.00	1.60	24.00	55.00	14.40	100.00	16.00
8533256	●	16.00	3.00	24.00	55.00	14.40	100.00	16.00
8533257	●	16.00	4.00	24.00	55.00	14.40	100.00	16.00
8533258	●	16.00	5.00	24.00	55.00	14.40	100.00	16.00
8533259	●	20.00	-	30.00	55.00	18.00	100.00	20.00
8533260	●	20.00	1.00	30.00	55.00	18.00	100.00	20.00
8533261	●	20.00	1.60	30.00	55.00	18.00	100.00	20.00
8533262	●	20.00	3.00	30.00	55.00	18.00	100.00	20.00
8533263	●	20.00	4.00	30.00	55.00	18.00	100.00	20.00
8533264	●	20.00	5.00	30.00	55.00	18.00	100.00	20.00
8533265	●	25.00	-	37.50	55.00	23.00	100.00	25.00
8533266	●	25.00	1.00	37.50	55.00	23.00	100.00	25.00
8533267	●	25.00	1.60	37.50	55.00	23.00	100.00	25.00
8533268	●	25.00	3.00	37.50	55.00	23.00	100.00	25.00
8533269	●	25.00	4.00	37.50	55.00	23.00	100.00	25.00
8533270	●	25.00	5.00	37.50	55.00	23.00	100.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

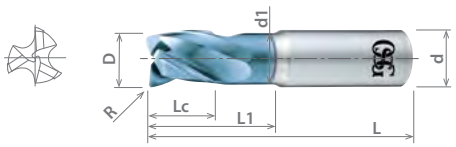
○ Good ◎ Best

List 2874

EXOCARB® AERO-O-ETS

SPEED FEED 1376 | CARBIDE | DLC | 3 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
5/8" ≤ D ≤ 1"	+0 / -0.0008"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
28740050	●	5/8	-	1.016	2.205	0.559	4.000	0.625
28741550	●	3/4	-	1.142	2.205	0.669	4.000	0.750
28740000	●	3/4	0.030	1.142	2.205	0.669	4.000	0.750
28740500	●	3/4	0.060	1.142	2.205	0.669	4.000	0.750
28741000	●	3/4	0.090	1.142	2.205	0.669	4.000	0.750
28741500	●	3/4	0.120	1.142	2.205	0.669	4.000	0.750
28742000	●	3/4	0.190	1.142	2.205	0.669	4.000	0.750
28741050	●	7/8	-	1.327	2.205	0.787	4.000	0.875
28742500	●	1	0.030	1.523	2.205	0.921	4.000	1.000
28743000	●	1	0.060	1.523	2.205	0.921	4.000	1.000
28743500	●	1	0.090	1.523	2.205	0.921	4.000	1.000
28744000	●	1	0.120	1.523	2.205	0.921	4.000	1.000
28744500	●	1	0.190	1.523	2.205	0.921	4.000	1.000
28740550	●	1	-	1.523	2.205	0.921	4.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

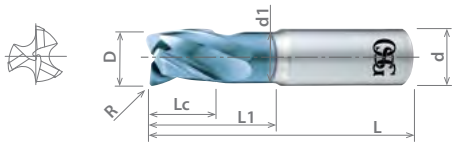
○ Good ◎ Best

List 2974

EXOCARB® AERO-O-ETS

SPEED FEED 1377 | CARBIDE | DLC | 3 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
20mm ≤ D ≤ 25mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8533300	●	20.00	-	30.00	55.00	18.00	100.00	20.00
8533301	●	20.00	1.00	30.00	55.00	18.00	100.00	20.00
8533302	●	20.00	1.60	30.00	55.00	18.00	100.00	20.00
8533303	●	20.00	3.00	30.00	55.00	18.00	100.00	20.00
8533304	●	20.00	4.00	30.00	55.00	18.00	100.00	20.00
8533305	●	20.00	5.00	30.00	55.00	18.00	100.00	20.00
8533306	●	25.00	-	37.50	55.00	23.00	100.00	25.00
8533307	●	25.00	1.00	37.50	55.00	23.00	100.00	25.00
8533308	●	25.00	1.60	37.50	55.00	23.00	100.00	25.00
8533309	●	25.00	3.00	37.50	55.00	23.00	100.00	25.00
8533310	●	25.00	4.00	37.50	55.00	23.00	100.00	25.00
8533311	●	25.00	5.00	37.50	55.00	23.00	100.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

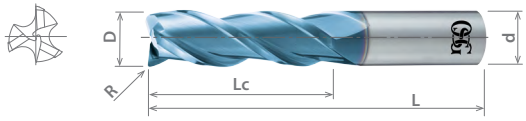
○ Good ◎ Best

List 2843

EXOCARB® AERO-ETL

SPEED FEED	CARBIDE	DLC	3 FLUTE	35°				SHANK	REG	LONG	PACKED
1377								h6			1 PIECE

Cutting Diameter Tolerance	
1/2" ≤ D ≤ 1"	+0 / -0.0008"



EDP Number		Diameter	Corner Radius	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L (Inch)	d (Inch)
28430000	●	1/2	-	2.024	4.500	0.500
28430400	●	1/2	0.030	2.024	4.500	0.500
28430550	●	1/2	0.060	2.024	4.500	0.500
28430600	●	1/2	0.090	2.024	4.500	0.500
28430700	●	1/2	0.120	2.024	4.500	0.500
28430800	●	1/2	0.150	2.024	4.500	0.500
28430900	●	1/2	0.190	2.024	4.500	0.500
28431000	●	5/8	-	2.024	4.500	0.625
28431550	●	5/8	0.030	2.024	4.500	0.625
28431600	●	5/8	0.060	2.024	4.500	0.625
28431700	●	5/8	0.090	2.024	4.500	0.625
28431800	●	5/8	0.120	2.024	4.500	0.625
28431900	●	5/8	0.150	2.024	4.500	0.625
28432050	●	5/8	0.190	2.024	4.500	0.625
28432000	●	3/4	-	2.024	4.500	0.750
28432600	●	3/4	0.030	2.024	4.500	0.750
28432700	●	3/4	0.060	2.024	4.500	0.750
28432800	●	3/4	0.090	2.024	4.500	0.750
28432900	●	3/4	0.120	2.024	4.500	0.750
28433050	●	3/4	0.150	2.024	4.500	0.750
28433100	●	3/4	0.190	2.024	4.500	0.750
28433500	●	7/8	-	2.024	4.500	0.875
28433800	●	7/8	0.030	2.024	4.500	0.875
28433900	●	7/8	0.060	2.024	4.500	0.875
28434050	●	7/8	0.090	2.024	4.500	0.875
28434100	●	7/8	0.120	2.024	4.500	0.875
28434200	●	7/8	0.150	2.024	4.500	0.875
28434300	●	7/8	0.190	2.024	4.500	0.875
28434500	●	1	-	2.024	4.500	1.000
28434900	●	1	0.030	2.024	4.500	1.000
28435050	●	1	0.030	2.024	4.500	1.000
28435100	●	1	0.090	2.024	4.500	1.000
28435200	●	1	0.120	2.024	4.500	1.000
28435300	●	1	0.150	2.024	4.500	1.000
28435400	●	1	0.190	2.024	4.500	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

○ Good ◎ Best

List 2943

EXOCARB® AERO-ETL

SPEED FEED 1377 | CARBIDE | DLC | 3 FLUTE | 35° | SHANK h6 | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
12mm ≤ D ≤ 20mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8533350	●	12.00	-	50.00	110.00	12.00
8533351	●	12.00	1.00	50.00	110.00	12.00
8533352	●	12.00	1.60	50.00	110.00	12.00
8533353	●	12.00	3.00	50.00	110.00	12.00
8533354	●	12.00	4.00	50.00	110.00	12.00
8533355	●	16.00	-	50.00	110.00	16.00
8533356	●	16.00	1.00	50.00	110.00	16.00
8533357	●	16.00	1.60	50.00	110.00	16.00
8533358	●	16.00	3.00	50.00	110.00	16.00
8533359	●	16.00	4.00	50.00	110.00	16.00
8533360	●	16.00	5.00	50.00	110.00	16.00
8533361	●	20.00	-	50.00	110.00	20.00
8533362	●	20.00	1.00	50.00	110.00	20.00
8533363	●	20.00	1.60	50.00	110.00	20.00
8533364	●	20.00	3.00	50.00	110.00	20.00
8533365	●	20.00	4.00	50.00	110.00	20.00
8533366	●	20.00	5.00	50.00	110.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

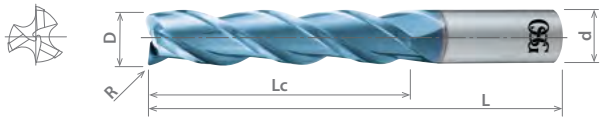
○ Good ◎ Best

List 2853

EXOCARB® AERO-ETXL

SPEED FEED 1378 | CARBIDE | DLC | 3 FLUTE | 35° | SHANK h6 | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
D = 3/4"	+0 / -0.0008"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
28530000	●	3/4	-	4.000	6.500	0.750
28530100	●	3/4	0.030	4.000	6.500	0.750
28530200	●	3/4	0.060	4.000	6.500	0.750
28530300	●	3/4	0.090	4.000	6.500	0.750
28530400	●	3/4	0.120	4.000	6.500	0.750
28530500	●	3/4	0.150	4.000	6.500	0.750
28530600	●	3/4	0.190	4.000	6.500	0.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340						◎	◎						

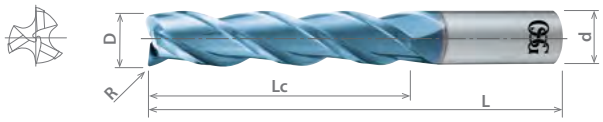
○ Good ◎ Best

List 2953

EXOCARB® AERO-ETXL

SPEED FEED	CARBIDE	DLC	3 FLUTE	35°	SHANK	EXTRA LONG	PACKED
1378					h6		1 PIECE

Cutting Diameter Tolerance	
D = 20mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8533400	●	20.00	-	100.00	160.00	20.00
8533401	●	20.00	1.00	100.00	160.00	20.00
8533402	●	20.00	1.60	100.00	160.00	20.00
8533403	●	20.00	3.00	100.00	160.00	20.00
8533404	●	20.00	4.00	100.00	160.00	20.00
8533405	●	20.00	5.00	100.00	160.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

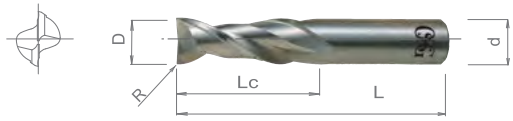
○ Good ◎ Best

List 2022

EXOCARB® AERO BLIZZARD®

SPEED FEED 1379 | CARBIDE | BR | 2 FLUTE | 30° | SHANK h6 | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Corner Radius	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L (Inch)	d (Inch)
20220100	●	1/8	-	0.375	1.500	0.125
20220200	●	1/8	0.010	0.375	1.500	0.125
20220500	●	5/32	-	0.563	2.000	0.188
20220600	●	5/32	0.020	0.563	2.000	0.188
20220900	●	3/16	-	0.563	2.000	0.188
20221000	●	3/16	0.020	0.563	2.000	0.188
20221300	●	7/32	-	0.750	2.500	0.250
20221400	●	7/32	0.020	0.750	2.500	0.250
20221700	●	1/4	-	0.750	2.500	0.250
20221800	●	1/4	0.020	0.750	2.500	0.250
20221900	●	1/4	0.030	0.750	2.500	0.250
20222000	●	1/4	0.060	0.750	2.500	0.250
20222100	●	9/32	-	0.813	2.500	0.313
20222200	●	9/32	0.020	0.813	2.500	0.313
20222500	●	5/16	-	0.813	2.500	0.313
20222600	●	5/16	0.020	0.813	2.500	0.313
20222700	●	5/16	0.030	0.813	2.500	0.313
20222900	●	11/32	-	1.000	2.500	0.375
20223000	●	11/32	0.020	1.000	2.500	0.375
20223300	●	3/8	-	1.000	2.500	0.375
20223400	●	3/8	0.020	1.000	2.500	0.375
20223500	●	3/8	0.030	1.000	2.500	0.375
20223600	●	3/8	0.060	1.000	2.500	0.375
20223700	●	13/32	-	1.000	2.750	0.438
20223800	●	13/32	0.020	1.000	2.750	0.438
20224100	●	7/16	-	1.000	2.750	0.438
20224200	●	7/16	0.020	1.000	2.750	0.438
20224500	●	15/32	-	1.250	3.000	0.500
20224600	●	15/32	0.020	1.250	3.000	0.500
20224900	●	1/2	-	1.250	3.000	0.500
20225000	●	1/2	0.020	1.250	3.000	0.500
20225100	●	1/2	0.030	1.250	3.000	0.500
20225200	●	1/2	0.060	1.250	3.000	0.500
20225300	●	5/8	-	1.625	3.500	0.625
20225400	●	5/8	0.030	1.625	3.500	0.625
20225500	●	5/8	0.060	1.625	3.500	0.625
20225600	●	5/8	0.090	1.625	3.500	0.625
20225700	●	3/4	-	1.625	4.000	0.750
20225800	●	3/4	0.060	1.625	4.000	0.750
20225900	●	3/4	0.090	1.625	4.000	0.750
20226000	●	3/4	0.120	1.625	4.000	0.750
20226100	●	1	-	2.000	5.000	1.000
20226200	●	1	0.060	2.000	5.000	1.000
20226300	●	1	0.090	2.000	5.000	1.000
20226400	●	1	0.120	2.000	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: DLC coating available upon request. Additional corner radii available upon request.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

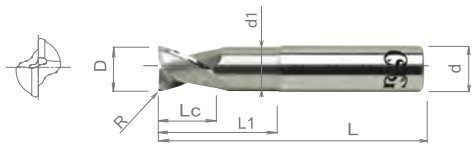
○ Good ◎ Best

List 2023

EXOCARB® AERO BLIZZARD®, Reduced Neck

SPEED FEED	CARBIDE	BR	2 FLUTE	30°				SHANK	STUB	PACKED
1379								h6		1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
20230100	●	1/4	-	0.250	1.125	0.246	2.500	0.250
20230200	●	1/4	0.020	0.250	1.125	0.246	2.500	0.250
20230300	●	1/4	0.030	0.250	1.125	0.246	2.500	0.250
20230400	●	1/4	0.060	0.250	1.125	0.246	2.500	0.250
20230500	●	1/2	-	0.500	1.375	0.496	3.000	0.500
20230600	●	1/2	0.020	0.500	1.375	0.496	3.000	0.500
20230700	●	1/2	0.030	0.500	1.375	0.496	3.000	0.500
20230800	●	1/2	0.060	0.500	1.375	0.496	3.000	0.500
20230900	●	5/8	-	0.625	1.625	0.621	3.500	0.625
20231000	●	5/8	0.030	0.625	1.625	0.621	3.500	0.625
20231100	●	5/8	0.060	0.625	1.625	0.621	3.500	0.625
20231200	●	5/8	0.090	0.625	1.625	0.621	3.500	0.625
20231300	●	3/4	-	0.750	2.000	0.746	4.000	0.750
20231400	●	3/4	0.060	0.750	2.000	0.746	4.000	0.750
20231500	●	3/4	0.090	0.750	2.000	0.746	4.000	0.750
20231600	●	3/4	0.120	0.750	2.000	0.746	4.000	0.750
20231700	●	1	-	1.000	2.625	0.992	5.000	1.000
20231800	●	1	0.060	1.000	2.625	0.992	5.000	1.000
20231900	●	1	0.090	1.000	2.625	0.992	5.000	1.000
20232000	●	1	0.120	1.000	2.625	0.992	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: DLC coating available upon request.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

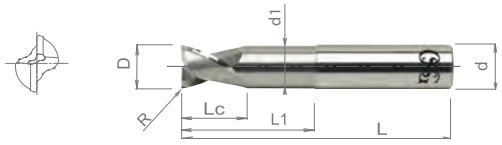
○ Good ◎ Best

List 2024

EXOCARB® AERO BLIZZARD®, Reduced Neck

SPEED FEED	CARBIDE	BR	2 FLUTE	30°				SHANK	STUB	PACKED
1379								h6		1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
20240100	●	1/4	-	0.250	2.125	0.246	4.000	0.250
20240200	●	1/4	0.020	0.250	2.125	0.246	4.000	0.250
20240300	●	1/4	0.030	0.250	2.125	0.246	4.000	0.250
20240400	●	1/4	0.060	0.250	2.125	0.246	4.000	0.250
20240500	●	1/2	-	0.500	2.125	0.496	4.000	0.500
20240600	●	1/2	0.020	0.500	2.125	0.496	4.000	0.500
20240700	●	1/2	0.030	0.500	2.125	0.496	4.000	0.500
20240800	●	1/2	0.060	0.500	2.125	0.496	4.000	0.500
20240900	●	5/8	-	0.625	2.375	0.621	6.000	0.625
20241000	●	5/8	0.030	0.625	2.375	0.621	6.000	0.625
20241100	●	5/8	0.060	0.625	2.375	0.621	6.000	0.625
20241200	●	5/8	0.090	0.625	2.375	0.621	6.000	0.625
20241300	●	3/4	-	0.750	2.500	0.746	6.000	0.750
20241400	●	3/4	0.060	0.750	2.500	0.746	6.000	0.750
20241500	●	3/4	0.090	0.750	2.500	0.746	6.000	0.750
20241600	●	3/4	0.120	0.750	2.500	0.746	6.000	0.750
20241700	●	1	-	1.000	3.375	0.992	6.000	1.000
20241800	●	1	0.060	1.000	3.375	0.992	6.000	1.000
20241900	●	1	0.090	1.000	3.375	0.992	6.000	1.000
20242000	●	1	0.120	1.000	3.375	0.992	6.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: DLC coating available upon request.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340						◎	◎						

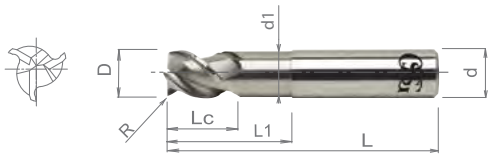
○ Good ◎ Best

List 2043

EXOCARB® AERO BLIZZARD®, Reduced Neck

SPEED FEED	CARBIDE	BR	3 FLUTE	45°				SHANK	STUB	PACKED
1381								h6		1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
20430100	●	1/4	-	0.250	1.125	0.246	2.500	0.250
20430200	●	1/4	0.020	0.250	1.125	0.246	2.500	0.250
20430300	●	1/4	0.030	0.250	1.125	0.246	2.500	0.250
20430400	●	1/4	0.060	0.250	1.125	0.246	2.500	0.250
20430500	●	1/2	-	0.500	1.375	0.496	3.000	0.500
20430600	●	1/2	0.020	0.500	1.375	0.496	3.000	0.500
20430700	●	1/2	0.030	0.500	1.375	0.496	3.000	0.500
20430800	●	1/2	0.060	0.500	1.375	0.496	3.000	0.500
20430900	●	5/8	-	0.625	1.625	0.621	3.500	0.625
20431000	●	5/8	0.030	0.625	1.625	0.621	3.500	0.625
20431100	●	5/8	0.060	0.625	1.625	0.621	3.500	0.625
20431200	●	5/8	0.090	0.625	1.625	0.621	3.500	0.625
20431300	●	3/4	-	0.750	2.000	0.746	4.000	0.750
20431400	●	3/4	0.060	0.750	2.000	0.746	4.000	0.750
20431500	●	3/4	0.090	0.750	2.000	0.746	4.000	0.750
20431600	●	3/4	0.120	0.750	2.000	0.746	4.000	0.750
20431700	●	1	-	1.000	2.625	0.992	5.000	1.000
20431800	●	1	0.060	1.000	2.625	0.992	5.000	1.000
20431900	●	1	0.090	1.000	2.625	0.992	5.000	1.000
20432000	●	1	0.120	1.000	2.625	0.992	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: DLC coating available upon request.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

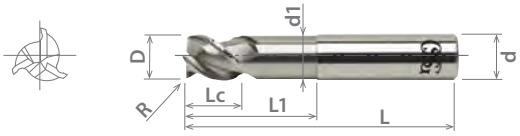
○ Good ◎ Best

List 2048

EXOCARB® AERO BLIZZARD®, Reduced Neck

SPEED FEED 1381 | CARBIDE | BR | 3 FLUTE | 45° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
20480100	●	1/4	-	0.250	2.125	0.246	4.000	0.250
20480200	●	1/4	0.020	0.250	2.125	0.246	4.000	0.250
20480300	●	1/4	0.030	0.250	2.125	0.246	4.000	0.250
20480400	●	1/4	0.060	0.250	2.125	0.246	4.000	0.250
20480500	●	1/2	-	0.500	2.125	0.496	4.000	0.500
20480600	●	1/2	0.020	0.500	2.125	0.496	4.000	0.500
20480700	●	1/2	0.030	0.500	2.125	0.496	4.000	0.500
20480800	●	1/2	0.060	0.500	2.125	0.496	4.000	0.500
20480900	●	5/8	-	0.625	2.375	0.621	6.000	0.625
20481000	●	5/8	0.030	0.625	2.375	0.621	6.000	0.625
20481100	●	5/8	0.060	0.625	2.375	0.621	6.000	0.625
20481200	●	5/8	0.090	0.625	2.375	0.621	6.000	0.625
20481300	●	3/4	-	0.750	2.500	0.746	6.000	0.750
20481400	●	3/4	0.060	0.750	2.500	0.746	6.000	0.750
20481500	●	3/4	0.090	0.750	2.500	0.746	6.000	0.750
20481600	●	3/4	0.120	0.750	2.500	0.746	6.000	0.750
20481700	●	1	-	1.000	3.375	0.992	6.000	1.000
20481800	●	1	0.060	1.000	3.375	0.992	6.000	1.000
20481900	●	1	0.090	1.000	3.375	0.992	6.000	1.000
20482000	●	1	0.120	1.000	3.375	0.992	6.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: DLC coating available upon request.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340						◎	◎						

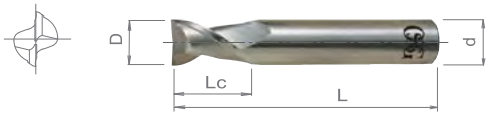
○ Good ◎ Best

List 8120

EXOCARB® AERO CA-RG-EDS

SPEED FEED 1382 | CARBIDE | BR | 2 FLUTE | 30° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1mm ≤ D ≤ 12mm	+0 / -0.020mm
13mm ≤ D ≤ 16mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8502010	●	1.00	2.50	40.00	4.00
8502015	●	1.50	4.00	40.00	4.00
8502020	●	2.00	6.00	40.00	4.00
8502025	●	2.50	8.00	40.00	4.00
8502030	●	3.00	8.00	45.00	6.00
8502035	●	3.50	10.00	45.00	6.00
8502040	●	4.00	11.00	45.00	6.00
8502045	●	4.50	11.00	45.00	6.00
8502050	●	5.00	13.00	50.00	6.00
8502055	●	5.50	13.00	50.00	6.00
8502060	●	6.00	13.00	50.00	6.00
8502065	●	6.50	16.00	60.00	8.00
8502070	●	7.00	16.00	60.00	8.00
8502075	●	7.50	16.00	60.00	8.00
8502080	●	8.00	19.00	60.00	8.00
8502085	●	8.50	19.00	70.00	10.00
8502090	●	9.00	19.00	70.00	10.00
8502095	●	9.50	19.00	70.00	10.00
8502100	●	10.00	22.00	70.00	10.00
8502105	●	10.50	22.00	75.00	12.00
8502110	●	11.00	22.00	75.00	12.00
8502115	●	11.50	22.00	75.00	12.00
8502120	●	12.00	26.00	75.00	12.00
8502130	●	13.00	26.00	85.00	12.00
8502140	●	14.00	26.00	85.00	12.00
8502150	●	15.00	26.00	90.00	16.00
8502160	●	16.00	32.00	100.00	16.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

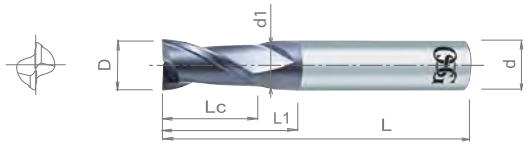
○ Good ◎ Best

List 7020

EXOCARB® DIAMOND SQ

SPEED FEED	CARBIDE	DIA	2 FLUTE	30°			SHANK	REG	LONG	PACKED
1383							h6			1 PIECE

Cutting Diameter Tolerance	
1/64" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter	Coating Thickness
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)	(µm)
70200016	●	1/64	0.047	0.094	0.015	1.750	0.125	12
70200116	●	1/32	0.094	0.250	0.028	1.750	0.125	12
70200216	●	3/64	0.188	0.500	0.040	1.750	0.125	12
70200316	●	1/16	0.188	0.500	0.056	1.750	0.125	12
70200416	●	5/64	0.250	0.500	0.070	1.750	0.125	12
70200516	●	3/32	0.375	0.500	0.088	1.750	0.125	12
70200716	●	1/8	0.500	-	-	1.750	0.125	12
70205716	●	1/8	0.500	-	-	1.750	0.125	20
70200816	●	5/32	0.563	-	-	2.000	0.156	12
70200916	●	3/16	0.750	-	-	2.000	0.188	12
70201116	●	1/4	0.750	-	-	2.500	0.250	12
70206116	●	1/4	0.750	-	-	2.500	0.250	20
70201316	●	5/16	0.813	-	-	2.500	0.313	12
70201416	●	3/8	0.875	-	-	2.500	0.375	12
70206416	●	3/8	0.875	-	-	2.500	0.375	20
70201616	●	1/2	1.000	-	-	3.000	0.500	12
70206616	●	1/2	1.000	-	-	3.000	0.500	20

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

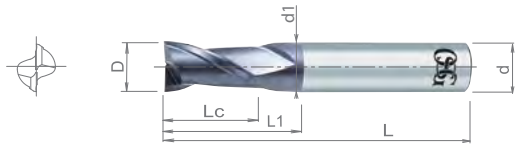
○ Good ◎ Best

List 7120

EXOCARB® DIAMOND D-RG-EDS

SPEED FEED	CARBIDE	DIA	12µm	2 FLUTE	30°			SHANK	REG	LONG	PACKED
1383								h6			1 PIECE

Cutting Diameter Tolerance	
1mm ≤ D ≤ 12mm	+0 / -0.050mm



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
71200116	●	1.00	4.00	4.95	0.95	45.00	3.00
71200216	●	2.00	10.00	11.95	1.95	45.00	3.00
71200316	●	3.00	15.00	-	-	50.00	3.00
71200416	●	4.00	15.00	-	-	55.00	4.00
71200616	●	6.00	20.00	-	-	63.00	6.00
71200816	●	8.00	20.00	-	-	63.00	8.00
71201016	●	10.00	25.00	-	-	63.00	10.00
71201216	●	12.00	30.00	-	-	75.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

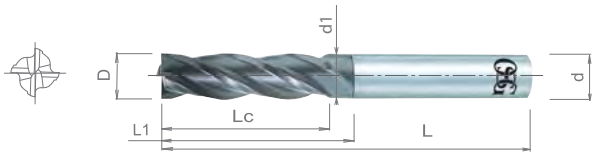
○ Good ◎ Best

List 7040

EXOCARB® DIAMOND D-GF-EMS

SPEED FEED	CARBIDE	DIA	12µm	4 FLUTE	30°			SHANK	REG	LONG	PACKED
1383								h6			1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
70400316	●	1/16	0.188	0.500	0.056	1.750	0.125
70400416	●	5/64	0.250	0.500	0.070	1.750	0.125
70400516	●	3/32	0.375	0.500	0.088	1.750	0.125
70400716	●	1/8	0.500	-	-	1.750	0.125
70400916	●	3/16	0.750	-	-	2.000	0.188
70401116	●	1/4	0.750	-	-	2.500	0.250
70401316	●	5/16	0.813	-	-	2.500	0.313
70401416	●	3/8	0.875	-	-	2.500	0.375
70401616	●	1/2	1.000	-	-	3.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340													
									◎	◎					◎	

○ Good ◎ Best

List 7140

EXOCARB® DIAMOND SQ

SPEED FEED	CARBIDE	DIA	12µm	30°			SHANK	REG	LONG	PACKED
1383							h6			1 PIECE

Cutting Diameter Tolerance	
0.5mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
71400116	●	0.50	1.50	8.00	0.48	40.00	3.00	2
71400216	●	1.00	3.00	8.00	0.96	40.00	3.00	4
71400316	●	1.50	5.00	8.00	1.43	45.00	3.00	4
71400416	●	2.00	6.00	8.00	1.91	45.00	3.00	4
71400516	●	3.00	12.00	-	-	45.00	3.00	4
71400616	●	4.00	15.00	-	-	50.00	4.00	4
71400716	●	6.00	20.00	-	-	60.00	6.00	4
71400816	●	8.00	20.00	-	-	60.00	8.00	4
71400916	●	10.00	25.00	-	-	60.00	10.00	4
71401016	●	12.00	25.00	-	-	75.00	12.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

○ Good ◎ Best

List 7041

EXOCARB® DIAMOND D-GF-EML

SPEED FEED 1383 | CARBIDE | DIA | 12µm | 4 FLUTE | 30° | SHANK h6 | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
70410716	●	1/8	1.000	3.000	0.125
70410916	●	3/16	1.000	4.000	0.188
70411116	●	1/4	1.500	4.000	0.250
70411416	●	3/8	1.500	4.000	0.375
70411616	●	1/2	2.000	5.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

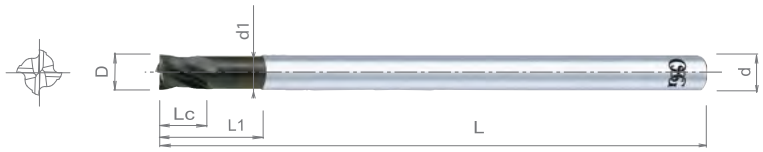
○ Good ◎ Best

List 7042

EXOCARB® DIAMOND LS-SQ, Long Shank

SPEED FEED	CARBIDE	DIA	12µm	4 FLUTE	30°			SHANK	STUB	PACKED
1383								h6		1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
70420116	●	1/16	0.063	0.313	0.059	3.000	0.063
70420216	●	3/32	0.094	0.469	0.089	3.000	0.094
70420316	●	1/8	0.125	0.625	0.119	3.000	0.125
70420416	●	3/16	0.188	0.938	0.178	3.000	0.188
70420516	●	1/4	0.250	0.750	0.238	4.000	0.250
70420616	●	5/16	0.313	0.938	0.297	4.000	0.313
70420716	●	3/8	0.375	1.125	0.356	4.000	0.375
70420816	●	1/2	0.500	1.500	0.475	6.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

○ Good ◎ Best

EXOCARB® DG-EML

Long Length of Cut DG Coated 4-Fluted Square End Mills for Graphite

List 7440

EXOCARB® DG-EML

NEW | SPEED FEED 1384 | CARBIDE | DG | 4 FLUTE | 30° | SHANK h4 | LONG | PACKED 1 PIECE

Radius Tolerance	
1/32" ≤ D ≤ 3/16"	+/- 0.00028"
1/4" ≤ D ≤ 1/2"	+/- 0.00039"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
74400125	○	1/32	0.156	2.500	0.125
74400225	○	3/64	0.234	2.500	0.125
74400325	●	1/16	0.313	2.500	0.125
74400425	●	3/32	0.469	2.500	0.125
74400525	●	1/8	0.625	3.000	0.125
74400625	●	3/16	0.938	3.000	0.188
74400725	●	1/4	1.250	4.000	0.250
74400825	●	3/8	1.875	6.000	0.375
74400925	●	1/2	2.250	6.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340												◎	

○ Good ◎ Best

List 7441

EXOCARB® DG-LN-EML

NEW | SPEED FEED 1385 | CARBIDE | DG | 4 FLUTE | 30° | SHANK h4 | LONG | PACKED 1 PIECE

Radius Tolerance	
1/32" ≤ D ≤ 3/16"	+/- 0.00028"
D = 1/4"	+/- 0.00039"



EDP Number		Diameter	Length of Cut	Neck Length	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	L (Inch)	d (Inch)
74410125	○	1/32	0.156	0.250	2.500	0.125
74410225	○	3/64	0.234	0.500	2.500	0.125
74410325	○	1/16	0.313	0.625	2.500	0.125
74410425	○	3/32	0.469	1.000	2.500	0.125
74410525	●	1/8	0.625	1.250	3.000	0.125
74410625	●	3/16	0.938	1.500	3.000	0.188
74410725	●	1/4	1.250	2.000	4.000	0.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340												◎	

○ Good ◎ Best

List VG441

HY-PRO® CARB VGX SQ

SPEED FEED 1386 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE



Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"

EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
VG441-1250	●	1/8	0.375	1.500	0.125	-
VG441-1875	●	3/16	0.438	2.000	0.188	-
VG441-2500	●	1/4	0.438	2.500	0.250	-
VG441-2501	●	1/4	0.750	2.500	0.250	-
VG441-2502	●	1/4	1.250	3.250	0.250	-
VG441-3125	●	5/16	0.813	2.500	0.313	-
VG441-3126	●	5/16	1.250	3.250	0.313	-
VG441-3127	●	5/16	1.625	4.000	0.313	-
VG441-3750	●	3/8	0.500	2.500	0.375	-
VG441-3752	●	3/8	0.500	2.500	0.375	●
VG441-3751	●	3/8	0.875	2.500	0.375	-
VG441-3753	●	3/8	0.875	2.500	0.375	●
VG441-3754	●	3/8	1.500	4.000	0.375	-
VG441-3755	●	3/8	1.500	4.000	0.375	●
VG441-3756	●	3/8	2.500	4.000	0.375	-
VG441-3757	●	3/8	2.500	4.000	0.375	●
VG441-4375	●	7/16	1.000	2.750	0.438	-
VG441-4376	●	7/16	1.000	2.750	0.438	●
VG441-5000	●	1/2	0.625	2.500	0.500	●
VG441-5007	●	1/2	0.625	2.500	0.500	-
VG441-5001	●	1/2	1.000	3.000	0.500	●
VG441-5008	●	1/2	1.000	3.000	0.500	-
VG441-5002	●	1/2	1.250	3.500	0.500	●
VG441-5009	●	1/2	1.250	3.500	0.500	-
VG441-5003	●	1/2	1.500	4.000	0.500	●
VG441-5010	●	1/2	1.500	4.000	0.500	-
VG441-5004	●	1/2	2.000	4.000	0.500	●
VG441-5011	●	1/2	2.000	4.000	0.500	-
VG441-5005	●	1/2	2.500	4.000	0.500	●
VG441-5012	●	1/2	2.500	4.000	0.500	-
VG441-5006	●	1/2	3.000	5.000	0.500	●
VG441-5013	●	1/2	3.000	5.000	0.500	-
VG441-6250	●	5/8	0.750	3.000	0.625	●
VG441-6255	●	5/8	0.750	3.000	0.625	-
VG441-6251	●	5/8	1.250	3.500	0.625	●
VG441-6256	●	5/8	1.250	3.500	0.625	-
VG441-6252	●	5/8	1.625	5.000	0.625	●
VG441-6257	●	5/8	1.625	5.000	0.625	-
VG441-6253	●	5/8	2.250	5.000	0.625	●
VG441-6258	●	5/8	2.250	5.000	0.625	-
VG441-6254	●	5/8	3.000	6.000	0.625	●
VG441-6259	●	5/8	3.000	6.000	0.625	-
VG441-7500	●	3/4	0.875	3.500	0.750	●
VG441-7506	●	3/4	0.875	3.500	0.750	-
VG441-7501	●	3/4	1.500	4.000	0.750	●
VG441-7507	●	3/4	1.500	4.000	0.750	-
VG441-7502	●	3/4	1.625	4.000	0.750	●
VG441-7508	●	3/4	1.625	4.000	0.750	-
VG441-7503	●	3/4	2.250	5.000	0.750	●
VG441-7509	●	3/4	2.250	5.000	0.750	-
VG441-7504	●	3/4	3.000	6.000	0.750	●
VG441-7510	●	3/4	3.000	6.000	0.750	-
VG441-7505	●	3/4	4.000	6.250	0.750	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List VG441 (Continued)

HY-PRO® CARB VGX SQ

SPEED FEED 1386 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
VG441-7511	●	3/4	4.000	6.250	0.750	-
VG441-1000	●	1	1.500	4.000	1.000	●
VG441-1005	●	1	1.500	4.000	1.000	-
VG441-1001	●	1	2.000	5.000	1.000	●
VG441-1006	●	1	2.000	5.000	1.000	-
VG441-1002	●	1	2.500	5.000	1.000	●
VG441-1007	●	1	2.500	5.000	1.000	-
VG441-1003	●	1	3.000	6.000	1.000	●
VG441-1008	●	1	3.000	6.000	1.000	-
VG441-1004	●	1	4.000	7.000	1.000	●
VG441-1009	●	1	4.000	7.000	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	

○ Good ◎ Best

List VG464

HY-PRO® CARB VGX LS-SQ/CF,
Extended Length

SPEED FEED 1387 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | WELDON FLAT | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Corner Chamfer C (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
VG464-2501	●	1/4	0.016	0.375	4.000	0.250	-
VG464-2500	●	1/4	-	0.375	4.000	0.250	-
VG464-3751	●	3/8	0.020	0.500	4.000	0.375	●
VG464-3750	●	3/8	-	0.500	4.000	0.375	●
VG464-5001	●	1/2	0.020	0.625	5.000	0.500	●
VG464-5003	●	1/2	0.020	0.625	6.000	0.500	●
VG464-5000	●	1/2	-	0.625	5.000	0.500	●
VG464-5002	●	1/2	-	0.625	6.000	0.500	●
VG464-6251	●	5/8	0.020	0.750	6.000	0.625	●
VG464-6253	●	5/8	0.020	0.750	7.000	0.625	●
VG464-6250	●	5/8	-	0.750	6.000	0.625	●
VG464-6252	●	5/8	-	0.750	7.000	0.625	●
VG464-7501	●	3/4	0.020	1.000	6.000	0.750	●
VG464-7503	●	3/4	0.020	1.000	7.000	0.750	●
VG464-7500	●	3/4	-	1.000	6.000	0.750	●
VG464-7502	●	3/4	-	1.000	7.000	0.750	●
VG464-1001	●	1	0.020	1.125	6.000	1.000	●
VG464-1003	●	1	0.020	1.125	7.000	1.000	●
VG464-1000	●	1	-	1.125	6.000	1.000	●
VG464-1002	●	1	-	1.125	7.000	1.000	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	

○ Good ◎ Best

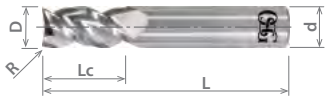
List VGM3-AL

HY-PRO CARB VGM3-AL

NEW | SPEED FEED 1388 | CARBIDE | BR | 3 FLUTE | 40-43° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 3/16"	+0 / -0.0003"
1/4" ≤ D ≤ 5/8"	+0 / -0.0004"
3/4" ≤ D ≤ 1"	+0 / -0.0005"





EDP Number		Dia. D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	L/D Ratio
VGM3-0001	●	1/8	-	0.375	1.500	0.125	3
VGM3-0002	●	1/8	0.010	0.375	1.500	0.125	3
VGM3-0003	●	1/8	0.015	0.375	1.500	0.125	3
VGM3-0004	●	1/8	0.030	0.375	1.500	0.125	3
VGM3-0005	●	3/16	-	0.563	2.000	0.188	3
VGM3-0006	●	3/16	0.015	0.563	2.000	0.188	3
VGM3-0007	●	3/16	0.020	0.563	2.000	0.188	3
VGM3-0008	●	3/16	0.030	0.563	2.000	0.188	3
VGM3-0009	●	1/4	-	0.625	2.500	0.250	2.5
VGM3-0010	●	1/4	0.010	0.625	2.500	0.250	2.5
VGM3-0011	●	1/4	0.015	0.625	2.500	0.250	2.5
VGM3-0012	●	1/4	0.020	0.625	2.500	0.250	2.5
VGM3-0013	●	1/4	0.030	0.625	2.500	0.250	2.5
VGM3-0014	●	1/4	0.060	0.625	2.500	0.250	2.5
VGM3-0015	●	5/16	-	0.813	2.500	0.313	2.6
VGM3-0016	●	5/16	0.020	0.813	2.500	0.313	2.6
VGM3-0017	●	5/16	0.030	0.813	2.500	0.313	2.6
VGM3-0018	●	3/8	-	1.000	2.500	0.375	2.6
VGM3-0019	●	3/8	0.010	1.000	2.500	0.375	2.6
VGM3-0020	●	3/8	0.015	1.000	2.500	0.375	2.6
VGM3-0021	●	3/8	0.020	1.000	2.500	0.375	2.6
VGM3-0022	●	3/8	0.030	1.000	2.500	0.375	2.6
VGM3-0023	●	3/8	0.060	1.000	2.500	0.375	2.6
VGM3-0024	●	3/8	0.090	1.000	2.500	0.375	2.6
VGM3-0025	●	3/8	0.125	1.000	2.500	0.375	2.6
VGM3-0026	●	7/16	-	1.250	2.750	0.438	2.8
VGM3-0027	●	7/16	0.020	1.250	2.750	0.438	2.8
VGM3-0028	●	1/2	-	1.250	3.000	0.500	2.5

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HPC

EDP Number		Dia. D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	L/D Ratio
VGM3-0029	●	1/2	0.010	1.250	3.000	0.500	2.5
VGM3-0030	●	1/2	0.015	1.250	3.000	0.500	2.5
VGM3-0031	●	1/2	0.020	1.250	3.000	0.500	2.5
VGM3-0032	●	1/2	0.030	1.250	3.000	0.500	2.5
VGM3-0033	●	1/2	0.060	1.250	3.000	0.500	2.5
VGM3-0034	●	1/2	0.090	1.250	3.000	0.500	2.5
VGM3-0035	●	1/2	0.125	1.250	3.000	0.500	2.5
VGM3-0036	●	5/8	-	1.625	3.500	0.625	2.6
VGM3-0037	●	5/8	0.030	1.625	3.500	0.625	2.6
VGM3-0038	●	5/8	0.060	1.625	3.500	0.625	2.6
VGM3-0039	●	5/8	0.090	1.625	3.500	0.625	2.6
VGM3-0040	○	5/8	0.125	1.625	3.500	0.625	2.6
VGM3-0041	●	3/4	-	1.625	4.000	0.750	2.2
VGM3-0042	●	3/4	0.015	1.625	4.000	0.750	2.2
VGM3-0043	●	3/4	0.030	1.625	4.000	0.750	2.2
VGM3-0044	●	3/4	0.060	1.625	4.000	0.750	2.2
VGM3-0045	○	3/4	0.090	1.625	4.000	0.750	2.2
VGM3-0046	●	3/4	0.120	1.625	4.000	0.750	2.2
VGM3-0047	○	3/4	0.190	1.625	4.000	0.750	2.2
VGM3-0048	○	3/4	0.250	1.625	4.000	0.750	2.2
VGM3-0049	●	1	-	2.000	5.000	1.000	2
VGM3-0050	○	1	0.030	2.000	5.000	1.000	2
VGM3-0051	○	1	0.060	2.000	5.000	1.000	2
VGM3-0052	○	1	0.090	2.000	5.000	1.000	2
VGM3-0053	○	1	0.120	2.000	5.000	1.000	2
VGM3-0054	○	1	0.250	2.000	5.000	1.000	2

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340						◎	◎						

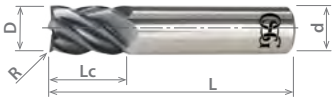
○ Good ◎ Best

List VGM5

HY-PRO® CARB VGM5

NEW SIZES | SPEED FEED 1389 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE





Cutting Diameter Tolerance	
1/8" ≤ D ≤ 3/16"	+0 / -0.0015"

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio	Weldon Flat
VGM5-0001	●	1/8	-	0.188	1.500	0.125	1.5	-
VGM5-0002	●	1/8	0.010	0.188	1.500	0.125	1.5	-
VGM5-0003	●	1/8	-	0.250	1.500	0.125	2	-
VGM5-0004	●	1/8	0.010	0.250	1.500	0.125	2	-
VGM5-0005	●	1/8	0.015	0.250	1.500	0.125	2	-
VGM5-0006	●	1/8	0.030	0.250	1.500	0.125	2	-
VGM5-0007	●	1/8	-	0.375	1.500	0.125	3	-
VGM5-0008	●	1/8	0.010	0.375	1.500	0.125	3	-
VGM5-0009	●	1/8	-	0.500	2.250	0.125	4	-
VGM5-0010	●	1/8	0.010	0.500	2.250	0.125	4	-
VGM5-0011	●	1/8	0.015	0.500	2.250	0.125	4	-
VGM5-0012	●	1/8	0.030	0.500	2.250	0.125	4	-
VGM5-0013	●	1/8	-	0.625	2.250	0.125	5	-
VGM5-0014	●	1/8	0.010	0.625	2.250	0.125	5	-
VGM5-0015	●	1/8	-	0.750	2.250	0.125	6	-
VGM5-0016	●	1/8	0.010	0.750	2.250	0.125	6	-
VGM5-0017	●	1/8	0.015	0.750	2.250	0.125	6	-
VGM5-0018	●	1/8	0.030	0.750	2.250	0.125	6	-
VGM5-0019	●	5/32	-	0.234	2.000	0.156	1.5	-
VGM5-0020	●	5/32	0.010	0.234	2.000	0.156	1.5	-
VGM5-0021	●	5/32	-	0.313	2.000	0.156	2	-
VGM5-0022	●	5/32	0.010	0.313	2.000	0.156	2	-
VGM5-0023	●	5/32	-	0.469	2.250	0.156	3	-
VGM5-0024	●	5/32	0.010	0.469	2.250	0.156	3	-
VGM5-0025	●	3/16	-	0.281	2.000	0.188	1.5	-
VGM5-0026	●	3/16	0.010	0.281	2.000	0.188	1.5	-
VGM5-0027	●	3/16	0.015	0.281	2.000	0.188	1.5	-
VGM5-0028	●	3/16	0.030	0.281	2.000	0.188	1.5	-
VGM5-0029	●	3/16	-	0.375	2.000	0.188	2	-
VGM5-0030	●	3/16	0.010	0.375	2.000	0.188	2	-
VGM5-0031	●	3/16	-	0.563	2.250	0.188	3	-
VGM5-0032	●	3/16	0.010	0.563	2.250	0.188	3	-
VGM5-0033	●	3/16	0.015	0.563	2.250	0.188	3	-
VGM5-0034	●	3/16	0.030	0.563	2.250	0.188	3	-
VGM5-0035	●	3/16	-	0.750	2.250	0.188	4	-
VGM5-0036	●	3/16	0.010	0.750	2.250	0.188	4	-
VGM5-0037	●	3/16	0.030	0.750	2.250	0.188	4	-
VGM5-0038	●	3/16	-	0.938	2.250	0.188	5	-
VGM5-0039	●	3/16	0.010	0.938	2.250	0.188	5	-
VGM5-0040	●	3/16	0.015	0.938	2.250	0.188	5	-
VGM5-0041	●	7/32	-	0.328	2.000	0.219	1.5	-
VGM5-0042	●	7/32	0.010	0.328	2.000	0.219	1.5	-
VGM5-0043	●	7/32	-	0.438	2.500	0.219	2	-
VGM5-0044	●	7/32	0.010	0.438	2.500	0.219	2	-
VGM5-0045	●	1/4	-	0.375	2.000	0.250	1.5	-
VGM5-0046	●	1/4	0.010	0.375	2.000	0.250	1.5	-
VGM5-0047	●	1/4	0.015	0.375	2.000	0.250	1.5	-
VGM5-0048	●	1/4	0.020	0.375	2.000	0.250	1.5	-
VGM5-0049	●	1/4	0.030	0.375	2.000	0.250	1.5	-
VGM5-0050	●	1/4	0.060	0.375	2.000	0.250	1.5	-
VGM5-0051	●	1/4	-	0.500	2.500	0.250	2	-
VGM5-0052	●	1/4	0.010	0.500	2.500	0.250	2	-
VGM5-0053	●	1/4	0.015	0.500	2.500	0.250	2	-
VGM5-0054	●	1/4	0.020	0.500	2.500	0.250	2	-
VGM5-0055	●	1/4	0.030	0.500	2.500	0.250	2	-
VGM5-0056	●	1/4	0.060	0.500	2.500	0.250	2	-
VGM5-0057	●	1/4	-	0.750	2.500	0.250	3	-
VGM5-0058	●	1/4	0.010	0.750	2.500	0.250	3	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List VGM5 (Continued)

HY-PRO® CARB VGM5

NEW SIZES | SPEED FEED 1389 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio	Weldon Flat
VGM5-0059	●	1/4	0.015	0.750	2.500	0.250	3	-
VGM5-0060	●	1/4	0.020	0.750	2.500	0.250	3	-
VGM5-0061	●	1/4	0.030	0.750	2.500	0.250	3	-
VGM5-0062	●	1/4	0.060	0.750	2.500	0.250	3	-
VGM5-0063	●	1/4	-	1.000	3.000	0.250	4	-
VGM5-0064	●	1/4	0.010	1.000	3.000	0.250	4	-
VGM5-0065	●	1/4	0.015	1.000	3.000	0.250	4	-
VGM5-0066	●	1/4	0.020	1.000	3.000	0.250	4	-
VGM5-0067	●	1/4	0.030	1.000	3.000	0.250	4	-
VGM5-0068	●	1/4	0.060	1.000	3.000	0.250	4	-
VGM5-0069	●	1/4	-	1.250	3.000	0.250	5	-
VGM5-0070	●	1/4	0.020	1.250	3.000	0.250	5	-
VGM5-0071	●	1/4	-	1.500	3.000	0.250	6	-
VGM5-0072	●	1/4	0.020	1.500	3.000	0.250	6	-
VGM5-0073	●	9/32	-	0.422	2.500	0.313	1.5	-
VGM5-0074	○	9/32	0.020	0.422	2.500	0.313	1.5	-
VGM5-0075	●	9/32	-	0.563	2.500	0.313	2	-
VGM5-0076	●	9/32	0.020	0.563	2.500	0.313	2	-
VGM5-0077	●	9/32	-	0.844	3.000	0.313	3	-
VGM5-0078	●	9/32	0.020	0.844	3.000	0.313	3	-
VGM5-0079	●	5/16	-	0.469	2.000	0.313	1.5	-
VGM5-0080	●	5/16	0.010	0.469	2.000	0.313	1.5	-
VGM5-0081	●	5/16	0.020	0.469	2.000	0.313	1.5	-
VGM5-0082	●	5/16	0.030	0.469	2.000	0.313	1.5	-
VGM5-0083	●	5/16	0.060	0.469	2.000	0.313	1.5	-
VGM5-0084	●	5/16	-	0.625	2.500	0.313	2	-
VGM5-0085	●	5/16	0.010	0.625	2.500	0.313	2	-
VGM5-0086	●	5/16	0.020	0.625	2.500	0.313	2	-
VGM5-0087	●	5/16	0.030	0.625	2.500	0.313	2	-
VGM5-0088	●	5/16	0.060	0.625	2.500	0.313	2	-
VGM5-0089	●	5/16	-	0.938	3.000	0.313	3	-
VGM5-0090	●	5/16	0.020	0.938	3.000	0.313	3	-
VGM5-0091	●	5/16	0.030	0.938	3.000	0.313	3	-
VGM5-0092	●	5/16	0.060	0.938	3.000	0.313	3	-
VGM5-0093	●	5/16	-	1.250	3.000	0.313	4	-
VGM5-0094	●	5/16	0.020	1.250	3.000	0.313	4	-
VGM5-0095	●	3/8	-	0.563	2.000	0.375	1.5	-
VGM5-0095-W	○	3/8	-	0.563	2.000	0.375	1.5	●
VGM5-0096	●	3/8	0.010	0.563	2.000	0.375	1.5	-
VGM5-0097	●	3/8	0.015	0.563	2.000	0.375	1.5	-
VGM5-0097-W	○	3/8	0.015	0.563	2.000	0.375	1.5	●
VGM5-0098	●	3/8	0.020	0.563	2.000	0.375	1.5	-
VGM5-0099	●	3/8	0.030	0.563	2.000	0.375	1.5	-
VGM5-0099-W	○	3/8	0.030	0.563	2.000	0.375	1.5	●
VGM5-0100	●	3/8	0.060	0.563	2.000	0.375	1.5	-
VGM5-0100-W	○	3/8	0.060	0.563	2.000	0.375	1.5	●
VGM5-0101	●	3/8	0.090	0.563	2.000	0.375	1.5	-
VGM5-0102	●	3/8	-	0.750	2.500	0.375	2	-
VGM5-0103	●	3/8	0.010	0.750	2.500	0.375	2	-
VGM5-0104	●	3/8	0.020	0.750	2.500	0.375	2	-
VGM5-0105	●	3/8	0.030	0.750	2.500	0.375	2	-
VGM5-0106	●	3/8	0.060	0.750	2.500	0.375	2	-
VGM5-0107	●	3/8	0.090	0.750	2.500	0.375	2	-
VGM5-0108	●	3/8	-	1.125	3.000	0.375	3	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		

○ Good ◎ Best

List VGM5 (Continued)

HY-PRO® CARB VGM5

NEW SIZES | SPEED FEED 1389 | CARBIDE | EXO® | 5 FLUTE | 40° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE





Cutting Diameter Tolerance	
1/8" ≤ D ≤ 3/16"	+0 / -0.0015"

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio	Weldon Flat
VGM5-0108-W	○	3/8	-	1.125	3.000	0.375	3	●
VGM5-0109	●	3/8	0.010	1.125	3.000	0.375	3	-
VGM5-0110	●	3/8	0.015	1.125	3.000	0.375	3	-
VGM5-0110-W	○	3/8	0.015	1.125	3.000	0.375	3	●
VGM5-0111	●	3/8	0.020	1.125	3.000	0.375	3	-
VGM5-0112	●	3/8	0.030	1.125	3.000	0.375	3	-
VGM5-0112-W	○	3/8	0.030	1.125	3.000	0.375	3	●
VGM5-0113	●	3/8	0.060	1.125	3.000	0.375	3	-
VGM5-0113-W	○	3/8	0.060	1.125	3.000	0.375	3	●
VGM5-0114	●	3/8	0.090	1.125	3.000	0.375	3	-
VGM5-0115	●	3/8	-	1.500	4.000	0.375	4	-
VGM5-0116	●	3/8	0.010	1.500	4.000	0.375	4	-
VGM5-0117	●	3/8	0.020	1.500	4.000	0.375	4	-
VGM5-0118	●	3/8	0.030	1.500	4.000	0.375	4	-
VGM5-0119	●	3/8	0.060	1.500	4.000	0.375	4	-
VGM5-0120	●	3/8	0.090	1.500	4.000	0.375	4	-
VGM5-0121	●	1/2	-	0.625	2.500	0.500	1.25	-
VGM5-0121-W	○	1/2	-	0.625	2.500	0.500	1.25	●
VGM5-0122	●	1/2	0.010	0.625	2.500	0.500	1.25	-
VGM5-0123	●	1/2	0.015	0.625	2.500	0.500	1.25	-
VGM5-0123-W	○	1/2	0.015	0.625	2.500	0.500	1.25	●
VGM5-0124	●	1/2	0.020	0.625	2.500	0.500	1.25	-
VGM5-0125	●	1/2	0.030	0.625	2.500	0.500	1.25	-
VGM5-0125-W	○	1/2	0.030	0.625	2.500	0.500	1.25	●
VGM5-0126	●	1/2	0.060	0.625	2.500	0.500	1.25	-
VGM5-0126-W	○	1/2	0.060	0.625	2.500	0.500	1.25	●
VGM5-0127	●	1/2	0.090	0.625	2.500	0.500	1.25	-
VGM5-0127-W	○	1/2	0.090	0.625	2.500	0.500	1.25	●
VGM5-0128	●	1/2	0.120	0.625	2.500	0.500	1.25	-
VGM5-0128-W	○	1/2	0.120	0.625	2.500	0.500	1.25	●
VGM5-0129	●	1/2	0.125	0.625	2.500	0.500	1.25	-
VGM5-0130	●	1/2	-	1.000	3.000	0.500	2	-
VGM5-0131	●	1/2	0.010	1.000	3.000	0.500	2	-
VGM5-0132	●	1/2	0.015	1.000	3.000	0.500	2	-
VGM5-0133	●	1/2	0.020	1.000	3.000	0.500	2	-
VGM5-0134	●	1/2	0.030	1.000	3.000	0.500	2	-
VGM5-0134-W	○	1/2	0.030	1.000	3.000	0.500	2	●
VGM5-0135	●	1/2	0.060	1.000	3.000	0.500	2	-
VGM5-0135-W	○	1/2	0.060	1.000	3.000	0.500	2	●
VGM5-0136	●	1/2	0.090	1.000	3.000	0.500	2	-
VGM5-0137	●	1/2	0.120	1.000	3.000	0.500	2	-
VGM5-0138	●	1/2	0.125	1.000	3.000	0.500	2	-
VGM5-0139	●	1/2	-	1.250	3.000	0.500	2.5	-
VGM5-0139-W	○	1/2	-	1.250	3.000	0.500	2.5	●
VGM5-0140	●	1/2	0.010	1.250	3.000	0.500	2.5	-
VGM5-0141	●	1/2	0.015	1.250	3.000	0.500	2.5	-
VGM5-0141-W	○	1/2	0.015	1.250	3.000	0.500	2.5	●
VGM5-0142	●	1/2	0.020	1.250	3.000	0.500	2.5	-
VGM5-0143	●	1/2	0.030	1.250	3.000	0.500	2.5	-
VGM5-0143-W	○	1/2	0.030	1.250	3.000	0.500	2.5	●
VGM5-0144	●	1/2	0.060	1.250	3.000	0.500	2.5	-
VGM5-0144-W	○	1/2	0.060	1.250	3.000	0.500	2.5	●
VGM5-0145	●	1/2	0.090	1.250	3.000	0.500	2.5	-
VGM5-0145-W	○	1/2	0.090	1.250	3.000	0.500	2.5	●
VGM5-0146	●	1/2	0.120	1.250	3.000	0.500	2.5	-
VGM5-0146-W	○	1/2	0.120	1.250	3.000	0.500	2.5	●
VGM5-0147	●	1/2	0.125	1.250	3.000	0.500	2.5	-
VGM5-0148	●	1/2	-	1.500	4.000	0.500	3	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List VGM5 (Continued)

HY-PRO® CARB VGM5

NEW SIZES | SPEED FEED 1389 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio	Weldon Flat
VGM5-0149	●	1/2	0.010	1.500	4.000	0.500	3	-
VGM5-0150	●	1/2	0.030	1.500	4.000	0.500	3	-
VGM5-0151	●	1/2	0.060	1.500	4.000	0.500	3	-
VGM5-0152	○	1/2	0.090	1.500	4.000	0.500	3	-
VGM5-0153	●	1/2	0.120	1.500	4.000	0.500	3	-
VGM5-0154	●	1/2	0.125	1.500	4.000	0.500	3	-
VGM5-0155	●	1/2	-	2.000	4.000	0.500	4	-
VGM5-0156	●	1/2	0.010	2.000	4.000	0.500	4	-
VGM5-0157	●	1/2	0.030	2.000	4.000	0.500	4	-
VGM5-0158	●	1/2	0.060	2.000	4.000	0.500	4	-
VGM5-0159	●	1/2	0.120	2.000	4.000	0.500	4	-
VGM5-0160	●	1/2	-	2.500	5.000	0.500	5	-
VGM5-0161	●	1/2	0.010	2.500	5.000	0.500	5	-
VGM5-0162	●	1/2	0.030	2.500	5.000	0.500	5	-
VGM5-0163	●	1/2	0.060	2.500	5.000	0.500	5	-
VGM5-0164	●	1/2	0.120	2.500	5.000	0.500	5	-
VGM5-0165	●	5/8	-	0.781	3.000	0.625	1.25	-
VGM5-0165-W	○	5/8	-	0.781	3.000	0.625	1.25	●
VGM5-0166	●	5/8	0.020	0.781	3.000	0.625	1.25	-
VGM5-0167	●	5/8	0.030	0.781	3.000	0.625	1.25	-
VGM5-0167-W	○	5/8	0.030	0.781	3.000	0.625	1.25	●
VGM5-0168	●	5/8	0.060	0.781	3.000	0.625	1.25	-
VGM5-0168-W	○	5/8	0.060	0.781	3.000	0.625	1.25	●
VGM5-0169	○	5/8	0.090	0.781	3.000	0.625	1.25	-
VGM5-0169-W	○	5/8	0.090	0.781	3.000	0.625	1.25	●
VGM5-0170	●	5/8	0.120	0.781	3.000	0.625	1.25	-
VGM5-0171	○	5/8	-	0.938	3.000	0.625	1.5	-
VGM5-0172	●	5/8	0.020	0.938	3.000	0.625	1.5	-
VGM5-0173	●	5/8	0.030	0.938	3.000	0.625	1.5	-
VGM5-0174	○	5/8	0.060	0.938	3.000	0.625	1.5	-
VGM5-0175	○	5/8	0.090	0.938	3.000	0.625	1.5	-
VGM5-0176	●	5/8	0.120	0.938	3.000	0.625	1.5	-
VGM5-0177	●	5/8	-	1.250	3.500	0.625	2	-
VGM5-0177-W	○	5/8	-	1.250	3.500	0.625	2	●
VGM5-0178	●	5/8	0.020	1.250	3.500	0.625	2	-
VGM5-0179	●	5/8	0.030	1.250	3.500	0.625	2	-
VGM5-0179-W	○	5/8	0.030	1.250	3.500	0.625	2	●
VGM5-0180	●	5/8	0.060	1.250	3.500	0.625	2	-
VGM5-0180-W	○	5/8	0.060	1.250	3.500	0.625	2	●
VGM5-0181	●	5/8	0.090	1.250	3.500	0.625	2	-
VGM5-0181-W	○	5/8	0.090	1.250	3.500	0.625	2	●
VGM5-0182	○	5/8	0.120	1.250	3.500	0.625	2	-
VGM5-0183	●	5/8	-	1.563	3.500	0.625	2.5	-
VGM5-0184	●	5/8	0.020	1.563	3.500	0.625	2.5	-
VGM5-0185	●	5/8	0.030	1.563	3.500	0.625	2.5	-
VGM5-0186	●	5/8	0.060	1.563	3.500	0.625	2.5	-
VGM5-0187	○	5/8	0.090	1.563	3.500	0.625	2.5	-
VGM5-0188	○	5/8	0.120	1.563	3.500	0.625	2.5	-
VGM5-0189	●	5/8	-	1.875	5.000	0.625	3	-
VGM5-0190	●	5/8	0.020	1.875	5.000	0.625	3	-
VGM5-0191	●	5/8	0.030	1.875	5.000	0.625	3	-
VGM5-0192	○	5/8	0.060	1.875	5.000	0.625	3	-
VGM5-0193	○	5/8	0.090	1.875	5.000	0.625	3	-
VGM5-0194	●	5/8	0.120	1.875	5.000	0.625	3	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		

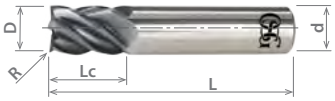
○ Good ◎ Best

List VGM5 (Continued)

HY-PRO® CARB VGM5

NEW SIZES | SPEED FEED 1389 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE





Cutting Diameter Tolerance	
1/8" ≤ D ≤ 3/16"	+0 / -0.0015"

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio	Weldon Flat
VGM5-0195	●	5/8	-	2.500	5.000	0.625	4	-
VGM5-0196	●	5/8	0.020	2.500	5.000	0.625	4	-
VGM5-0197	●	5/8	0.030	2.500	5.000	0.625	4	-
VGM5-0198	○	5/8	0.060	2.500	5.000	0.625	4	-
VGM5-0199	●	5/8	0.090	2.500	5.000	0.625	4	-
VGM5-0200	○	5/8	0.120	2.500	5.000	0.625	4	-
VGM5-0201	●	3/4	-	0.938	3.000	0.750	1.25	-
VGM5-0202	●	3/4	0.020	0.938	3.000	0.750	1.25	-
VGM5-0203	●	3/4	0.030	0.938	3.000	0.750	1.25	-
VGM5-0204	●	3/4	0.060	0.938	3.000	0.750	1.25	-
VGM5-0205	●	3/4	0.090	0.938	3.000	0.750	1.25	-
VGM5-0206	●	3/4	0.120	0.938	3.000	0.750	1.25	-
VGM5-0207	●	3/4	0.190	0.938	3.000	0.750	1.25	-
VGM5-0208	●	3/4	0.250	0.938	3.000	0.750	1.25	-
VGM5-0209	●	3/4	-	1.125	4.000	0.750	1.5	-
VGM5-0209-W	○	3/4	-	1.125	4.000	0.750	1.5	●
VGM5-0210	●	3/4	0.020	1.125	4.000	0.750	1.5	-
VGM5-0211	●	3/4	0.030	1.125	4.000	0.750	1.5	-
VGM5-0211-W	○	3/4	0.030	1.125	4.000	0.750	1.5	●
VGM5-0212	●	3/4	0.060	1.125	4.000	0.750	1.5	-
VGM5-0212-W	○	3/4	0.060	1.125	4.000	0.750	1.5	●
VGM5-0213	●	3/4	0.090	1.125	4.000	0.750	1.5	-
VGM5-0213-W	○	3/4	0.090	1.125	4.000	0.750	1.5	●
VGM5-0214	●	3/4	0.120	1.125	4.000	0.750	1.5	-
VGM5-0214-W	○	3/4	0.120	1.125	4.000	0.750	1.5	●
VGM5-0215	○	3/4	0.190	1.125	4.000	0.750	1.5	-
VGM5-0216	○	3/4	0.250	1.125	4.000	0.750	1.5	-
VGM5-0217	●	3/4	-	1.500	4.000	0.750	2	-
VGM5-0217-W	○	3/4	-	1.500	4.000	0.750	2	●
VGM5-0218	●	3/4	0.020	1.500	4.000	0.750	2	-
VGM5-0219	●	3/4	0.030	1.500	4.000	0.750	2	-
VGM5-0219-W	○	3/4	0.030	1.500	4.000	0.750	2	●
VGM5-0220	●	3/4	0.060	1.500	4.000	0.750	2	-
VGM5-0220-W	○	3/4	0.060	1.500	4.000	0.750	2	●
VGM5-0221	●	3/4	0.090	1.500	4.000	0.750	2	-
VGM5-0221-W	○	3/4	0.090	1.500	4.000	0.750	2	●
VGM5-0222	●	3/4	0.120	1.500	4.000	0.750	2	-
VGM5-0222-W	○	3/4	0.120	1.500	4.000	0.750	2	●
VGM5-0223	○	3/4	0.190	1.500	4.000	0.750	2	-
VGM5-0224	●	3/4	0.250	1.500	4.000	0.750	2	-
VGM5-0225	●	3/4	-	2.250	5.000	0.750	3	-
VGM5-0226	●	3/4	0.020	2.250	5.000	0.750	3	-
VGM5-0227	●	3/4	0.030	2.250	5.000	0.750	3	-
VGM5-0228	●	3/4	0.060	2.250	5.000	0.750	3	-
VGM5-0229	●	3/4	0.090	2.250	5.000	0.750	3	-
VGM5-0230	●	3/4	0.120	2.250	5.000	0.750	3	-
VGM5-0231	○	3/4	0.190	2.250	5.000	0.750	3	-
VGM5-0232	●	3/4	0.250	2.250	5.000	0.750	3	-
VGM5-0233	●	3/4	-	3.000	6.000	0.750	4	-
VGM5-0234	●	3/4	0.020	3.000	6.000	0.750	4	-
VGM5-0235	●	3/4	0.030	3.000	6.000	0.750	4	-
VGM5-0236	●	3/4	0.060	3.000	6.000	0.750	4	-
VGM5-0237	○	3/4	0.090	3.000	6.000	0.750	4	-
VGM5-0238	●	3/4	0.120	3.000	6.000	0.750	4	-
VGM5-0239	●	3/4	0.190	3.000	6.000	0.750	4	-
VGM5-0240	●	3/4	0.250	3.000	6.000	0.750	4	-
VGM5-0241	●	3/4	-	3.750	7.000	0.750	5	-
VGM5-0242	○	3/4	0.020	3.750	7.000	0.750	5	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List VGM5 (Continued)

HY-PRO® CARB VGM5

NEW SIZES | SPEED FEED 1389 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio	Weldon Flat
VGM5-0243	●	3/4	0.030	3.750	7.000	0.750	5	-
VGM5-0244	●	3/4	0.060	3.750	7.000	0.750	5	-
VGM5-0245	●	3/4	0.090	3.750	7.000	0.750	5	-
VGM5-0246	●	3/4	0.120	3.750	7.000	0.750	5	-
VGM5-0247	●	3/4	0.190	3.750	7.000	0.750	5	-
VGM5-0248	●	3/4	0.250	3.750	7.000	0.750	5	-
VGM5-0249	●	1	-	1.250	4.000	1.000	1.25	-
VGM5-0249-W	○	1	-	1.250	4.000	1.000	1.25	●
VGM5-0250	●	1	0.030	1.250	4.000	1.000	1.25	-
VGM5-0250-W	○	1	0.030	1.250	4.000	1.000	1.25	●
VGM5-0251	●	1	0.060	1.250	4.000	1.000	1.25	-
VGM5-0251-W	○	1	0.060	1.250	4.000	1.000	1.25	●
VGM5-0252	●	1	0.090	1.250	4.000	1.000	1.25	-
VGM5-0252-W	○	1	0.090	1.250	4.000	1.000	1.25	●
VGM5-0253	○	1	0.120	1.250	4.000	1.000	1.25	-
VGM5-0253-W	○	1	0.120	1.250	4.000	1.000	1.25	●
VGM5-0254	○	1	0.190	1.250	4.000	1.000	1.25	-
VGM5-0255	●	1	0.250	1.250	4.000	1.000	1.25	-
VGM5-0256	●	1	-	2.000	5.000	1.000	2	-
VGM5-0256-W	○	1	-	2.000	5.000	1.000	2	●
VGM5-0257	●	1	0.030	2.000	5.000	1.000	2	-
VGM5-0257-W	○	1	0.030	2.000	5.000	1.000	2	●
VGM5-0258	●	1	0.060	2.000	5.000	1.000	2	-
VGM5-0258-W	○	1	0.060	2.000	5.000	1.000	2	●
VGM5-0259	●	1	0.090	2.000	5.000	1.000	2	-
VGM5-0259-W	○	1	0.090	2.000	5.000	1.000	2	●
VGM5-0260	●	1	0.120	2.000	5.000	1.000	2	-
VGM5-0260-W	○	1	0.120	2.000	5.000	1.000	2	●
VGM5-0261	●	1	0.190	2.000	5.000	1.000	2	-
VGM5-0262	●	1	0.250	2.000	5.000	1.000	2	-
VGM5-0263	●	1	-	3.000	6.000	1.000	3	-
VGM5-0264	○	1	0.030	3.000	6.000	1.000	3	-
VGM5-0265	●	1	0.060	3.000	6.000	1.000	3	-
VGM5-0266	○	1	0.090	3.000	6.000	1.000	3	-
VGM5-0267	○	1	0.120	3.000	6.000	1.000	3	-
VGM5-0268	○	1	0.190	3.000	6.000	1.000	3	-
VGM5-0269	●	1	0.250	3.000	6.000	1.000	3	-
VGM5-0270	●	1	-	4.000	7.000	1.000	4	-
VGM5-0271	●	1	0.030	4.000	7.000	1.000	4	-
VGM5-0272	●	1	0.060	4.000	7.000	1.000	4	-
VGM5-0273	○	1	0.090	4.000	7.000	1.000	4	-
VGM5-0274	○	1	0.120	4.000	7.000	1.000	4	-
VGM5-0275	●	1	0.190	4.000	7.000	1.000	4	-
VGM5-0276	○	1	0.250	4.000	7.000	1.000	4	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		

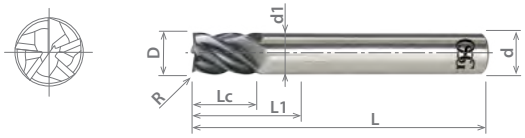
○ Good ◎ Best

List VGM5-LN

SPEED FEED 1390 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | PACKED 1 PIECE

HY-PRO® CARB VGM5-LN, Long Neck

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0015"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter	L/D Ratio
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)	
VGM5-1001	●	1/8	-	0.156	0.375	0.118	2.250	0.125	3
VGM5-1002	●	1/8	0.010	0.156	0.375	0.118	2.250	0.125	3
VGM5-1003	●	1/8	0.015	0.156	0.375	0.118	2.250	0.125	3
VGM5-1004	●	1/8	0.030	0.156	0.375	0.118	2.250	0.125	3
VGM5-1005	●	1/8	-	0.156	0.500	0.118	2.250	0.125	4
VGM5-1006	●	1/8	0.010	0.156	0.500	0.118	2.250	0.125	4
VGM5-1007	○	1/8	0.015	0.156	0.500	0.118	2.250	0.125	4
VGM5-1008	●	1/8	0.030	0.156	0.500	0.118	2.250	0.125	4
VGM5-1009	●	1/8	-	0.156	0.750	0.118	3.000	0.125	6
VGM5-1010	●	1/8	0.010	0.156	0.750	0.118	3.000	0.125	6
VGM5-1011	○	1/8	0.015	0.156	0.750	0.118	3.000	0.125	6
VGM5-1012	●	1/8	0.030	0.156	0.750	0.118	3.000	0.125	6
VGM5-1013	●	1/8	-	0.156	1.000	0.118	3.000	0.125	8
VGM5-1014	●	1/8	0.010	0.156	1.000	0.118	3.000	0.125	8
VGM5-1015	●	1/8	0.015	0.156	1.000	0.118	3.000	0.125	8
VGM5-1016	●	1/8	0.030	0.156	1.000	0.118	3.000	0.125	8
VGM5-1017	●	3/16	-	0.234	0.563	0.178	2.000	0.188	3
VGM5-1018	●	3/16	0.010	0.234	0.563	0.178	2.000	0.188	3
VGM5-1019	●	3/16	0.015	0.234	0.563	0.178	2.000	0.188	3
VGM5-1020	●	3/16	0.030	0.234	0.563	0.178	2.000	0.188	3
VGM5-1021	●	3/16	-	0.234	0.750	0.178	2.000	0.188	4
VGM5-1022	●	3/16	0.010	0.234	0.750	0.178	2.000	0.188	4
VGM5-1023	●	3/16	0.030	0.234	0.750	0.178	3.000	0.188	4
VGM5-1024	●	3/16	-	0.234	1.125	0.178	3.000	0.188	6
VGM5-1025	●	3/16	0.010	0.234	1.125	0.178	3.000	0.188	6
VGM5-1026	●	3/16	0.015	0.234	1.125	0.178	3.000	0.188	6
VGM5-1027	●	3/16	0.030	0.234	1.125	0.178	3.000	0.188	6
VGM5-1028	●	3/16	-	0.234	1.313	0.178	3.000	0.188	7
VGM5-1029	●	3/16	0.010	0.234	1.313	0.178	3.000	0.188	7
VGM5-1030	●	3/16	0.030	0.234	1.313	0.178	3.000	0.188	7
VGM5-1031	●	1/4	-	0.313	0.750	0.237	4.000	0.250	3
VGM5-1032	●	1/4	0.010	0.313	0.750	0.237	4.000	0.250	3
VGM5-1033	●	1/4	0.015	0.313	0.750	0.237	4.000	0.250	3
VGM5-1034	●	1/4	0.020	0.313	0.750	0.237	4.000	0.250	3
VGM5-1035	●	1/4	0.030	0.313	0.750	0.237	4.000	0.250	3
VGM5-1036	●	1/4	0.060	0.313	0.750	0.237	4.000	0.250	3
VGM5-1037	●	1/4	-	0.313	1.000	0.237	4.000	0.250	4
VGM5-1038	●	1/4	0.010	0.313	1.000	0.237	4.000	0.250	4
VGM5-1039	●	1/4	0.015	0.313	1.000	0.237	4.000	0.250	4
VGM5-1040	●	1/4	0.020	0.313	1.000	0.237	4.000	0.250	4
VGM5-1041	●	1/4	0.030	0.313	1.000	0.237	4.000	0.250	4
VGM5-1042	●	1/4	0.060	0.313	1.000	0.237	4.000	0.250	4
VGM5-1043	●	1/4	-	0.313	1.250	0.237	4.000	0.250	5
VGM5-1044	●	1/4	0.010	0.313	1.250	0.237	4.000	0.250	5
VGM5-1045	●	1/4	0.015	0.313	1.250	0.237	4.000	0.250	5
VGM5-1046	●	1/4	0.020	0.313	1.250	0.237	4.000	0.250	5
VGM5-1047	●	1/4	0.030	0.313	1.250	0.237	4.000	0.250	5
VGM5-1048	●	1/4	0.060	0.313	1.250	0.237	4.000	0.250	5
VGM5-1049	●	1/4	-	0.313	1.500	0.237	4.000	0.250	6
VGM5-1050	●	1/4	0.010	0.313	1.500	0.237	4.000	0.250	6
VGM5-1051	●	1/4	0.015	0.313	1.500	0.237	4.000	0.250	6
VGM5-1052	●	1/4	0.020	0.313	1.500	0.237	4.000	0.250	6
VGM5-1053	●	1/4	0.030	0.313	1.500	0.237	4.000	0.250	6
VGM5-1054	●	1/4	0.060	0.313	1.500	0.237	4.000	0.250	6
VGM5-1055	●	1/4	-	0.313	2.000	0.237	4.000	0.250	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List VGM5-LN (Cont.)

HY-PRO® CARB VGM5-LN, Long Neck

SPEED FEED 1390 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio
VGM5-1056	●	1/4	0.020	0.313	2.000	0.237	4.000	0.250	8
VGM5-1057	●	1/4	-	0.313	2.500	0.237	4.000	0.250	10
VGM5-1058	●	1/4	0.020	0.313	2.500	0.237	4.000	0.250	10
VGM5-1059	●	3/8	-	0.469	1.125	0.356	4.000	0.375	3
VGM5-1060	●	3/8	0.010	0.469	1.125	0.356	4.000	0.375	3
VGM5-1061	●	3/8	0.015	0.469	1.125	0.356	4.000	0.375	3
VGM5-1062	●	3/8	0.020	0.469	1.125	0.356	4.000	0.375	3
VGM5-1063	●	3/8	0.030	0.469	1.125	0.356	4.000	0.375	3
VGM5-1064	●	3/8	0.060	0.469	1.125	0.356	4.000	0.375	3
VGM5-1065	●	3/8	0.090	0.469	1.125	0.356	4.000	0.375	3
VGM5-1066	●	3/8	-	0.469	1.500	0.356	4.000	0.375	4
VGM5-1067	●	3/8	0.010	0.469	1.500	0.356	4.000	0.375	4
VGM5-1068	●	3/8	0.020	0.469	1.500	0.356	4.000	0.375	4
VGM5-1069	●	3/8	0.030	0.469	1.500	0.356	4.000	0.375	4
VGM5-1070	●	3/8	0.060	0.469	1.500	0.356	4.000	0.375	4
VGM5-1071	●	3/8	0.090	0.469	1.500	0.356	4.000	0.375	4
VGM5-1072	●	3/8	-	0.469	1.875	0.356	4.000	0.375	5
VGM5-1073	●	3/8	0.010	0.469	1.875	0.356	4.000	0.375	5
VGM5-1074	●	3/8	0.015	0.469	1.875	0.356	4.000	0.375	5
VGM5-1075	●	3/8	0.020	0.469	1.875	0.356	4.000	0.375	5
VGM5-1076	●	3/8	0.030	0.469	1.875	0.356	4.000	0.375	5
VGM5-1077	●	3/8	0.060	0.469	1.875	0.356	4.000	0.375	5
VGM5-1078	●	3/8	0.090	0.469	1.875	0.356	4.000	0.375	5
VGM5-1079	●	3/8	-	0.469	2.250	0.356	5.000	0.375	6
VGM5-1080	●	3/8	0.010	0.469	2.250	0.356	5.000	0.375	6
VGM5-1081	●	3/8	0.020	0.469	2.250	0.356	5.000	0.375	6
VGM5-1082	●	3/8	0.030	0.469	2.250	0.356	5.000	0.375	6
VGM5-1083	●	3/8	0.060	0.469	2.250	0.356	5.000	0.375	6
VGM5-1084	●	3/8	0.090	0.469	2.250	0.356	5.000	0.375	6
VGM5-1085	●	3/8	-	0.469	3.000	0.356	6.000	0.375	8
VGM5-1086	●	3/8	0.010	0.469	3.000	0.356	6.000	0.375	8
VGM5-1087	●	3/8	0.020	0.469	3.000	0.356	6.000	0.375	8
VGM5-1088	●	3/8	0.030	0.469	3.000	0.356	6.000	0.375	8
VGM5-1089	○	3/8	0.060	0.469	3.000	0.356	6.000	0.375	8
VGM5-1090	○	3/8	0.090	0.469	3.000	0.356	6.000	0.375	8
VGM5-1091	●	1/2	-	0.625	1.500	0.475	4.000	0.500	3
VGM5-1092	●	1/2	0.010	0.625	1.500	0.475	4.000	0.500	3
VGM5-1093	●	1/2	0.015	0.625	1.500	0.475	4.000	0.500	3
VGM5-1094	●	1/2	0.020	0.625	1.500	0.475	4.000	0.500	3
VGM5-1095	●	1/2	0.030	0.625	1.500	0.475	4.000	0.500	3
VGM5-1096	○	1/2	0.060	0.625	1.500	0.475	4.000	0.500	3
VGM5-1097	○	1/2	0.090	0.625	1.500	0.475	4.000	0.500	3
VGM5-1098	○	1/2	0.120	0.625	1.500	0.475	4.000	0.500	3
VGM5-1099	○	1/2	0.125	0.625	1.500	0.475	4.000	0.500	3
VGM5-1100	●	1/2	-	0.625	2.000	0.475	4.000	0.500	4
VGM5-1101	●	1/2	0.010	0.625	2.000	0.475	4.000	0.500	4
VGM5-1102	●	1/2	0.015	0.625	2.000	0.475	4.000	0.500	4
VGM5-1103	●	1/2	0.020	0.625	2.000	0.475	4.000	0.500	4
VGM5-1104	●	1/2	0.030	0.625	2.000	0.475	4.000	0.500	4
VGM5-1105	○	1/2	0.060	0.625	2.000	0.475	4.000	0.500	4
VGM5-1106	○	1/2	0.090	0.625	2.000	0.475	4.000	0.500	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		

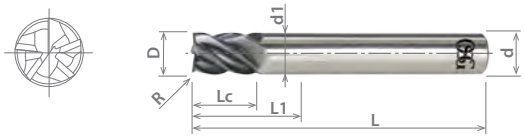
○ Good ◎ Best

List VGM5-LN (Cont.)

SPEED FEED 1390 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | PACKED 1 PIECE

HY-PRO® CARB VGM5-LN, Long Neck

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio
VGM5-1107	●	1/2	0.120	0.625	2.000	0.475	4.000	0.500	4
VGM5-1108	○	1/2	0.125	0.625	2.000	0.475	4.000	0.500	4
VGM5-1109	●	1/2	-	0.625	2.500	0.475	5.000	0.500	5
VGM5-1110	●	1/2	0.010	0.625	2.500	0.475	5.000	0.500	5
VGM5-1111	●	1/2	0.015	0.625	2.500	0.475	5.000	0.500	5
VGM5-1112	●	1/2	0.020	0.625	2.500	0.475	5.000	0.500	5
VGM5-1113	●	1/2	0.030	0.625	2.500	0.475	5.000	0.500	5
VGM5-1114	●	1/2	0.060	0.625	2.500	0.475	5.000	0.500	5
VGM5-1115	○	1/2	0.090	0.625	2.500	0.475	5.000	0.500	5
VGM5-1116	○	1/2	0.120	0.625	2.500	0.475	5.000	0.500	5
VGM5-1117	○	1/2	0.125	0.625	2.500	0.475	5.000	0.500	5
VGM5-1118	●	1/2	-	0.625	3.000	0.475	6.000	0.500	6
VGM5-1119	●	1/2	0.010	0.625	3.000	0.475	6.000	0.500	6
VGM5-1120	●	1/2	0.030	0.625	3.000	0.475	6.000	0.500	6
VGM5-1121	●	1/2	0.060	0.625	3.000	0.475	6.000	0.500	6
VGM5-1122	●	1/2	0.090	0.625	3.000	0.475	6.000	0.500	6
VGM5-1123	○	1/2	0.120	0.625	3.000	0.475	6.000	0.500	6
VGM5-1124	○	1/2	0.125	0.625	3.000	0.475	6.000	0.500	6
VGM5-1125	●	1/2	-	0.625	4.000	0.475	6.000	0.500	8
VGM5-1126	●	1/2	0.010	0.625	4.000	0.475	6.000	0.500	8
VGM5-1127	○	1/2	0.030	0.625	4.000	0.475	6.000	0.500	8
VGM5-1128	○	1/2	0.060	0.625	4.000	0.475	6.000	0.500	8
VGM5-1129	○	1/2	0.120	0.625	4.000	0.475	6.000	0.500	8
VGM5-1130	●	1/2	-	0.625	5.000	0.475	7.000	0.500	10
VGM5-1131	○	1/2	0.010	0.625	5.000	0.475	7.000	0.500	10
VGM5-1132	●	1/2	0.030	0.625	5.000	0.475	7.000	0.500	10
VGM5-1133	●	1/2	0.060	0.625	5.000	0.475	7.000	0.500	10
VGM5-1134	●	1/2	0.120	0.625	5.000	0.475	7.000	0.500	10
VGM5-1135	●	5/8	-	0.781	1.875	0.593	5.000	0.625	3
VGM5-1136	●	5/8	0.020	0.781	1.875	0.593	5.000	0.625	3
VGM5-1137	○	5/8	0.030	0.781	1.875	0.593	5.000	0.625	3
VGM5-1138	○	5/8	0.060	0.781	1.875	0.593	5.000	0.625	3
VGM5-1139	○	5/8	0.090	0.781	1.875	0.593	5.000	0.625	3
VGM5-1140	○	5/8	0.120	0.781	1.875	0.593	5.000	0.625	3
VGM5-1141	●	5/8	-	0.781	2.500	0.593	6.000	0.625	4
VGM5-1142	●	5/8	0.020	0.781	2.500	0.593	6.000	0.625	4
VGM5-1143	●	5/8	0.030	0.781	2.500	0.593	6.000	0.625	4
VGM5-1144	○	5/8	0.060	0.781	2.500	0.593	6.000	0.625	4
VGM5-1145	○	5/8	0.090	0.781	2.500	0.593	6.000	0.625	4
VGM5-1146	○	5/8	0.120	0.781	2.500	0.593	6.000	0.625	4
VGM5-1147	●	5/8	-	0.781	3.125	0.593	6.000	0.625	5
VGM5-1148	●	5/8	0.020	0.781	3.125	0.593	6.000	0.625	5
VGM5-1149	○	5/8	0.030	0.781	3.125	0.593	6.000	0.625	5
VGM5-1150	○	5/8	0.060	0.781	3.125	0.593	6.000	0.625	5
VGM5-1151	○	5/8	0.090	0.781	3.125	0.593	6.000	0.625	5
VGM5-1152	○	5/8	0.120	0.781	3.125	0.593	6.000	0.625	5
VGM5-1153	○	5/8	-	0.781	3.750	0.593	6.000	0.625	6
VGM5-1154	●	5/8	0.020	0.781	3.750	0.593	6.000	0.625	6
VGM5-1155	○	5/8	0.030	0.781	3.750	0.593	6.000	0.625	6
VGM5-1156	○	5/8	0.060	0.781	3.750	0.593	6.000	0.625	6
VGM5-1157	○	5/8	0.090	0.781	3.750	0.593	6.000	0.625	6
VGM5-1158	○	5/8	0.120	0.781	3.750	0.593	6.000	0.625	6
VGM5-1159	●	3/4	-	0.938	2.250	0.712	4.000	0.750	3
VGM5-1160	●	3/4	0.020	0.938	2.250	0.712	4.000	0.750	3
VGM5-1161	●	3/4	0.030	0.938	2.250	0.712	4.000	0.750	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List VGM5-LN (Cont.)

HY-PRO® CARB VGM5-LN, Long Neck

SPEED FEED 1390 | CARBIDE | EXO | 5 FLUTE | 40° | SHANK h6 | STUB | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio
VGM5-1162	○	3/4	0.060	0.938	2.250	0.712	4.000	0.750	3
VGM5-1163	○	3/4	0.090	0.938	2.250	0.712	4.000	0.750	3
VGM5-1164	○	3/4	0.120	0.938	2.250	0.712	4.000	0.750	3
VGM5-1165	○	3/4	0.190	0.938	2.250	0.712	4.000	0.750	3
VGM5-1166	○	3/4	0.250	0.938	2.250	0.712	4.000	0.750	3
VGM5-1167	●	3/4	-	0.938	3.000	0.712	6.000	0.750	4
VGM5-1168	●	3/4	0.020	0.938	3.000	0.712	6.000	0.750	4
VGM5-1169	●	3/4	0.030	0.938	3.000	0.712	6.000	0.750	4
VGM5-1170	●	3/4	0.060	0.938	3.000	0.712	6.000	0.750	4
VGM5-1171	○	3/4	0.090	0.938	3.000	0.712	6.000	0.750	4
VGM5-1172	●	3/4	0.120	0.938	3.000	0.712	6.000	0.750	4
VGM5-1173	○	3/4	0.190	0.938	3.000	0.712	6.000	0.750	4
VGM5-1174	○	3/4	0.250	0.938	3.000	0.712	6.000	0.750	4
VGM5-1175	●	3/4	-	0.938	3.750	0.712	6.000	0.750	5
VGM5-1176	●	3/4	0.020	0.938	3.750	0.712	6.000	0.750	5
VGM5-1177	●	3/4	0.030	0.938	3.750	0.712	6.000	0.750	5
VGM5-1178	●	3/4	0.060	0.938	3.750	0.712	6.000	0.750	5
VGM5-1179	○	3/4	0.090	0.938	3.750	0.712	6.000	0.750	5
VGM5-1180	○	3/4	0.120	0.938	3.750	0.712	6.000	0.750	5
VGM5-1181	○	3/4	0.190	0.938	3.750	0.712	6.000	0.750	5
VGM5-1182	○	3/4	0.250	0.938	3.750	0.712	6.000	0.750	5
VGM5-1183	●	3/4	-	0.938	4.500	0.712	7.000	0.750	6
VGM5-1184	○	3/4	0.020	0.938	4.500	0.712	7.000	0.750	6
VGM5-1185	●	3/4	0.030	0.938	4.500	0.712	7.000	0.750	6
VGM5-1186	●	3/4	0.060	0.938	4.500	0.712	7.000	0.750	6
VGM5-1187	○	3/4	0.090	0.938	4.500	0.712	7.000	0.750	6
VGM5-1188	○	3/4	0.120	0.938	4.500	0.712	7.000	0.750	6
VGM5-1189	○	3/4	0.190	0.938	4.500	0.712	7.000	0.750	6
VGM5-1190	●	3/4	0.250	0.938	4.500	0.712	7.000	0.750	6
VGM5-1191	○	1	-	1.250	3.000	0.950	6.000	1.000	3
VGM5-1192	●	1	0.030	1.250	3.000	0.950	6.000	1.000	3
VGM5-1193	○	1	0.060	1.250	3.000	0.950	6.000	1.000	3
VGM5-1194	●	1	0.090	1.250	3.000	0.950	6.000	1.000	3
VGM5-1195	○	1	0.120	1.250	3.000	0.950	6.000	1.000	3
VGM5-1196	○	1	0.190	1.250	3.000	0.950	6.000	1.000	3
VGM5-1197	○	1	0.250	1.250	3.000	0.950	6.000	1.000	3
VGM5-1198	○	1	-	1.250	4.000	0.950	6.000	1.000	4
VGM5-1199	○	1	0.030	1.250	4.000	0.950	6.000	1.000	4
VGM5-1200	○	1	0.060	1.250	4.000	0.950	6.000	1.000	4
VGM5-1201	○	1	0.090	1.250	4.000	0.950	6.000	1.000	4
VGM5-1202	○	1	0.120	1.250	4.000	0.950	6.000	1.000	4
VGM5-1203	○	1	0.190	1.250	4.000	0.950	6.000	1.000	4
VGM5-1204	○	1	0.250	1.250	4.000	0.950	6.000	1.000	4
VGM5-1205	●	1	-	1.250	5.000	0.950	7.000	1.000	5
VGM5-1206	○	1	0.030	1.250	5.000	0.950	7.000	1.000	5
VGM5-1207	●	1	0.060	1.250	5.000	0.950	7.000	1.000	5
VGM5-1208	○	1	0.090	1.250	5.000	0.950	7.000	1.000	5
VGM5-1209	○	1	0.120	1.250	5.000	0.950	7.000	1.000	5
VGM5-1210	●	1	0.190	1.250	5.000	0.950	7.000	1.000	5
VGM5-1211	○	1	0.250	1.250	5.000	0.950	7.000	1.000	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		

○ Good ◎ Best

List VGM6

HY-PRO® CARB VGM6

SPEED FEED 1391 | CARBIDE | EXO | 6 FLUTE | 37° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE





Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0015"

EDP Number		Dia. D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	L/D Ratio
VGM6-0001	●	1/4	-	0.375	2.000	0.250	1.5
VGM6-0002	●	1/4	0.020	0.375	2.000	0.250	1.5
VGM6-0003	●	1/4	0.030	0.375	2.000	0.250	1.5
VGM6-0004	●	1/4	0.060	0.375	2.000	0.250	1.5
VGM6-0005	●	1/4	-	0.500	2.500	0.250	2
VGM6-0006	●	1/4	0.020	0.500	2.500	0.250	2
VGM6-0007	●	1/4	0.030	0.500	2.500	0.250	2
VGM6-0008	●	1/4	0.060	0.500	2.500	0.250	2
VGM6-0009	●	1/4	-	0.750	2.500	0.250	3
VGM6-0010	●	1/4	0.020	0.750	2.500	0.250	3
VGM6-0011	●	1/4	0.030	0.750	2.500	0.250	3
VGM6-0012	●	1/4	0.060	0.750	2.500	0.250	3
VGM6-0013	●	1/4	-	1.000	3.000	0.250	4
VGM6-0014	●	1/4	0.020	1.000	3.000	0.250	4
VGM6-0015	●	1/4	0.030	1.000	3.000	0.250	4
VGM6-0016	○	1/4	0.060	1.000	3.000	0.250	4
VGM6-0017	●	1/4	-	1.250	3.000	0.250	5
VGM6-0018	○	1/4	0.020	1.250	3.000	0.250	5
VGM6-0019	●	1/4	0.030	1.250	3.000	0.250	5
VGM6-0020	●	1/4	0.060	1.250	3.000	0.250	5
VGM6-0021	●	1/4	-	1.500	3.000	0.250	6
VGM6-0022	○	1/4	0.020	1.500	3.000	0.250	6
VGM6-0023	●	1/4	0.030	1.500	3.000	0.250	6
VGM6-0024	●	1/4	0.060	1.500	3.000	0.250	6
VGM6-0025	●	5/16	-	0.469	2.000	0.313	1.5
VGM6-0026	○	5/16	0.020	0.469	2.000	0.313	1.5
VGM6-0027	○	5/16	0.030	0.469	2.000	0.313	1.5
VGM6-0028	○	5/16	0.060	0.469	2.000	0.313	1.5
VGM6-0029	●	5/16	-	0.625	2.500	0.313	2
VGM6-0030	○	5/16	0.020	0.625	2.500	0.313	2
VGM6-0031	●	5/16	0.030	0.625	2.500	0.313	2
VGM6-0032	●	5/16	0.060	0.625	2.500	0.313	2
VGM6-0033	●	5/16	-	0.938	3.000	0.313	3
VGM6-0034	●	5/16	0.020	0.938	3.000	0.313	3
VGM6-0035	●	5/16	0.030	0.938	3.000	0.313	3
VGM6-0036	○	5/16	0.060	0.938	3.000	0.313	3
VGM6-0037	●	5/16	-	1.250	3.000	0.313	4
VGM6-0038	●	5/16	0.020	1.250	3.000	0.313	4
VGM6-0039	●	5/16	0.030	1.250	3.000	0.313	4
VGM6-0040	●	5/16	0.060	1.250	3.000	0.313	4
VGM6-0041	●	3/8	-	0.563	2.000	0.375	1.5
VGM6-0042	●	3/8	0.020	0.563	2.000	0.375	1.5
VGM6-0043	●	3/8	0.030	0.563	2.000	0.375	1.5
VGM6-0044	●	3/8	0.060	0.563	2.000	0.375	1.5
VGM6-0045	○	3/8	0.090	0.563	2.000	0.375	1.5
VGM6-0046	●	3/8	-	0.750	2.500	0.375	2
VGM6-0047	●	3/8	0.020	0.750	2.500	0.375	2
VGM6-0048	●	3/8	0.030	0.750	2.500	0.375	2
VGM6-0049	●	3/8	0.060	0.750	2.500	0.375	2
VGM6-0050	○	3/8	0.090	0.750	2.500	0.375	2
VGM6-0051	●	3/8	-	1.125	3.000	0.375	3
VGM6-0052	●	3/8	0.020	1.125	3.000	0.375	3
VGM6-0053	●	3/8	0.030	1.125	3.000	0.375	3

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HPC

EDP Number		Dia. D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	L/D Ratio
VGM6-0054	●	3/8	0.060	1.125	3.000	0.375	3
VGM6-0055	●	3/8	0.090	1.125	3.000	0.375	3
VGM6-0056	●	3/8	-	1.500	4.000	0.375	4
VGM6-0057	●	3/8	0.020	1.500	4.000	0.375	4
VGM6-0058	○	3/8	0.030	1.500	4.000	0.375	4
VGM6-0059	●	3/8	0.060	1.500	4.000	0.375	4
VGM6-0060	○	3/8	0.090	1.500	4.000	0.375	4
VGM6-0061	●	1/2	-	0.625	2.500	0.500	1.25
VGM6-0062	●	1/2	0.030	0.625	2.500	0.500	1.25
VGM6-0063	●	1/2	0.060	0.625	2.500	0.500	1.25
VGM6-0064	●	1/2	0.090	0.625	2.500	0.500	1.25
VGM6-0065	●	1/2	0.120	0.625	2.500	0.500	1.25
VGM6-0066	●	1/2	0.125	0.625	2.500	0.500	1.25
VGM6-0067	●	1/2	-	1.000	3.000	0.500	2
VGM6-0068	●	1/2	0.030	1.000	3.000	0.500	2
VGM6-0069	●	1/2	0.060	1.000	3.000	0.500	2
VGM6-0070	●	1/2	0.090	1.000	3.000	0.500	2
VGM6-0071	●	1/2	0.120	1.000	3.000	0.500	2
VGM6-0072	●	1/2	0.125	1.000	3.000	0.500	2
VGM6-0073	●	1/2	-	1.250	3.000	0.500	2.5
VGM6-0074	●	1/2	0.030	1.250	3.000	0.500	2.5
VGM6-0075	●	1/2	0.060	1.250	3.000	0.500	2.5
VGM6-0076	●	1/2	0.090	1.250	3.000	0.500	2.5
VGM6-0077	○	1/2	0.120	1.250	3.000	0.500	2.5
VGM6-0078	●	1/2	0.125	1.250	3.000	0.500	2.5
VGM6-0079	●	1/2	-	1.500	4.000	0.500	3
VGM6-0080	●	1/2	0.030	1.500	4.000	0.500	3
VGM6-0081	●	1/2	0.060	1.500	4.000	0.500	3
VGM6-0082	○	1/2	0.090	1.500	4.000	0.500	3
VGM6-0083	○	1/2	0.120	1.500	4.000	0.500	3
VGM6-0084	●	1/2	0.125	1.500	4.000	0.500	3
VGM6-0085	●	1/2	-	2.000	4.000	0.500	4
VGM6-0086	●	1/2	0.030	2.000	4.000	0.500	4
VGM6-0087	○	1/2	0.060	2.000	4.000	0.500	4
VGM6-0088	○	1/2	0.090	2.000	4.000	0.500	4
VGM6-0089	○	1/2	0.120	2.000	4.000	0.500	4
VGM6-0090	○	1/2	0.125	2.000	4.000	0.500	4
VGM6-0091	●	5/8	-	0.781	3.000	0.625	1.25
VGM6-0092	●	5/8	0.020	0.781	3.000	0.625	1.25
VGM6-0093	○	5/8	0.030	0.781	3.000	0.625	1.25
VGM6-0094	●	5/8	0.060	0.781	3.000	0.625	1.25
VGM6-0095	○	5/8	0.090	0.781	3.000	0.625	1.25
VGM6-0096	○	5/8	0.120	0.781	3.000	0.625	1.25
VGM6-0097	●	5/8	0.125	0.781	3.000	0.625	1.25
VGM6-0098	●	5/8	-	1.250	3.500	0.625	2
VGM6-0099	○	5/8	0.020	1.250	3.500	0.625	2
VGM6-0100	○	5/8	0.030	1.250	3.500	0.625	2
VGM6-0101	○	5/8	0.060	1.250	3.500	0.625	2
VGM6-0102	●	5/8	0.090	1.250	3.500	0.625	2
VGM6-0103	○	5/8	0.120	1.250	3.500	0.625	2
VGM6-0104	○	5/8	0.125	1.250	3.500	0.625	2
VGM6-0105	●	5/8	-	1.563	3.500	0.625	2.5
VGM6-0106	○	5/8	0.020	1.563	3.500	0.625	2.5

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HPC

List VGM6 (Continued)

HY-PRO® CARB VGM6

SPEED FEED 1391 | CARBIDE | EXO | 6 FLUTE | 37° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE

EDP Number		Dia. D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	L/D Ratio
VGM6-0107	○	5/8	0.030	1.563	3.500	0.625	2.5
VGM6-0108	○	5/8	0.060	1.563	3.500	0.625	2.5
VGM6-0109	●	5/8	0.090	1.563	3.500	0.625	2.5
VGM6-0110	○	5/8	0.120	1.563	3.500	0.625	2.5
VGM6-0111	○	5/8	0.125	1.563	3.500	0.625	2.5
VGM6-0112	●	5/8	-	1.875	5.000	0.625	3
VGM6-0113	○	5/8	0.020	1.875	5.000	0.625	3
VGM6-0114	○	5/8	0.030	1.875	5.000	0.625	3
VGM6-0115	●	5/8	0.060	1.875	5.000	0.625	3
VGM6-0116	○	5/8	0.090	1.875	5.000	0.625	3
VGM6-0117	○	5/8	0.120	1.875	5.000	0.625	3
VGM6-0118	●	5/8	0.125	1.875	5.000	0.625	3
VGM6-0119	●	5/8	-	2.500	5.000	0.625	4
VGM6-0120	○	5/8	0.020	2.500	5.000	0.625	4
VGM6-0121	●	5/8	0.030	2.500	5.000	0.625	4
VGM6-0122	○	5/8	0.060	2.500	5.000	0.625	4
VGM6-0123	○	5/8	0.090	2.500	5.000	0.625	4
VGM6-0124	○	5/8	0.120	2.500	5.000	0.625	4
VGM6-0125	●	5/8	0.125	2.500	5.000	0.625	4
VGM6-0126	●	3/4	-	0.938	3.000	0.750	1.25
VGM6-0127	○	3/4	0.020	0.938	3.000	0.750	1.25
VGM6-0128	○	3/4	0.030	0.938	3.000	0.750	1.25
VGM6-0129	●	3/4	0.060	0.938	3.000	0.750	1.25
VGM6-0130	○	3/4	0.090	0.938	3.000	0.750	1.25
VGM6-0131	○	3/4	0.120	0.938	3.000	0.750	1.25
VGM6-0132	○	3/4	0.190	0.938	3.000	0.750	1.25
VGM6-0133	○	3/4	0.250	0.938	3.000	0.750	1.25
VGM6-0134	●	3/4	-	1.125	4.000	0.750	1.5
VGM6-0135	○	3/4	0.020	1.125	4.000	0.750	1.5
VGM6-0136	●	3/4	0.030	1.125	4.000	0.750	1.5
VGM6-0137	○	3/4	0.060	1.125	4.000	0.750	1.5
VGM6-0138	○	3/4	0.090	1.125	4.000	0.750	1.5
VGM6-0139	○	3/4	0.120	1.125	4.000	0.750	1.5
VGM6-0140	○	3/4	0.190	1.125	4.000	0.750	1.5
VGM6-0141	○	3/4	0.250	1.125	4.000	0.750	1.5
VGM6-0142	●	3/4	-	1.500	4.000	0.750	2
VGM6-0143	●	3/4	0.020	1.500	4.000	0.750	2
VGM6-0144	●	3/4	0.030	1.500	4.000	0.750	2
VGM6-0145	●	3/4	0.060	1.500	4.000	0.750	2
VGM6-0146	○	3/4	0.090	1.500	4.000	0.750	2

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HPC

EDP Number		Dia. D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	L/D Ratio
VGM6-0147	○	3/4	0.120	1.500	4.000	0.750	2
VGM6-0148	○	3/4	0.190	1.500	4.000	0.750	2
VGM6-0149	○	3/4	0.250	1.500	4.000	0.750	2
VGM6-0150	●	3/4	-	2.250	5.000	0.750	3
VGM6-0151	●	3/4	0.020	2.250	5.000	0.750	3
VGM6-0152	●	3/4	0.030	2.250	5.000	0.750	3
VGM6-0153	○	3/4	0.060	2.250	5.000	0.750	3
VGM6-0154	○	3/4	0.090	2.250	5.000	0.750	3
VGM6-0155	○	3/4	0.120	2.250	5.000	0.750	3
VGM6-0156	○	3/4	0.190	2.250	5.000	0.750	3
VGM6-0157	○	3/4	0.250	2.250	5.000	0.750	3
VGM6-0158	●	3/4	-	3.000	6.000	0.750	4
VGM6-0159	○	3/4	0.020	3.000	6.000	0.750	4
VGM6-0160	○	3/4	0.030	3.000	6.000	0.750	4
VGM6-0161	○	3/4	0.060	3.000	6.000	0.750	4
VGM6-0162	○	3/4	0.090	3.000	6.000	0.750	4
VGM6-0163	●	3/4	0.120	3.000	6.000	0.750	4
VGM6-0164	○	3/4	0.190	3.000	6.000	0.750	4
VGM6-0165	●	3/4	0.250	3.000	6.000	0.750	4
VGM6-0166	●	1	-	1.500	4.000	1.000	1.5
VGM6-0167	●	1	0.030	1.500	4.000	1.000	1.5
VGM6-0168	○	1	0.060	1.500	4.000	1.000	1.5
VGM6-0169	○	1	0.090	1.500	4.000	1.000	1.5
VGM6-0170	○	1	0.120	1.500	4.000	1.000	1.5
VGM6-0171	○	1	0.190	1.500	4.000	1.000	1.5
VGM6-0172	○	1	0.250	1.500	4.000	1.000	1.5
VGM6-0173	●	1	-	2.000	5.000	1.000	2
VGM6-0174	●	1	0.030	2.000	5.000	1.000	2
VGM6-0175	○	1	0.060	2.000	5.000	1.000	2
VGM6-0176	○	1	0.090	2.000	5.000	1.000	2
VGM6-0177	○	1	0.120	2.000	5.000	1.000	2
VGM6-0178	●	1	0.190	2.000	5.000	1.000	2
VGM6-0179	○	1	0.250	2.000	5.000	1.000	2
VGM6-0180	●	1	-	3.000	6.000	1.000	3
VGM6-0181	●	1	0.030	3.000	6.000	1.000	3
VGM6-0182	○	1	0.060	3.000	6.000	1.000	3
VGM6-0183	○	1	0.090	3.000	6.000	1.000	3
VGM6-0184	○	1	0.120	3.000	6.000	1.000	3
VGM6-0185	○	1	0.190	3.000	6.000	1.000	3
VGM6-0186	○	1	0.250	3.000	6.000	1.000	3

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		

○ Good ◎ Best

List VGM7

HY-PRO® CARB VGM7

SPEED FEED 1392 | CARBIDE | EXO | 7 FLUTE | 36° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE





Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0015"

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio
VGM7-0001	●	1/4	-	0.375	2.000	0.250	1.5
VGM7-0002	●	1/4	0.020	0.375	2.000	0.250	1.5
VGM7-0003	●	1/4	0.030	0.375	2.000	0.250	1.5
VGM7-0004	●	1/4	0.060	0.375	2.000	0.250	1.5
VGM7-0005	●	1/4	-	0.500	2.500	0.250	2
VGM7-0006	●	1/4	0.020	0.500	2.500	0.250	2
VGM7-0007	●	1/4	0.030	0.500	2.500	0.250	2
VGM7-0008	●	1/4	0.060	0.500	2.500	0.250	2
VGM7-0009	●	1/4	-	0.750	2.500	0.250	3
VGM7-0010	●	1/4	0.020	0.750	2.500	0.250	3
VGM7-0011	●	1/4	0.030	0.750	2.500	0.250	3
VGM7-0012	●	1/4	0.060	0.750	2.500	0.250	3
VGM7-0013	●	1/4	-	1.000	3.000	0.250	4
VGM7-0014	●	1/4	0.020	1.000	3.000	0.250	4
VGM7-0015	●	1/4	0.030	1.000	3.000	0.250	4
VGM7-0016	●	1/4	0.060	1.000	3.000	0.250	4
VGM7-0017	●	1/4	-	1.250	3.000	0.250	5
VGM7-0018	●	1/4	0.020	1.250	3.000	0.250	5
VGM7-0019	●	1/4	0.030	1.250	3.000	0.250	5
VGM7-0020	●	1/4	0.060	1.250	3.000	0.250	5
VGM7-0021	●	1/4	-	1.500	3.000	0.250	6
VGM7-0022	●	1/4	0.020	1.500	3.000	0.250	6
VGM7-0023	●	1/4	0.030	1.500	3.000	0.250	6
VGM7-0024	●	1/4	0.060	1.500	3.000	0.250	6
VGM7-0025	●	5/16	-	0.469	2.000	0.313	1.5
VGM7-0026	●	5/16	0.020	0.469	2.000	0.313	1.5
VGM7-0027	●	5/16	0.030	0.469	2.000	0.313	1.5
VGM7-0028	●	5/16	0.060	0.469	2.000	0.313	1.5
VGM7-0029	●	5/16	-	0.625	2.500	0.313	2
VGM7-0030	●	5/16	0.020	0.625	2.500	0.313	2
VGM7-0031	●	5/16	0.030	0.625	2.500	0.313	2
VGM7-0032	●	5/16	0.060	0.625	2.500	0.313	2
VGM7-0033	●	5/16	-	0.938	3.000	0.313	3
VGM7-0034	●	5/16	0.020	0.938	3.000	0.313	3
VGM7-0035	●	5/16	0.030	0.938	3.000	0.313	3
VGM7-0036	●	5/16	0.060	0.938	3.000	0.313	3
VGM7-0037	●	5/16	-	1.250	3.000	0.313	4
VGM7-0038	●	5/16	0.020	1.250	3.000	0.313	4
VGM7-0039	●	5/16	0.030	1.250	3.000	0.313	4
VGM7-0040	●	5/16	0.060	1.250	3.000	0.313	4
VGM7-0041	●	3/8	-	0.563	2.000	0.375	1.5
VGM7-0042	●	3/8	0.020	0.563	2.000	0.375	1.5
VGM7-0043	●	3/8	0.030	0.563	2.000	0.375	1.5
VGM7-0044	●	3/8	0.060	0.563	2.000	0.375	1.5
VGM7-0045	●	3/8	-	0.750	2.500	0.375	2
VGM7-0046	●	3/8	0.020	0.750	2.500	0.375	2
VGM7-0047	●	3/8	0.030	0.750	2.500	0.375	2
VGM7-0048	●	3/8	0.060	0.750	2.500	0.375	2
VGM7-0049	●	3/8	-	1.125	3.000	0.375	3
VGM7-0050	●	3/8	0.020	1.125	3.000	0.375	3
VGM7-0051	●	3/8	0.030	1.125	3.000	0.375	3
VGM7-0052	●	3/8	0.060	1.125	3.000	0.375	3
VGM7-0053	●	3/8	-	1.500	4.000	0.375	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List VGM7 (Continued)

HY-PRO® CARB VGM7

SPEED FEED 1392 | CARBIDE | EXO | 7 FLUTE | 36° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio
VGM7-0054	●	3/8	0.020	1.500	4.000	0.375	4
VGM7-0055	●	3/8	0.030	1.500	4.000	0.375	4
VGM7-0056	●	3/8	0.060	1.500	4.000	0.375	4
VGM7-0057	●	1/2	-	0.625	2.500	0.500	1.25
VGM7-0058	●	1/2	0.030	0.625	2.500	0.500	1.25
VGM7-0059	●	1/2	0.060	0.625	2.500	0.500	1.25
VGM7-0060	●	1/2	-	1.000	3.000	0.500	2
VGM7-0061	●	1/2	0.030	1.000	3.000	0.500	2
VGM7-0062	●	1/2	0.060	1.000	3.000	0.500	2
VGM7-0063	●	1/2	-	1.250	3.000	0.500	2.5
VGM7-0064	●	1/2	0.030	1.250	3.000	0.500	2.5
VGM7-0065	●	1/2	0.060	1.250	3.000	0.500	2.5
VGM7-0066	●	1/2	-	1.500	4.000	0.500	3
VGM7-0067	●	1/2	0.030	1.500	4.000	0.500	3
VGM7-0068	●	1/2	0.060	1.500	4.000	0.500	3
VGM7-0069	●	1/2	-	2.000	4.000	0.500	4
VGM7-0070	●	1/2	0.030	2.000	4.000	0.500	4
VGM7-0071	●	1/2	0.060	2.000	4.000	0.500	4
VGM7-0072	●	5/8	-	0.781	3.000	0.625	1.25
VGM7-0073	●	5/8	0.030	0.781	3.000	0.625	1.25
VGM7-0074	○	5/8	0.060	0.781	3.000	0.625	1.25
VGM7-0075	●	5/8	-	1.250	3.500	0.625	2
VGM7-0076	●	5/8	0.030	1.250	3.500	0.625	2
VGM7-0077	●	5/8	0.060	1.250	3.500	0.625	2
VGM7-0078	●	5/8	-	1.563	3.500	0.625	2.5
VGM7-0079	●	5/8	0.030	1.563	3.500	0.625	2.5
VGM7-0080	●	5/8	0.060	1.563	3.500	0.625	2.5
VGM7-0081	●	5/8	-	1.875	5.000	0.625	3
VGM7-0082	●	5/8	0.030	1.875	5.000	0.625	3
VGM7-0083	○	5/8	0.060	1.875	5.000	0.625	3
VGM7-0084	●	5/8	-	2.500	5.000	0.625	4
VGM7-0085	●	5/8	0.030	2.500	5.000	0.625	4
VGM7-0086	●	5/8	0.060	2.500	5.000	0.625	4
VGM7-0087	●	3/4	-	0.938	3.000	0.750	1.25
VGM7-0088	●	3/4	0.030	0.938	3.000	0.750	1.25
VGM7-0089	○	3/4	0.060	0.938	3.000	0.750	1.25
VGM7-0090	●	3/4	-	1.125	4.000	0.750	1.5
VGM7-0091	●	3/4	0.030	1.125	4.000	0.750	1.5
VGM7-0092	●	3/4	0.060	1.125	4.000	0.750	1.5
VGM7-0093	●	3/4	-	1.500	4.000	0.750	2
VGM7-0094	●	3/4	0.030	1.500	4.000	0.750	2
VGM7-0095	●	3/4	0.060	1.500	4.000	0.750	2
VGM7-0096	●	3/4	-	2.250	5.000	0.750	3
VGM7-0097	●	3/4	0.030	2.250	5.000	0.750	3
VGM7-0098	●	3/4	0.060	2.250	5.000	0.750	3
VGM7-0099	●	3/4	-	3.000	6.000	0.750	4
VGM7-0100	●	3/4	0.030	3.000	6.000	0.750	4
VGM7-0101	●	3/4	0.060	3.000	6.000	0.750	4
VGM7-0102	●	1	-	1.500	4.000	1.000	1.5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		

○ Good ◎ Best

List VGM7 (Continued)

HY-PRO® CARB VGM7

SPEED FEED 1392 | CARBIDE | EXO | 7 FLUTE | 36° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE





Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0015"

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	L/D Ratio
VGM7-0103	●	1	0.030	1.500	4.000	1.000	1.5
VGM7-0104	○	1	0.060	1.500	4.000	1.000	1.5
VGM7-0105	●	1	-	2.000	5.000	1.000	2
VGM7-0106	○	1	0.030	2.000	5.000	1.000	2
VGM7-0107	○	1	0.060	2.000	5.000	1.000	2
VGM7-0108	●	1	-	3.000	6.000	1.000	3
VGM7-0109	●	1	0.030	3.000	6.000	1.000	3
VGM7-0110	○	1	0.060	3.000	6.000	1.000	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	○		

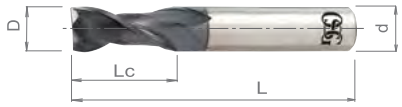
○ Good ◎ Best

List HP421

HY-PRO® CARB SQ

SPEED FEED 1393-1397 | CARBIDE | TiAlN | 2 FLUTE | 35° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3/64" ≤ D ≤ 1"	+0 / -0.0015"
1mm ≤ D ≤ 25mm	+0 / -0.038mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP421-0394	●	-	1.00	-	3.00	-	39.00	-	3.00
HP421-0469	●	3/64	-	0.141	-	1.500	-	0.125	-
HP421-0591	●	-	1.50	-	5.00	-	39.00	-	3.00
HP421-0625	●	1/16	-	0.188	-	1.500	-	0.125	-
HP421-0781	●	5/64	-	0.250	-	1.500	-	0.125	-
HP421-0787	●	-	2.00	-	7.00	-	39.00	-	3.00
HP421-0938	●	3/32	-	0.313	-	1.500	-	0.125	-
HP421-0984	●	-	2.50	-	8.00	-	39.00	-	3.00
HP421-1094	●	7/64	-	0.375	-	1.500	-	0.125	-
HP421-1181	●	-	3.00	-	10.00	-	39.00	-	3.00
HP421-1250	●	1/8	-	0.500	-	1.500	-	0.125	-
HP421-1378	●	-	3.50	-	12.00	-	51.00	-	4.00
HP421-1406	●	9/64	-	0.500	-	2.000	-	0.188	-
HP421-1562	●	5/32	-	0.563	-	2.000	-	0.188	-
HP421-1575	●	-	4.00	-	14.00	-	51.00	-	4.00
HP421-1719	●	11/64	-	0.563	-	2.000	-	0.188	-
HP421-1772	●	-	4.50	-	14.00	-	51.00	-	5.00
HP421-1875	●	3/16	-	0.625	-	2.000	-	0.188	-
HP421-1968	●	-	5.00	-	16.00	-	51.00	-	5.00
HP421-2031	●	13/64	-	0.625	-	2.500	-	0.250	-
HP421-2188	●	7/32	-	0.625	-	2.500	-	0.250	-
HP421-2362	●	-	6.00	-	19.00	-	64.00	-	6.00
HP421-2500	●	1/4	-	0.750	-	2.500	-	0.250	-
HP421-2756	●	-	7.00	-	19.00	-	64.00	-	8.00
HP421-2812	●	9/32	-	0.750	-	2.500	-	0.313	-
HP421-3125	●	5/16	-	0.813	-	2.500	-	0.313	-
HP421-3150	●	-	8.00	-	21.00	-	64.00	-	8.00
HP421-3438	●	11/32	-	0.875	-	2.500	-	0.375	-
HP421-3543	●	-	9.00	-	22.00	-	70.00	-	10.00
HP421-3750	●	3/8	-	1.000	-	2.500	-	0.375	-
HP421-3937	●	-	10.00	-	25.00	-	70.00	-	10.00
HP421-4062	●	13/32	-	1.000	-	2.750	-	0.438	-
HP421-4331	●	-	11.00	-	25.00	-	70.00	-	11.00
HP421-4375	●	7/16	-	1.000	-	2.750	-	0.438	-
HP421-4724	●	-	12.00	-	25.00	-	76.00	-	12.00
HP421-5000	●	1/2	-	1.000	-	3.000	-	0.500	-
HP421-5512	●	-	14.00	-	30.00	-	89.00	-	14.00
HP421-5625	●	9/16	-	1.125	-	3.500	-	0.563	-
HP421-6250	●	5/8	-	1.250	-	3.500	-	0.625	-
HP421-6299	●	-	16.00	-	32.00	-	89.00	-	16.00
HP421-6875	●	11/16	-	1.375	-	4.000	-	0.750	-
HP421-7087	●	-	18.00	-	35.00	-	102.00	-	18.00
HP421-7500	●	3/4	-	1.500	-	4.000	-	0.750	-
HP421-7874	●	-	20.00	-	38.00	-	102.00	-	20.00
HP421-8661	●	-	22.00	-	38.00	-	102.00	-	22.00
HP421-8750	●	7/8	-	1.500	-	4.000	-	0.875	-
HP421-9843	●	-	25.00	-	38.00	-	102.00	-	25.00
HP421-1000	●	1	-	1.500	-	4.000	-	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○	○	○			○	○	○	○	○	

○ Good ◎ Best

HY-PRO® CARB

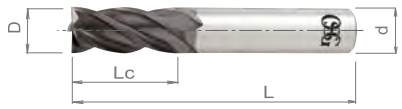
Performance Sub-Micrograin Carbide End Mills

List HP441

HY-PRO® CARB SQ

SPEED FEED 1394-1397 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3/64" ≤ D ≤ 1"	+0 / -0.0015"
1mm ≤ D ≤ 25mm	+0 / -0.038mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP441-0394	●	-	1.00	-	3.00	-	39.00	-	3.00
HP441-0469	●	3/64	-	0.141	-	1.500	-	0.125	-
HP441-0591	●	-	1.50	-	5.00	-	39.00	-	3.00
HP441-0625	●	1/16	-	0.188	-	1.500	-	0.125	-
HP441-0781	●	5/64	-	0.250	-	1.500	-	0.125	-
HP441-0787	●	-	2.00	-	7.00	-	39.00	-	3.00
HP441-0938	●	3/32	-	0.313	-	1.500	-	0.125	-
HP441-0984	●	-	2.50	-	8.00	-	39.00	-	3.00
HP441-1094	●	7/64	-	0.375	-	1.500	-	0.125	-
HP441-1181	●	-	3.00	-	10.00	-	39.00	-	3.00
HP441-1250	●	1/8	-	0.500	-	1.500	-	0.125	-
HP441-1378	●	-	3.50	-	12.00	-	51.00	-	4.00
HP441-1406	●	9/64	-	0.500	-	2.000	-	0.188	-
HP441-1562	●	5/32	-	0.563	-	2.000	-	0.188	-
HP441-1575	●	-	4.00	-	14.00	-	51.00	-	4.00
HP441-1719	●	11/64	-	0.563	-	2.000	-	0.188	-
HP441-1772	●	-	4.50	-	14.00	-	51.00	-	5.00
HP441-1875	●	3/16	-	0.625	-	2.000	-	0.188	-
HP441-1968	●	-	5.00	-	16.00	-	51.00	-	5.00
HP441-2031	●	13/64	-	0.625	-	2.500	-	0.250	-
HP441-2188	●	7/32	-	0.625	-	2.500	-	0.250	-
HP441-2362	●	-	6.00	-	19.00	-	64.00	-	6.00
HP441-2500	●	1/4	-	0.750	-	2.500	-	0.250	-
HP441-2756	●	-	7.00	-	19.00	-	64.00	-	8.00
HP441-2812	●	9/32	-	0.750	-	2.500	-	0.313	-
HP441-3125	●	5/16	-	0.813	-	2.500	-	0.313	-
HP441-3150	●	-	8.00	-	21.00	-	64.00	-	8.00
HP441-3438	●	11/32	-	0.875	-	2.500	-	0.375	-
HP441-3543	●	-	9.00	-	22.00	-	70.00	-	10.00
HP441-3750	●	3/8	-	1.000	-	2.500	-	0.375	-
HP441-3937	●	-	10.00	-	25.00	-	70.00	-	10.00
HP441-4062	●	13/32	-	1.000	-	2.750	-	0.438	-
HP441-4331	●	-	11.00	-	25.00	-	70.00	-	11.00
HP441-4375	●	7/16	-	1.000	-	2.750	-	0.438	-
HP441-4724	●	-	12.00	-	25.00	-	76.00	-	12.00
HP441-5000	●	1/2	-	1.000	-	3.000	-	0.500	-
HP441-5512	●	-	14.00	-	30.00	-	89.00	-	14.00
HP441-5625	●	9/16	-	1.125	-	3.500	-	0.563	-
HP441-6250	●	5/8	-	1.250	-	3.500	-	0.625	-
HP441-6299	●	-	16.00	-	32.00	-	89.00	-	16.00
HP441-6875	●	11/16	-	1.375	-	4.000	-	0.750	-
HP441-7087	●	-	18.00	-	35.00	-	102.00	-	18.00
HP441-7500	●	3/4	-	1.500	-	4.000	-	0.750	-
HP441-7874	●	-	20.00	-	38.00	-	102.00	-	20.00
HP441-8661	●	-	22.00	-	38.00	-	102.00	-	22.00
HP441-8750	●	7/8	-	1.500	-	4.000	-	0.875	-
HP441-9843	●	-	25.00	-	38.00	-	102.00	-	25.00
HP441-1000	●	1	-	1.500	-	4.000	-	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○	○	○			○	○	○	○	○	

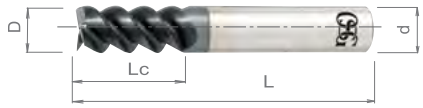
○ Good ◎ Best

List HP460

HY-PRO® CARB HIGH HELIX

SPEED FEED 1398-1399 | CARBIDE | TiAlN | 3 FLUTE | 60° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0015"
3mm ≤ D ≤ 25mm	+0 / -0.038mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP460-1181	●	-	3.00	-	12.00	-	64.00	-	6.00
HP460-1250	●	1/8	-	0.500	-	1.500	-	0.125	-
HP460-1575	●	-	4.00	-	14.00	-	64.00	-	6.00
HP460-1875	●	3/16	-	0.625	-	2.000	-	0.188	-
HP460-1968	●	-	5.00	-	16.00	-	64.00	-	6.00
HP460-2362	●	-	6.00	-	19.00	-	64.00	-	6.00
HP460-2500	●	1/4	-	0.750	-	2.500	-	0.250	-
HP460-3125	●	5/16	-	0.813	-	2.500	-	0.313	-
HP460-3150	●	-	8.00	-	21.00	-	64.00	-	8.00
HP460-3750	●	3/8	-	1.000	-	2.500	-	0.375	-
HP460-3937	●	-	10.00	-	25.00	-	70.00	-	10.00
HP460-4375	●	7/16	-	1.000	-	2.750	-	0.438	-
HP460-4724	●	-	12.00	-	25.00	-	76.00	-	12.00
HP460-5000	●	1/2	-	1.000	-	3.000	-	0.500	-
HP460-5512	●	-	14.00	-	29.00	-	89.00	-	14.00
HP460-6250	●	5/8	-	1.250	-	3.500	-	0.625	-
HP460-6299	●	-	16.00	-	32.00	-	89.00	-	16.00
HP460-7087	●	-	18.00	-	38.00	-	102.00	-	18.00
HP460-7500	●	3/4	-	1.500	-	4.000	-	0.750	-
HP460-7874	●	-	20.00	-	38.00	-	102.00	-	20.00
HP460-9843	●	-	25.00	-	38.00	-	102.00	-	25.00
HP460-1000	●	1	-	1.500	-	4.000	-	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○		○	○	○	○				○	○	○	○	

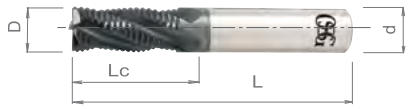
○ Good ◎ Best

List HP400

HY-PRO® CARB ROUGHER

SPEED FEED	CARBIDE		TiAlN		ROUGH		4 FLUTE		30°				SHANK	STUB	REG	LONG	PACKED
1400-1401													h6				1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0015"
3mm ≤ D ≤ 25mm	+0 / -0.038mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP400-1181	●	-	3.00	-	10.00	-	64.00	-	6.00
HP400-1575	●	-	4.00	-	14.00	-	64.00	-	6.00
HP400-1968	●	-	5.00	-	15.00	-	64.00	-	6.00
HP400-2362	●	-	6.00	-	19.00	-	64.00	-	6.00
HP400-2500	●	1/4	-	0.750	-	2.500	-	0.250	-
HP400-3125	●	5/16	-	0.750	-	2.500	-	0.313	-
HP400-3150	●	-	8.00	-	21.00	-	64.00	-	8.00
HP400-3750	●	3/8	-	1.000	-	2.500	-	0.375	-
HP400-3937	●	-	10.00	-	25.00	-	70.00	-	10.00
HP400-4724	●	-	12.00	-	25.00	-	76.00	-	12.00
HP400-5000	●	1/2	-	1.250	-	3.000	-	0.500	-
HP400-6250	●	5/8	-	1.625	-	3.500	-	0.625	-
HP400-6299	●	-	16.00	-	32.00	-	89.00	-	16.00
HP400-7500	●	3/4	-	1.625	-	4.000	-	0.750	-
HP400-7874	●	-	20.00	-	38.00	-	102.00	-	20.00
HP400-9843	●	-	25.00	-	38.00	-	102.00	-	25.00
HP400-1000	●	1	-	1.750	-	4.000	-	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○	○	○			○	○	○	○	○	

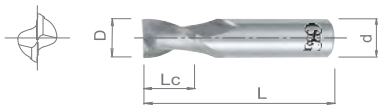
○ Good ◎ Best

List 412

OSG STANDARD CARBIDE SQ

SPEED FEED 1402-1405 | CARBIDE | BR | TiAlN | TiCN | 2 FLUTE | 30° | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 3/4"	+0 / -0.002"
1mm ≤ D ≤ 12mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
412-0312	●	1/32	-	0.078	-	1.500	-	0.125	-	BRIGHT
412-031211	●	1/32	-	0.078	-	1.500	-	0.125	-	TiAlN
412-031208	●	1/32	-	0.078	-	1.500	-	0.125	-	TiCN
412-0394	●	-	1.00	-	2.00	-	39.00	-	3.00	BRIGHT
412-0469	●	3/64	-	0.094	-	1.500	-	0.125	-	BRIGHT
412-046911	●	3/64	-	0.094	-	1.500	-	0.125	-	TiAlN
412-0591	●	-	1.50	-	3.00	-	39.00	-	3.00	BRIGHT
412-0625	●	1/16	-	0.125	-	1.500	-	0.125	-	BRIGHT
412-062511	●	1/16	-	0.125	-	1.500	-	0.125	-	TiAlN
412-0781	●	5/64	-	0.156	-	1.500	-	0.125	-	BRIGHT
412-0787	●	-	2.00	-	4.00	-	39.00	-	3.00	BRIGHT
412-0938	●	3/32	-	0.188	-	1.500	-	0.125	-	BRIGHT
412-093808	●	3/32	-	0.188	-	1.500	-	0.125	-	TiCN
412-0984	●	-	2.50	-	5.00	-	39.00	-	3.00	BRIGHT
412-1094	●	7/64	-	0.219	-	1.500	-	0.125	-	BRIGHT
412-1181	●	-	3.00	-	6.00	-	39.00	-	3.00	BRIGHT
412-1250	●	1/8	-	0.250	-	1.500	-	0.125	-	BRIGHT
412-125011	●	1/8	-	0.250	-	1.500	-	0.125	-	TiAlN
412-1378	●	-	3.50	-	7.00	-	51.00	-	4.00	BRIGHT
412-1406	●	9/64	-	0.281	-	2.000	-	0.188	-	BRIGHT
412-1562	●	5/32	-	0.313	-	2.000	-	0.188	-	BRIGHT
412-156208	●	5/32	-	0.313	-	2.000	-	0.188	-	TiCN
412-1575	●	-	4.00	-	8.00	-	51.00	-	4.00	BRIGHT
412-1772	●	-	4.50	-	9.00	-	51.00	-	5.00	BRIGHT
412-1875	●	3/16	-	0.375	-	2.000	-	0.188	-	BRIGHT
412-187511	●	3/16	-	0.375	-	2.000	-	0.188	-	TiAlN
412-187508	●	3/16	-	0.375	-	2.000	-	0.188	-	TiCN
412-1968	●	-	5.00	-	10.00	-	51.00	-	5.00	BRIGHT
412-2188	●	7/32	-	0.438	-	2.000	-	0.250	-	BRIGHT
412-2362	●	-	6.00	-	12.00	-	51.00	-	6.00	BRIGHT
412-2500	●	1/4	-	0.500	-	2.000	-	0.250	-	BRIGHT
412-250011	●	1/4	-	0.500	-	2.000	-	0.250	-	TiAlN
412-2756	●	-	7.00	-	12.00	-	51.00	-	8.00	BRIGHT
412-3125	●	5/16	-	0.500	-	2.000	-	0.313	-	BRIGHT
412-312511	●	5/16	-	0.500	-	2.000	-	0.313	-	TiAlN
412-3150	●	-	8.00	-	12.00	-	51.00	-	8.00	BRIGHT
412-3543	●	-	9.00	-	14.00	-	51.00	-	10.00	BRIGHT
412-3750	●	3/8	-	0.625	-	2.000	-	0.375	-	BRIGHT
412-375011	●	3/8	-	0.625	-	2.000	-	0.375	-	TiAlN
412-3937	●	-	10.00	-	14.00	-	51.00	-	10.00	BRIGHT
412-4331	●	-	11.00	-	16.00	-	64.00	-	11.00	BRIGHT
412-4375	●	7/16	-	0.625	-	2.500	-	0.438	-	BRIGHT
412-4724	●	-	12.00	-	16.00	-	64.00	-	12.00	BRIGHT
412-5000	●	1/2	-	0.625	-	2.500	-	0.500	-	BRIGHT
412-500011	●	1/2	-	0.625	-	2.500	-	0.500	-	TiAlN
412-500008	●	1/2	-	0.625	-	2.500	-	0.500	-	TiCN
412-6250	●	5/8	-	0.750	-	3.000	-	0.625	-	BRIGHT
412-7500	●	3/4	-	1.000	-	3.000	-	0.750	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○	○	○	○	○			○	○	○	

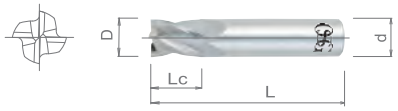
○ Good ◎ Best

List 414

OSG STANDARD CARBIDE SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 3/4"	+0 / -0.002"
1mm ≤ D ≤ 12mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
414-0312	●	1/32	-	0.078	-	1.500	-	0.125	-	BRIGHT
414-031211	●	1/32	-	0.078	-	1.500	-	0.125	-	TiAlN
414-0394	●	-	1.00	-	2.00	-	39.00	-	3.00	BRIGHT
414-039411	●	-	1.00	-	2.00	-	39.00	-	3.00	TiAlN
414-0469	●	3/64	-	0.094	-	1.500	-	0.125	-	BRIGHT
414-046911	●	3/64	-	0.094	-	1.500	-	0.125	-	TiAlN
414-0591	●	-	1.50	-	3.00	-	39.00	-	3.00	BRIGHT
414-0625	●	1/16	-	0.125	-	1.500	-	0.125	-	BRIGHT
414-062511	●	1/16	-	0.125	-	1.500	-	0.125	-	TiAlN
414-0781	●	5/64	-	0.156	-	1.500	-	0.125	-	BRIGHT
414-078111	●	5/64	-	0.156	-	1.500	-	0.125	-	TiAlN
414-0787	●	-	2.00	-	4.00	-	39.00	-	3.00	BRIGHT
414-0938	●	3/32	-	0.188	-	1.500	-	0.125	-	BRIGHT
414-093811	●	3/32	-	0.188	-	1.500	-	0.125	-	TiAlN
414-0984	●	-	2.50	-	5.00	-	39.00	-	3.00	BRIGHT
414-1094	●	7/64	-	0.219	-	1.500	-	0.125	-	BRIGHT
414-109411	●	7/64	-	0.219	-	1.500	-	0.125	-	TiAlN
414-1181	●	-	3.00	-	6.00	-	39.00	-	3.00	BRIGHT
414-1250	●	1/8	-	0.250	-	1.500	-	0.125	-	BRIGHT
414-125011	●	1/8	-	0.250	-	1.500	-	0.125	-	TiAlN
414-1378	●	-	3.50	-	7.00	-	51.00	-	4.00	BRIGHT
414-1406	●	9/64	-	0.281	-	2.000	-	0.188	-	BRIGHT
414-140611	●	9/64	-	0.281	-	2.000	-	0.188	-	TiAlN
414-1562	●	5/32	-	0.313	-	2.000	-	0.188	-	BRIGHT
414-156211	●	5/32	-	0.313	-	2.000	-	0.188	-	TiAlN
414-1575	●	-	4.00	-	8.00	-	51.00	-	4.00	BRIGHT
414-1772	●	-	4.50	-	9.00	-	51.00	-	5.00	BRIGHT
414-1875	●	3/16	-	0.375	-	2.000	-	0.188	-	BRIGHT
414-187511	●	3/16	-	0.375	-	2.000	-	0.188	-	TiAlN
414-1968	●	-	5.00	-	10.00	-	51.00	-	5.00	BRIGHT
414-196811	●	-	5.00	-	10.00	-	51.00	-	5.00	TiAlN
414-2188	●	7/32	-	0.438	-	2.000	-	0.250	-	BRIGHT
414-218811	●	7/32	-	0.438	-	2.000	-	0.250	-	TiAlN
414-2362	●	-	6.00	-	12.00	-	51.00	-	6.00	BRIGHT
414-2500	●	1/4	-	0.500	-	2.000	-	0.250	-	BRIGHT
414-250011	●	1/4	-	0.500	-	2.000	-	0.250	-	TiAlN
414-2756	●	-	7.00	-	12.00	-	51.00	-	8.00	BRIGHT
414-3125	●	5/16	-	0.500	-	2.000	-	0.313	-	BRIGHT
414-312511	●	5/16	-	0.500	-	2.000	-	0.313	-	TiAlN
414-3150	●	-	8.00	-	12.00	-	51.00	-	8.00	BRIGHT
414-3543	●	-	9.00	-	14.00	-	51.00	-	10.00	BRIGHT
414-3750	●	3/8	-	0.625	-	2.000	-	0.375	-	BRIGHT
414-375011	●	3/8	-	0.625	-	2.000	-	0.375	-	TiAlN
414-3937	●	-	10.00	-	14.00	-	51.00	-	10.00	BRIGHT
414-4331	●	-	11.00	-	16.00	-	64.00	-	11.00	BRIGHT
414-4375	●	7/16	-	0.625	-	2.500	-	0.438	-	BRIGHT
414-437511	●	7/16	-	0.625	-	2.500	-	0.438	-	TiAlN
414-4724	●	-	12.00	-	16.00	-	64.00	-	12.00	BRIGHT
414-5000	●	1/2	-	0.625	-	2.500	-	0.500	-	BRIGHT
414-500011	●	1/2	-	0.625	-	2.500	-	0.500	-	TiAlN
414-6250	●	5/8	-	0.750	-	3.000	-	0.625	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

List 414 (Continued)

OSG STANDARD CARBIDE SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | STUB | REG | PACKED 1 PIECE

EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
414-625011	●	5/8	-	0.750	-	3.000	-	0.625	-	TiAlN
414-7500	●	3/4	-	1.000	-	3.000	-	0.750	-	BRIGHT
414-750011	●	3/4	-	1.000	-	3.000	-	0.750	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

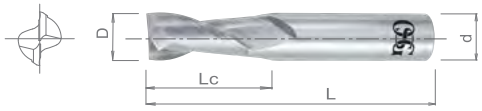
○ Good ◎ Best

List 402

OSG STANDARD CARBIDE SQ

SPEED FEED 1402-1405 | CARBIDE | BR | TiAlN | TiCN | 2 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
0.5mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
402-0197	●	-	0.50	-	1.50	-	39.00	-	3.00	BRIGHT
402-019711	●	-	0.50	-	1.50	-	39.00	-	3.00	TiAlN
402-0312	●	1/32	-	0.125	-	1.500	-	0.125	-	BRIGHT
402-031211	●	1/32	-	0.125	-	1.500	-	0.125	-	TiAlN
402-0394	●	-	1.00	-	3.00	-	39.00	-	3.00	BRIGHT
402-039411	●	-	1.00	-	3.00	-	39.00	-	3.00	TiAlN
402-0469	●	3/64	-	0.141	-	1.500	-	0.125	-	BRIGHT
402-046911	●	3/64	-	0.141	-	1.500	-	0.125	-	TiAlN
402-0591	●	-	1.50	-	5.00	-	39.00	-	3.00	BRIGHT
402-059111	●	-	1.50	-	5.00	-	39.00	-	3.00	TiAlN
402-0625	●	1/16	-	0.188	-	1.500	-	0.125	-	BRIGHT
402-062511	●	1/16	-	0.188	-	1.500	-	0.125	-	TiAlN
402-0781	●	5/64	-	0.250	-	1.500	-	0.125	-	BRIGHT
402-078111	●	5/64	-	0.250	-	1.500	-	0.125	-	TiAlN
402-0787	●	-	2.00	-	7.00	-	39.00	-	3.00	BRIGHT
402-078711	●	-	2.00	-	7.00	-	39.00	-	3.00	TiAlN
402-0938	●	3/32	-	0.313	-	1.500	-	0.125	-	BRIGHT
402-093811	●	3/32	-	0.313	-	1.500	-	0.125	-	TiAlN
402-0939	●	3/32	-	0.375	-	1.500	-	0.125	-	BRIGHT
402-0984	●	-	2.50	-	8.00	-	39.00	-	3.00	BRIGHT
402-098411	●	-	2.50	-	8.00	-	39.00	-	3.00	TiAlN
402-1094	●	7/64	-	0.375	-	1.500	-	0.125	-	BRIGHT
402-109411	●	7/64	-	0.375	-	1.500	-	0.125	-	TiAlN
402-1181	●	-	3.00	-	10.00	-	39.00	-	3.00	BRIGHT
402-118111	●	-	3.00	-	10.00	-	39.00	-	3.00	TiAlN
402-1250	●	1/8	-	0.500	-	1.500	-	0.125	-	BRIGHT
402-125011	●	1/8	-	0.500	-	1.500	-	0.125	-	TiAlN
402-1378	●	-	3.50	-	12.00	-	51.00	-	4.00	BRIGHT
402-137811	●	-	3.50	-	12.00	-	51.00	-	4.00	TiAlN
402-1406	●	9/64	-	0.500	-	2.000	-	0.188	-	BRIGHT
402-140611	●	9/64	-	0.500	-	2.000	-	0.188	-	TiAlN
402-1562	●	5/32	-	0.563	-	2.000	-	0.188	-	BRIGHT
402-156211	●	5/32	-	0.563	-	2.000	-	0.188	-	TiAlN
402-1575	●	-	4.00	-	14.00	-	51.00	-	4.00	BRIGHT
402-157511	●	-	4.00	-	14.00	-	51.00	-	4.00	TiAlN
402-1719	●	11/64	-	0.563	-	2.000	-	0.188	-	BRIGHT
402-171911	●	11/64	-	0.563	-	2.000	-	0.188	-	TiAlN
402-1772	●	-	4.50	-	14.00	-	51.00	-	5.00	BRIGHT
402-177211	●	-	4.50	-	14.00	-	51.00	-	5.00	TiAlN
402-1875	●	3/16	-	0.625	-	2.000	-	0.188	-	BRIGHT
402-187511	●	3/16	-	0.625	-	2.000	-	0.188	-	TiAlN
402-1968	●	-	5.00	-	16.00	-	51.00	-	5.00	BRIGHT
402-196811	●	-	5.00	-	16.00	-	51.00	-	5.00	TiAlN
402-2031	●	13/64	-	0.625	-	2.500	-	0.250	-	BRIGHT
402-203111	●	13/64	-	0.625	-	2.500	-	0.250	-	TiAlN
402-2188	●	7/32	-	0.625	-	2.500	-	0.250	-	BRIGHT
402-218811	●	7/32	-	0.625	-	2.500	-	0.250	-	TiAlN
402-2344	●	15/64	-	0.750	-	2.500	-	0.250	-	BRIGHT
402-234411	●	15/64	-	0.750	-	2.500	-	0.250	-	TiAlN
402-2362	●	-	6.00	-	19.00	-	64.00	-	6.00	BRIGHT
402-236211	●	-	6.00	-	19.00	-	64.00	-	6.00	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

List 402 (Continued)

OSG STANDARD CARBIDE SQ

SPEED FEED 1402-1405 | CARBIDE | BR | TiAlN | TiCN | 2 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
0.5mm ≤ D ≤ 25mm	+0 / -0.050mm

EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
402-2500	●	1/4	-	0.750	-	2.500	-	0.250	-	BRIGHT
402-250011	●	1/4	-	0.750	-	2.500	-	0.250	-	TiAlN
402-2656	●	17/64	-	0.750	-	2.500	-	0.313	-	BRIGHT
402-265611	●	17/64	-	0.750	-	2.500	-	0.313	-	TiAlN
402-2756	●	-	7.00	-	19.00	-	64.00	-	8.00	BRIGHT
402-275611	●	-	7.00	-	19.00	-	64.00	-	8.00	TiAlN
402-2812	●	9/32	-	0.750	-	2.500	-	0.313	-	BRIGHT
402-281211	●	9/32	-	0.750	-	2.500	-	0.313	-	TiAlN
402-2969	●	19/64	-	0.813	-	2.500	-	0.313	-	BRIGHT
402-296911	●	19/64	-	0.813	-	2.500	-	0.313	-	TiAlN
402-3125	●	5/16	-	0.813	-	2.500	-	0.313	-	BRIGHT
402-312511	●	5/16	-	0.813	-	2.500	-	0.313	-	TiAlN
402-3150	●	-	8.00	-	21.00	-	64.00	-	8.00	BRIGHT
402-315011	●	-	8.00	-	21.00	-	64.00	-	8.00	TiAlN
402-3281	●	21/64	-	0.875	-	2.500	-	0.375	-	BRIGHT
402-328111	●	21/64	-	0.875	-	2.500	-	0.375	-	TiAlN
402-3438	●	11/32	-	0.875	-	2.500	-	0.375	-	BRIGHT
402-343811	●	11/32	-	0.875	-	2.500	-	0.375	-	TiAlN
402-3543	●	-	9.00	-	22.00	-	70.00	-	10.00	BRIGHT
402-354311	●	-	9.00	-	22.00	-	70.00	-	10.00	TiAlN
402-3594	●	23/64	-	0.875	-	2.500	-	0.375	-	BRIGHT
402-359411	●	23/64	-	0.875	-	2.500	-	0.375	-	TiAlN
402-3750	●	3/8	-	1.000	-	2.500	-	0.375	-	BRIGHT
402-375011	●	3/8	-	1.000	-	2.500	-	0.375	-	TiAlN
402-375008	●	3/8	-	1.000	-	2.500	-	0.375	-	TiCN
402-3906	●	25/64	-	1.000	-	2.750	-	0.438	-	BRIGHT
402-390611	●	25/64	-	1.000	-	2.750	-	0.438	-	TiAlN
402-3937	●	-	10.00	-	25.00	-	70.00	-	10.00	BRIGHT
402-393711	●	-	10.00	-	25.00	-	70.00	-	10.00	TiAlN
402-4062	●	13/32	-	1.000	-	2.750	-	0.438	-	BRIGHT
402-406211	●	13/32	-	1.000	-	2.750	-	0.438	-	TiAlN
402-4219	●	27/64	-	1.000	-	2.750	-	0.438	-	BRIGHT
402-421911	●	27/64	-	1.000	-	2.750	-	0.438	-	TiAlN
402-4331	●	-	11.00	-	25.00	-	70.00	-	11.00	BRIGHT
402-433111	●	-	11.00	-	25.00	-	70.00	-	11.00	TiAlN
402-4375	●	7/16	-	1.000	-	2.750	-	0.438	-	BRIGHT
402-437511	●	7/16	-	1.000	-	2.750	-	0.438	-	TiAlN
402-4531	●	29/64	-	1.000	-	3.000	-	0.500	-	BRIGHT
402-453111	●	29/64	-	1.000	-	3.000	-	0.500	-	TiAlN
402-4688	●	15/32	-	1.000	-	3.000	-	0.500	-	BRIGHT
402-468811	●	15/32	-	1.000	-	3.000	-	0.500	-	TiAlN
402-4724	●	-	12.00	-	25.00	-	76.00	-	12.00	BRIGHT
402-472411	●	-	12.00	-	25.00	-	76.00	-	12.00	TiAlN
402-4844	●	31/64	-	1.000	-	3.000	-	0.500	-	BRIGHT
402-484411	●	31/64	-	1.000	-	3.000	-	0.500	-	TiAlN
402-5000	●	1/2	-	1.000	-	3.000	-	0.500	-	BRIGHT
402-500011	●	1/2	-	1.000	-	3.000	-	0.500	-	TiAlN
402-5512	●	-	14.00	-	30.00	-	89.00	-	14.00	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○		

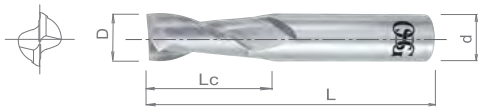
○ Good ◎ Best

List 402 (Continued)

SPEED FEED 1402-1405 | CARBIDE | BR | TiAlN | TiCN | 2 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

OSG STANDARD CARBIDE SQ

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
0.5mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
402-551211	●	-	14.00	-	30.00	-	89.00	-	14.00	TiAlN
402-5625	●	9/16	-	1.125	-	3.500	-	0.563	-	BRIGHT
402-562511	●	9/16	-	1.125	-	3.500	-	0.563	-	TiAlN
402-562508	●	9/16	-	1.125	-	3.500	-	0.563	-	TiCN
402-6250	●	5/8	-	1.250	-	3.500	-	0.625	-	BRIGHT
402-625011	●	5/8	-	1.250	-	3.500	-	0.625	-	TiAlN
402-6299	●	-	16.00	-	32.00	-	89.00	-	16.00	BRIGHT
402-629911	●	-	16.00	-	32.00	-	89.00	-	16.00	TiAlN
402-6875	●	11/16	-	1.375	-	4.000	-	0.750	-	BRIGHT
402-687511	●	11/16	-	1.375	-	4.000	-	0.750	-	TiAlN
402-7087	●	-	18.00	-	35.00	-	102.00	-	18.00	BRIGHT
402-708711	●	-	18.00	-	35.00	-	102.00	-	18.00	TiAlN
402-7500	●	3/4	-	1.500	-	4.000	-	0.750	-	BRIGHT
402-750011	●	3/4	-	1.500	-	4.000	-	0.750	-	TiAlN
402-7874	●	-	20.00	-	38.00	-	102.00	-	20.00	BRIGHT
402-787411	●	-	20.00	-	38.00	-	102.00	-	20.00	TiAlN
402-8661	●	-	22.00	-	38.00	-	102.00	-	22.00	BRIGHT
402-866111	●	-	22.00	-	38.00	-	102.00	-	22.00	TiAlN
402-8750	●	7/8	-	1.500	-	4.000	-	0.875	-	BRIGHT
402-875011	●	7/8	-	1.500	-	4.000	-	0.875	-	TiAlN
402-9843	●	-	25.00	-	38.00	-	102.00	-	25.00	BRIGHT
402-984311	●	-	25.00	-	38.00	-	102.00	-	25.00	TiAlN
402-1000	●	1	-	1.500	-	4.000	-	1.000	-	BRIGHT
402-100011	●	1	-	1.500	-	4.000	-	1.000	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○		

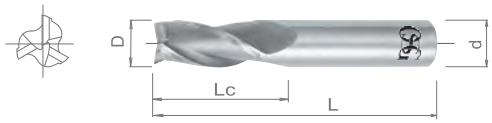
○ Good ◎ Best

List 403

OSG STANDARD CARBIDE SQ

SPEED FEED	CARBIDE	BR	TiAlN	3 FLUTE	30°			STUB	REG	LONG	PACKED
1402-1405											1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.002"
1mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
403-0394	●	-	1.00	-	3.00	-	39.00	-	3.00	BRIGHT
403-039411	●	-	1.00	-	3.00	-	39.00	-	3.00	TiAlN
403-0591	●	-	1.50	-	5.00	-	39.00	-	3.00	BRIGHT
403-059111	●	-	1.50	-	5.00	-	39.00	-	3.00	TiAlN
403-0625	●	1/16	-	0.188	-	1.500	-	0.125	-	BRIGHT
403-062511	●	1/16	-	0.188	-	1.500	-	0.125	-	TiAlN
403-0781	●	5/64	-	0.250	-	1.500	-	0.125	-	BRIGHT
403-078111	●	5/64	-	0.250	-	1.500	-	0.125	-	TiAlN
403-0787	●	-	2.00	-	7.00	-	39.00	-	3.00	BRIGHT
403-078711	●	-	2.00	-	7.00	-	39.00	-	3.00	TiAlN
403-0938	●	3/32	-	0.313	-	1.500	-	0.125	-	BRIGHT
403-093811	●	3/32	-	0.313	-	1.500	-	0.125	-	TiAlN
403-0939	●	3/32	-	0.375	-	1.500	-	0.125	-	BRIGHT
403-0984	●	-	2.50	-	8.00	-	39.00	-	3.00	BRIGHT
403-098411	●	-	2.50	-	8.00	-	39.00	-	3.00	TiAlN
403-1094	●	7/64	-	0.375	-	1.500	-	0.125	-	BRIGHT
403-109411	●	7/64	-	0.375	-	1.500	-	0.125	-	TiAlN
403-1181	●	-	3.00	-	10.00	-	39.00	-	3.00	BRIGHT
403-118111	●	-	3.00	-	10.00	-	39.00	-	3.00	TiAlN
403-1250	●	1/8	-	0.500	-	1.500	-	0.125	-	BRIGHT
403-125011	●	1/8	-	0.500	-	1.500	-	0.125	-	TiAlN
403-1378	●	-	3.50	-	12.00	-	51.00	-	4.00	BRIGHT
403-137811	●	-	3.50	-	12.00	-	51.00	-	4.00	TiAlN
403-1406	●	9/64	-	0.500	-	2.000	-	0.188	-	BRIGHT
403-140611	●	9/64	-	0.500	-	2.000	-	0.188	-	TiAlN
403-1562	●	5/32	-	0.563	-	2.000	-	0.188	-	BRIGHT
403-156211	●	5/32	-	0.563	-	2.000	-	0.188	-	TiAlN
403-1575	●	-	4.00	-	14.00	-	51.00	-	4.00	BRIGHT
403-157511	●	-	4.00	-	14.00	-	51.00	-	4.00	TiAlN
403-1719	●	11/64	-	0.563	-	2.000	-	0.188	-	BRIGHT
403-171911	●	11/64	-	0.563	-	2.000	-	0.188	-	TiAlN
403-1772	●	-	4.50	-	14.00	-	51.00	-	5.00	BRIGHT
403-177211	●	-	4.50	-	14.00	-	51.00	-	5.00	TiAlN
403-1875	●	3/16	-	0.625	-	2.000	-	0.188	-	BRIGHT
403-187511	●	3/16	-	0.625	-	2.000	-	0.188	-	TiAlN
403-1968	●	-	5.00	-	16.00	-	51.00	-	5.00	BRIGHT
403-196811	●	-	5.00	-	16.00	-	51.00	-	5.00	TiAlN
403-2031	●	13/64	-	0.625	-	2.500	-	0.250	-	BRIGHT
403-203111	●	13/64	-	0.625	-	2.500	-	0.250	-	TiAlN
403-2188	●	7/32	-	0.625	-	2.500	-	0.250	-	BRIGHT
403-218811	●	7/32	-	0.625	-	2.500	-	0.250	-	TiAlN
403-2344	●	15/64	-	0.750	-	2.500	-	0.250	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

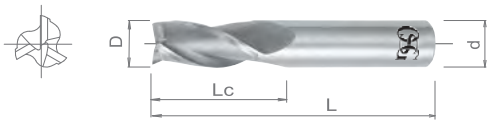
○ Good ◎ Best

List 403 (Continued)

SPEED FEED 1402-1405 | CARBIDE | BR | TiAlN | 3 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

OSG STANDARD CARBIDE SQ

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.002"
1mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
403-234411	●	15/64	-	0.750	-	2.500	-	0.250	-	TiAlN
403-2362	●	-	6.00	-	19.00	-	64.00	-	6.00	BRIGHT
403-236211	●	-	6.00	-	19.00	-	64.00	-	6.00	TiAlN
403-2500	●	1/4	-	0.750	-	2.500	-	0.250	-	BRIGHT
403-250011	●	1/4	-	0.750	-	2.500	-	0.250	-	TiAlN
403-2656	●	17/64	-	0.750	-	2.500	-	0.313	-	BRIGHT
403-265611	●	17/64	-	0.750	-	2.500	-	0.313	-	TiAlN
403-2756	●	-	7.00	-	19.00	-	64.00	-	8.00	BRIGHT
403-275611	●	-	7.00	-	19.00	-	64.00	-	8.00	TiAlN
403-2812	●	9/32	-	0.750	-	2.500	-	0.313	-	BRIGHT
403-281211	●	9/32	-	0.750	-	2.500	-	0.313	-	TiAlN
403-2969	●	19/64	-	0.813	-	2.500	-	0.313	-	BRIGHT
403-296911	●	19/64	-	0.813	-	2.500	-	0.313	-	TiAlN
403-3125	●	5/16	-	0.813	-	2.500	-	0.313	-	BRIGHT
403-312511	●	5/16	-	0.813	-	2.500	-	0.313	-	TiAlN
403-3150	●	-	8.00	-	21.00	-	64.00	-	8.00	BRIGHT
403-315011	●	-	8.00	-	21.00	-	64.00	-	8.00	TiAlN
403-3543	●	-	9.00	-	22.00	-	70.00	-	10.00	BRIGHT
403-354311	●	-	9.00	-	22.00	-	70.00	-	10.00	TiAlN
403-3750	●	3/8	-	1.000	-	2.500	-	0.375	-	BRIGHT
403-375011	●	3/8	-	1.000	-	2.500	-	0.375	-	TiAlN
403-3937	●	-	10.00	-	25.00	-	70.00	-	10.00	BRIGHT
403-393711	●	-	10.00	-	25.00	-	70.00	-	10.00	TiAlN
403-4331	●	-	11.00	-	25.00	-	70.00	-	11.00	BRIGHT
403-433111	●	-	11.00	-	25.00	-	70.00	-	11.00	TiAlN
403-4375	●	7/16	-	1.000	-	2.750	-	0.438	-	BRIGHT
403-437511	●	7/16	-	1.000	-	2.750	-	0.438	-	TiAlN
403-4724	●	-	12.00	-	25.00	-	76.00	-	12.00	BRIGHT
403-472411	●	-	12.00	-	25.00	-	76.00	-	12.00	TiAlN
403-5000	●	1/2	-	1.000	-	3.000	-	0.500	-	BRIGHT
403-500011	●	1/2	-	1.000	-	3.000	-	0.500	-	TiAlN
403-5512	●	-	14.00	-	30.00	-	89.00	-	14.00	BRIGHT
403-551211	●	-	14.00	-	30.00	-	89.00	-	14.00	TiAlN
403-5625	●	9/16	-	1.125	-	3.500	-	0.563	-	BRIGHT
403-562511	●	9/16	-	1.125	-	3.500	-	0.563	-	TiAlN
403-6250	●	5/8	-	1.250	-	3.500	-	0.625	-	BRIGHT
403-625011	●	5/8	-	1.250	-	3.500	-	0.625	-	TiAlN
403-6299	●	-	16.00	-	32.00	-	89.00	-	16.00	BRIGHT
403-629911	●	-	16.00	-	32.00	-	89.00	-	16.00	TiAlN
403-6875	●	11/16	-	1.375	-	4.000	-	0.750	-	BRIGHT
403-687511	●	11/16	-	1.375	-	4.000	-	0.750	-	TiAlN
403-7087	●	-	18.00	-	35.00	-	102.00	-	18.00	BRIGHT
403-708711	●	-	18.00	-	35.00	-	102.00	-	18.00	TiAlN
403-7500	●	3/4	-	1.500	-	4.000	-	0.750	-	BRIGHT
403-750011	●	3/4	-	1.500	-	4.000	-	0.750	-	TiAlN
403-7874	●	-	20.00	-	38.00	-	102.00	-	20.00	BRIGHT
403-787411	●	-	20.00	-	38.00	-	102.00	-	20.00	TiAlN
403-8661	●	-	22.00	-	38.00	-	102.00	-	22.00	BRIGHT
403-866111	●	-	22.00	-	38.00	-	102.00	-	22.00	TiAlN
403-8750	●	7/8	-	1.500	-	4.000	-	0.875	-	BRIGHT
403-875011	●	7/8	-	1.500	-	4.000	-	0.875	-	TiAlN
403-9843	●	-	25.00	-	38.00	-	102.00	-	25.00	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

List 403 (Continued)

SPEED FEED 1402-1405 | CARBIDE | BR | TiAlN | 3 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

OSG STANDARD CARBIDE SQ

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.002"
1mm ≤ D ≤ 25mm	+0 / -0.050mm

EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
403-984311	●	-	25.00	-	38.00	-	102.00	-	25.00	TiAlN
403-1000	●	1	-	1.500	-	4.000	-	1.000	-	BRIGHT
403-100011	●	1	-	1.500	-	4.000	-	1.000	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

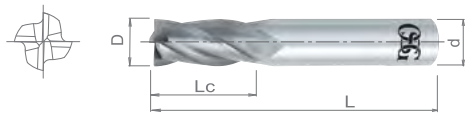
○ Good ◎ Best

List 404

OSG STANDARD CARBIDE SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
1.0mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
404-0312	●	1/32	-	0.125	-	1.500	-	0.125	-	BRIGHT
404-031211	●	1/32	-	0.125	-	1.500	-	0.125	-	TiAlN
404-0394	●	-	1.00	-	3.00	-	39.00	-	3.00	BRIGHT
404-039411	●	-	1.00	-	3.00	-	39.00	-	3.00	TiAlN
404-0469	●	3/64	-	0.141	-	1.500	-	0.125	-	BRIGHT
404-046911	●	3/64	-	0.141	-	1.500	-	0.125	-	TiAlN
404-0591	●	-	1.50	-	5.00	-	39.00	-	3.00	BRIGHT
404-059111	●	-	1.50	-	5.00	-	39.00	-	3.00	TiAlN
404-0625	●	1/16	-	0.188	-	1.500	-	0.125	-	BRIGHT
404-062511	●	1/16	-	0.188	-	1.500	-	0.125	-	TiAlN
404-0781	●	5/64	-	0.250	-	1.500	-	0.125	-	BRIGHT
404-078111	●	5/64	-	0.250	-	1.500	-	0.125	-	TiAlN
404-0787	●	-	2.00	-	7.00	-	39.00	-	3.00	BRIGHT
404-078711	●	-	2.00	-	7.00	-	39.00	-	3.00	TiAlN
404-0938	●	3/32	-	0.313	-	1.500	-	0.125	-	BRIGHT
404-093811	●	3/32	-	0.313	-	1.500	-	0.125	-	TiAlN
404-0939	●	3/32	-	0.375	-	1.500	-	0.125	-	BRIGHT
404-093911	●	3/32	-	0.375	-	1.500	-	0.125	-	TiAlN
404-0984	●	-	2.50	-	8.00	-	39.00	-	3.00	BRIGHT
404-098411	●	-	2.50	-	8.00	-	39.00	-	3.00	TiAlN
404-1094	●	7/64	-	0.375	-	1.500	-	0.125	-	BRIGHT
404-109411	●	7/64	-	0.375	-	1.500	-	0.125	-	TiAlN
404-1181	●	-	3.00	-	10.00	-	39.00	-	3.00	BRIGHT
404-118111	●	-	3.00	-	10.00	-	39.00	-	3.00	TiAlN
404-1250	●	1/8	-	0.500	-	1.500	-	0.125	-	BRIGHT
404-125011	●	1/8	-	0.500	-	1.500	-	0.125	-	TiAlN
404-1378	●	-	3.50	-	12.00	-	51.00	-	4.00	BRIGHT
404-137811	●	-	3.50	-	12.00	-	51.00	-	4.00	TiAlN
404-1406	●	9/64	-	0.500	-	2.000	-	0.188	-	BRIGHT
404-140611	●	9/64	-	0.500	-	2.000	-	0.188	-	TiAlN
404-1562	●	5/32	-	0.563	-	2.000	-	0.188	-	BRIGHT
404-156211	●	5/32	-	0.563	-	2.000	-	0.188	-	TiAlN
404-1575	●	-	4.00	-	14.00	-	51.00	-	4.00	BRIGHT
404-157511	●	-	4.00	-	14.00	-	51.00	-	4.00	TiAlN
404-1719	●	11/64	-	0.563	-	2.000	-	0.188	-	BRIGHT
404-171911	●	11/64	-	0.563	-	2.000	-	0.188	-	TiAlN
404-1772	●	-	4.50	-	14.00	-	51.00	-	5.00	BRIGHT
404-177211	●	-	4.50	-	14.00	-	51.00	-	5.00	TiAlN
404-1875	●	3/16	-	0.625	-	2.000	-	0.188	-	BRIGHT
404-187511	●	3/16	-	0.625	-	2.000	-	0.188	-	TiAlN
404-1968	●	-	5.00	-	16.00	-	51.00	-	5.00	BRIGHT
404-196811	●	-	5.00	-	16.00	-	51.00	-	5.00	TiAlN
404-2031	●	13/64	-	0.625	-	2.500	-	0.250	-	BRIGHT
404-203111	●	13/64	-	0.625	-	2.500	-	0.250	-	TiAlN
404-2188	●	7/32	-	0.625	-	2.500	-	0.250	-	BRIGHT
404-218811	●	7/32	-	0.625	-	2.500	-	0.250	-	TiAlN
404-2344	●	15/64	-	0.750	-	2.500	-	0.250	-	BRIGHT
404-234411	●	15/64	-	0.750	-	2.500	-	0.250	-	TiAlN
404-2362	●	-	6.00	-	19.00	-	64.00	-	6.00	BRIGHT
404-236211	●	-	6.00	-	19.00	-	64.00	-	6.00	TiAlN
404-2500	●	1/4	-	0.750	-	2.500	-	0.250	-	BRIGHT
404-250011	●	1/4	-	0.750	-	2.500	-	0.250	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

List 404 (Continued)

OSG STANDARD CARBIDE SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
1.0mm ≤ D ≤ 25mm	+0 / -0.050mm

EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
404-2656	●	17/64	-	0.750	-	2.500	-	0.313	-	BRIGHT
404-265611	●	17/64	-	0.750	-	2.500	-	0.313	-	TiAlN
404-2756	●	-	7.00	-	19.00	-	64.00	-	8.00	BRIGHT
404-275611	●	-	7.00	-	19.00	-	64.00	-	8.00	TiAlN
404-2812	●	9/32	-	0.750	-	2.500	-	0.313	-	BRIGHT
404-281211	●	9/32	-	0.750	-	2.500	-	0.313	-	TiAlN
404-2969	●	19/64	-	0.813	-	2.500	-	0.313	-	BRIGHT
404-296911	●	19/64	-	0.813	-	2.500	-	0.313	-	TiAlN
404-3125	●	5/16	-	0.813	-	2.500	-	0.313	-	BRIGHT
404-312511	●	5/16	-	0.813	-	2.500	-	0.313	-	TiAlN
404-3150	●	-	8.00	-	21.00	-	64.00	-	8.00	BRIGHT
404-315011	●	-	8.00	-	21.00	-	64.00	-	8.00	TiAlN
404-3281	●	21/64	-	0.875	-	2.500	-	0.375	-	BRIGHT
404-328111	●	21/64	-	0.875	-	2.500	-	0.375	-	TiAlN
404-3438	●	11/32	-	0.875	-	2.500	-	0.375	-	BRIGHT
404-343811	●	11/32	-	0.875	-	2.500	-	0.375	-	TiAlN
404-3543	●	-	9.00	-	22.00	-	70.00	-	10.00	BRIGHT
404-354311	●	-	9.00	-	22.00	-	70.00	-	10.00	TiAlN
404-3594	●	23/64	-	0.875	-	2.500	-	0.375	-	BRIGHT
404-359411	●	23/64	-	0.875	-	2.500	-	0.375	-	TiAlN
404-3750	●	3/8	-	1.000	-	2.500	-	0.375	-	BRIGHT
404-375011	●	3/8	-	1.000	-	2.500	-	0.375	-	TiAlN
404-3906	●	25/64	-	1.000	-	2.750	-	0.438	-	BRIGHT
404-390611	●	25/64	-	1.000	-	2.750	-	0.438	-	TiAlN
404-3937	●	-	10.00	-	25.00	-	70.00	-	10.00	BRIGHT
404-393711	●	-	10.00	-	25.00	-	70.00	-	10.00	TiAlN
404-4062	●	13/32	-	1.000	-	2.750	-	0.438	-	BRIGHT
404-406211	●	13/32	-	1.000	-	2.750	-	0.438	-	TiAlN
404-4219	●	27/64	-	1.000	-	2.750	-	0.438	-	BRIGHT
404-421911	●	27/64	-	1.000	-	2.750	-	0.438	-	TiAlN
404-4331	●	-	11.00	-	25.00	-	70.00	-	11.00	BRIGHT
404-433111	●	-	11.00	-	25.00	-	70.00	-	11.00	TiAlN
404-4375	●	7/16	-	1.000	-	2.750	-	0.438	-	BRIGHT
404-437511	●	7/16	-	1.000	-	2.750	-	0.438	-	TiAlN
404-4531	●	29/64	-	1.000	-	3.000	-	0.500	-	BRIGHT
404-453111	●	29/64	-	1.000	-	3.000	-	0.500	-	TiAlN
404-4688	●	15/32	-	1.000	-	3.000	-	0.500	-	BRIGHT
404-468811	●	15/32	-	1.000	-	3.000	-	0.500	-	TiAlN
404-4724	●	-	12.00	-	25.00	-	76.00	-	12.00	BRIGHT
404-472411	●	-	12.00	-	25.00	-	76.00	-	12.00	TiAlN
404-4844	●	31/64	-	1.000	-	3.000	-	0.500	-	BRIGHT
404-484411	●	31/64	-	1.000	-	3.000	-	0.500	-	TiAlN
404-5000	●	1/2	-	1.000	-	3.000	-	0.500	-	BRIGHT
404-500011	●	1/2	-	1.000	-	3.000	-	0.500	-	TiAlN
404-5512	●	-	14.00	-	30.00	-	89.00	-	14.00	BRIGHT
404-551211	●	-	14.00	-	30.00	-	89.00	-	14.00	TiAlN
404-5625	●	9/16	-	1.125	-	3.500	-	0.563	-	BRIGHT
404-562511	●	9/16	-	1.125	-	3.500	-	0.563	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○	○	

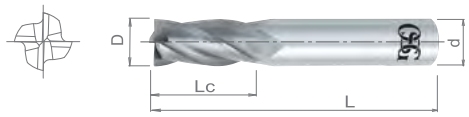
○ Good ◎ Best

List 404 (Continued)

OSG STANDARD CARBIDE SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
1.0mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
404-6250	●	5/8	-	1.250	-	3.500	-	0.625	-	BRIGHT
404-625011	●	5/8	-	1.250	-	3.500	-	0.625	-	TiAlN
404-6299	●	-	16.00	-	32.00	-	89.00	-	16.00	BRIGHT
404-629911	●	-	16.00	-	32.00	-	89.00	-	16.00	TiAlN
404-6875	●	11/16	-	1.375	-	4.000	-	0.750	-	BRIGHT
404-687511	●	11/16	-	1.375	-	4.000	-	0.750	-	TiAlN
404-7087	●	-	18.00	-	35.00	-	102.00	-	18.00	BRIGHT
404-708711	●	-	18.00	-	35.00	-	102.00	-	18.00	TiAlN
404-7500	●	3/4	-	1.500	-	4.000	-	0.750	-	BRIGHT
404-750011	●	3/4	-	1.500	-	4.000	-	0.750	-	TiAlN
404-7874	●	-	20.00	-	38.00	-	102.00	-	20.00	BRIGHT
404-787411	●	-	20.00	-	38.00	-	102.00	-	20.00	TiAlN
404-8661	●	-	22.00	-	38.00	-	102.00	-	22.00	BRIGHT
404-866111	●	-	22.00	-	38.00	-	102.00	-	22.00	TiAlN
404-8750	●	7/8	-	1.500	-	4.000	-	0.875	-	BRIGHT
404-875011	●	7/8	-	1.500	-	4.000	-	0.875	-	TiAlN
404-9843	●	-	25.00	-	38.00	-	102.00	-	25.00	BRIGHT
404-984311	●	-	25.00	-	38.00	-	102.00	-	25.00	TiAlN
404-1000	●	1	-	1.500	-	4.000	-	1.000	-	BRIGHT
404-100011	●	1	-	1.500	-	4.000	-	1.000	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

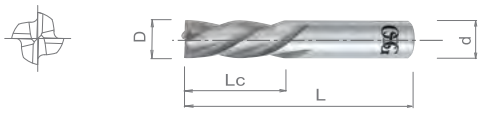
○ Good ◎ Best

List 447

OSG STANDARD CARBIDE LHS/RHC

SPEED FEED	CARBIDE	BR	TiAlN	4 FLUTE	30°			LH	STUB	REG	LONG	PACKED
1406-1407												1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter	Surface Treatment
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)	
447-0625	●	1/16	0.188	1.500	0.125	BRIGHT
447-1250	●	1/8	0.500	1.500	0.125	BRIGHT
447-125011	●	1/8	0.500	1.500	0.125	TiAlN
447-1875	●	3/16	0.625	2.000	0.188	BRIGHT
447-187511	●	3/16	0.625	2.000	0.188	TiAlN
447-2500	●	1/4	0.750	2.500	0.250	BRIGHT
447-250011	●	1/4	0.750	2.500	0.250	TiAlN
447-3125	●	5/16	0.813	2.500	0.313	BRIGHT
447-3750	●	3/8	1.000	2.500	0.375	BRIGHT
447-5000	●	1/2	1.000	3.000	0.500	BRIGHT
447-6250	●	5/8	1.250	3.500	0.625	BRIGHT
447-7500	●	3/4	1.500	4.000	0.750	BRIGHT
447-1000	●	1	1.500	4.000	1.000	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○		○	○		○	○	○			○	○	○	

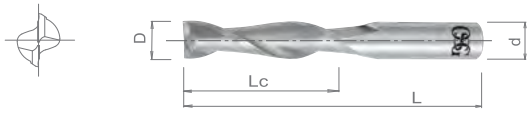
○ Good ◎ Best

List 462

OSG STANDARD CARBIDE SQ

SPEED FEED 1402-1405 | CARBIDE | BR | TiAlN | TiCN | 2 FLUTE | 30° | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"
3mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
462-1181	●	-	3.00	-	19.00	-	57.00	-	3.00	BRIGHT
462-1250	●	1/8	-	0.750	-	2.250	-	0.125	-	BRIGHT
462-125011	●	1/8	-	0.750	-	2.250	-	0.125	-	TiAlN
462-1575	●	-	4.00	-	19.00	-	57.00	-	4.00	BRIGHT
462-1875	●	3/16	-	0.750	-	2.250	-	0.188	-	BRIGHT
462-1968	●	-	5.00	-	25.00	-	64.00	-	5.00	BRIGHT
462-2362	●	-	6.00	-	28.00	-	76.00	-	6.00	BRIGHT
462-2500	●	1/4	-	1.125	-	3.000	-	0.250	-	BRIGHT
462-250011	●	1/4	-	1.125	-	3.000	-	0.250	-	TiAlN
462-3125	●	5/16	-	1.125	-	3.000	-	0.313	-	BRIGHT
462-312511	●	5/16	-	1.125	-	3.000	-	0.313	-	TiAlN
462-3150	●	-	8.00	-	29.00	-	76.00	-	8.00	BRIGHT
462-3750	●	3/8	-	1.125	-	3.000	-	0.375	-	BRIGHT
462-375011	●	3/8	-	1.125	-	3.000	-	0.375	-	TiAlN
462-375008	●	3/8	-	1.125	-	3.000	-	0.375	-	TiCN
462-3937	●	-	10.00	-	32.00	-	76.00	-	10.00	BRIGHT
462-4375	●	7/16	-	2.000	-	4.000	-	0.438	-	BRIGHT
462-4724	●	-	12.00	-	51.00	-	102.00	-	12.00	BRIGHT
462-5001	●	1/2	-	1.000	-	4.000	-	0.500	-	BRIGHT
462-500108	●	1/2	-	1.000	-	4.000	-	0.500	-	TiCN
462-5000	●	1/2	-	2.000	-	4.000	-	0.500	-	BRIGHT
462-5512	●	-	14.00	-	57.00	-	127.00	-	14.00	BRIGHT
462-6250	●	5/8	-	2.250	-	5.000	-	0.625	-	BRIGHT
462-625008	●	5/8	-	2.250	-	5.000	-	0.625	-	TiCN
462-6299	●	-	16.00	-	57.00	-	127.00	-	16.00	BRIGHT
462-7087	●	-	18.00	-	57.00	-	127.00	-	18.00	BRIGHT
462-7500	●	3/4	-	2.250	-	5.000	-	0.750	-	BRIGHT
462-7874	●	-	20.00	-	57.00	-	127.00	-	20.00	BRIGHT
462-9843	●	-	25.00	-	57.00	-	127.00	-	25.00	BRIGHT
462-1000	●	1	-	2.250	-	5.000	-	1.000	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○	○	

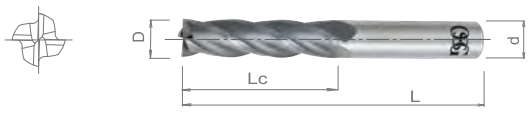
○ Good ◎ Best

List 464

OSG STANDARD CARBIDE SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | TiCN | 4 FLUTE | 30° | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"
3mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
464-1181	●	-	3.00	-	19.00	-	57.00	-	3.00	BRIGHT
464-1250	●	1/8	-	0.750	-	2.250	-	0.125	-	BRIGHT
464-125011	●	1/8	-	0.750	-	2.250	-	0.125	-	TiAlN
464-1575	●	-	4.00	-	19.00	-	57.00	-	4.00	BRIGHT
464-1875	●	3/16	-	0.750	-	2.250	-	0.188	-	BRIGHT
464-187511	●	3/16	-	0.750	-	2.250	-	0.188	-	TiAlN
464-1968	●	-	5.00	-	25.00	-	64.00	-	5.00	BRIGHT
464-196811	●	-	5.00	-	25.00	-	64.00	-	5.00	TiAlN
464-2362	●	-	6.00	-	28.00	-	76.00	-	6.00	BRIGHT
464-236211	●	-	6.00	-	28.00	-	76.00	-	6.00	TiAlN
464-2500	●	1/4	-	1.125	-	3.000	-	0.250	-	BRIGHT
464-250011	●	1/4	-	1.125	-	3.000	-	0.250	-	TiAlN
464-3125	●	5/16	-	1.125	-	3.000	-	0.313	-	BRIGHT
464-312511	●	5/16	-	1.125	-	3.000	-	0.313	-	TiAlN
464-3150	●	-	8.00	-	29.00	-	76.00	-	8.00	BRIGHT
464-315011	●	-	8.00	-	29.00	-	76.00	-	8.00	TiAlN
464-3750	●	3/8	-	1.125	-	3.000	-	0.375	-	BRIGHT
464-375011	●	3/8	-	1.125	-	3.000	-	0.375	-	TiAlN
464-3937	●	-	10.00	-	32.00	-	76.00	-	10.00	BRIGHT
464-393711	●	-	10.00	-	32.00	-	76.00	-	10.00	TiAlN
464-4375	●	7/16	-	2.000	-	4.000	-	0.438	-	BRIGHT
464-437511	●	7/16	-	2.000	-	4.000	-	0.438	-	TiAlN
464-437508	●	7/16	-	2.000	-	4.000	-	0.438	-	TiCN
464-4724	●	-	12.00	-	51.00	-	102.00	-	12.00	BRIGHT
464-472411	●	-	12.00	-	51.00	-	102.00	-	12.00	TiAlN
464-5001	●	1/2	-	1.000	-	4.000	-	0.500	-	BRIGHT
464-500108	●	1/2	-	1.000	-	4.000	-	0.500	-	TiCN
464-5000	●	1/2	-	2.000	-	4.000	-	0.500	-	BRIGHT
464-500011	●	1/2	-	2.000	-	4.000	-	0.500	-	TiAlN
464-5512	●	-	14.00	-	57.00	-	127.00	-	14.00	BRIGHT
464-6250	●	5/8	-	2.250	-	5.000	-	0.625	-	BRIGHT
464-625011	●	5/8	-	2.250	-	5.000	-	0.625	-	TiAlN
464-6299	●	-	16.00	-	57.00	-	127.00	-	16.00	BRIGHT
464-7087	●	-	18.00	-	57.00	-	127.00	-	18.00	BRIGHT
464-7500	●	3/4	-	2.250	-	5.000	-	0.750	-	BRIGHT
464-750011	●	3/4	-	2.250	-	5.000	-	0.750	-	TiAlN
464-7874	●	-	20.00	-	57.00	-	127.00	-	20.00	BRIGHT
464-787411	●	-	20.00	-	57.00	-	127.00	-	20.00	TiAlN
464-9843	●	-	25.00	-	57.00	-	127.00	-	25.00	BRIGHT
464-1000	●	1	-	2.250	-	5.000	-	1.000	-	BRIGHT
464-100008	●	1	-	2.250	-	5.000	-	1.000	-	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	○

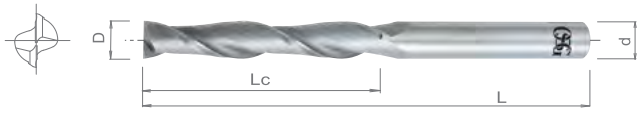
○ Good ◎ Best

List 482

OSG STANDARD CARBIDE SQ

SPEED FEED 1402-1405 | CARBIDE | BR | TiAlN | TiCN | 2 FLUTE | 30° | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"
3mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
482-1181	●	-	3.00	-	25.00	-	76.00	-	3.00	BRIGHT
482-1250	●	1/8	-	1.000	-	3.000	-	0.125	-	BRIGHT
482-125011	●	1/8	-	1.000	-	3.000	-	0.125	-	TiAlN
482-1575	●	-	4.00	-	28.00	-	76.00	-	4.00	BRIGHT
482-1876	●	3/16	-	1.000	-	4.000	-	0.188	-	BRIGHT
482-1875	●	3/16	-	1.125	-	3.000	-	0.188	-	BRIGHT
482-187508	●	3/16	-	1.125	-	3.000	-	0.188	-	TiCN
482-1968	●	-	5.00	-	32.00	-	76.00	-	5.00	BRIGHT
482-2362	●	-	6.00	-	38.00	-	102.00	-	6.00	BRIGHT
482-2501	●	1/4	-	1.000	-	4.000	-	0.250	-	BRIGHT
482-250108	●	1/4	-	1.000	-	4.000	-	0.250	-	TiCN
482-2500	●	1/4	-	1.500	-	4.000	-	0.250	-	BRIGHT
482-2502	●	1/4	-	1.500	-	6.000	-	0.250	-	BRIGHT
482-250011	●	1/4	-	1.500	-	4.000	-	0.250	-	TiAlN
482-250208	●	1/4	-	1.500	-	6.000	-	0.250	-	TiCN
482-3125	●	5/16	-	1.625	-	4.000	-	0.313	-	BRIGHT
482-3150	●	-	8.00	-	42.00	-	102.00	-	8.00	BRIGHT
482-3750	●	3/8	-	1.750	-	4.000	-	0.375	-	BRIGHT
482-3937	●	-	10.00	-	45.00	-	102.00	-	10.00	BRIGHT
482-4375	●	7/16	-	3.000	-	6.000	-	0.438	-	BRIGHT
482-4724	●	-	12.00	-	76.00	-	153.00	-	12.00	BRIGHT
482-5000	●	1/2	-	3.000	-	6.000	-	0.500	-	BRIGHT
482-500011	●	1/2	-	3.000	-	6.000	-	0.500	-	TiAlN
482-500008	●	1/2	-	3.000	-	6.000	-	0.500	-	TiCN
482-5512	●	-	14.00	-	76.00	-	153.00	-	14.00	BRIGHT
482-6250	●	5/8	-	3.000	-	6.000	-	0.625	-	BRIGHT
482-6299	●	-	16.00	-	76.00	-	153.00	-	16.00	BRIGHT
482-7087	●	-	18.00	-	76.00	-	153.00	-	18.00	BRIGHT
482-7500	●	3/4	-	3.000	-	6.000	-	0.750	-	BRIGHT
482-7874	●	-	20.00	-	76.00	-	153.00	-	20.00	BRIGHT
482-9843	●	-	25.00	-	76.00	-	153.00	-	25.00	BRIGHT
482-1000	●	1	-	3.000	-	6.000	-	1.000	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○						○	○	○			○			

○ Good ◎ Best

List 484

OSG STANDARD CARBIDE SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | TiCN | 4 FLUTE | 30° | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"
3mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
484-1181	●	-	3.00	-	25.00	-	76.00	-	3.00	BRIGHT
484-1250	●	1/8	-	1.000	-	3.000	-	0.125	-	BRIGHT
484-125011	●	1/8	-	1.000	-	3.000	-	0.125	-	TiAlN
484-1575	●	-	4.00	-	28.00	-	76.00	-	4.00	BRIGHT
484-1876	●	3/16	-	1.000	-	4.000	-	0.188	-	BRIGHT
484-187608	●	3/16	-	1.000	-	4.000	-	0.188	-	TiCN
484-1875	●	3/16	-	1.125	-	3.000	-	0.188	-	BRIGHT
484-187511	●	3/16	-	1.125	-	3.000	-	0.188	-	TiAlN
484-1968	●	-	5.00	-	32.00	-	76.00	-	5.00	BRIGHT
484-2362	●	-	6.00	-	38.00	-	102.00	-	6.00	BRIGHT
484-2501	●	1/4	-	1.000	-	4.000	-	0.250	-	BRIGHT
484-250108	●	1/4	-	1.000	-	4.000	-	0.250	-	TiCN
484-2500	●	1/4	-	1.500	-	4.000	-	0.250	-	BRIGHT
484-2502	●	1/4	-	1.500	-	6.000	-	0.250	-	BRIGHT
484-250011	●	1/4	-	1.500	-	4.000	-	0.250	-	TiAlN
484-250208	●	1/4	-	1.500	-	6.000	-	0.250	-	TiCN
484-3126	●	5/16	-	1.000	-	4.000	-	0.313	-	BRIGHT
484-312608	●	5/16	-	1.000	-	4.000	-	0.313	-	TiCN
484-3127	●	5/16	-	1.500	-	6.000	-	0.313	-	BRIGHT
484-312708	●	5/16	-	1.500	-	6.000	-	0.313	-	TiCN
484-3125	●	5/16	-	1.625	-	4.000	-	0.313	-	BRIGHT
484-312511	●	5/16	-	1.625	-	4.000	-	0.313	-	TiAlN
484-3150	●	-	8.00	-	42.00	-	102.00	-	8.00	BRIGHT
484-3751	●	3/8	-	1.000	-	4.000	-	0.375	-	BRIGHT
484-375108	●	3/8	-	1.000	-	4.000	-	0.375	-	TiCN
484-3752	●	3/8	-	1.500	-	6.000	-	0.375	-	BRIGHT
484-375208	●	3/8	-	1.500	-	6.000	-	0.375	-	TiCN
484-3750	●	3/8	-	1.750	-	4.000	-	0.375	-	BRIGHT
484-375011	●	3/8	-	1.750	-	4.000	-	0.375	-	TiAlN
484-3753	●	3/8	-	3.000	-	6.000	-	0.375	-	BRIGHT
484-3937	●	-	10.00	-	45.00	-	102.00	-	10.00	BRIGHT
484-4375	●	7/16	-	3.000	-	6.000	-	0.438	-	BRIGHT
484-4724	●	-	12.00	-	76.00	-	153.00	-	12.00	BRIGHT
484-5001	●	1/2	-	1.500	-	6.000	-	0.500	-	BRIGHT
484-5000	●	1/2	-	3.000	-	6.000	-	0.500	-	BRIGHT
484-500011	●	1/2	-	3.000	-	6.000	-	0.500	-	TiAlN
484-500108	●	1/2	-	3.000	-	6.000	-	0.500	-	TiCN
484-5512	●	-	14.00	-	76.00	-	153.00	-	14.00	BRIGHT
484-6251	●	5/8	-	2.000	-	6.000	-	0.625	-	BRIGHT
484-625108	●	5/8	-	2.000	-	6.000	-	0.625	-	TiCN
484-6250	●	5/8	-	3.000	-	6.000	-	0.625	-	BRIGHT
484-625011	●	5/8	-	3.000	-	6.000	-	0.625	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○		

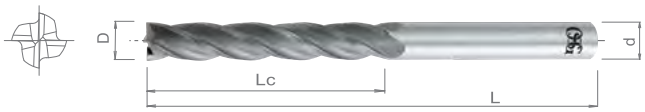
○ Good ◎ Best

List 484 (Continued)

OSG STANDARD CARBIDE SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | TiCN | 4 FLUTE | 30° | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"
3mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
484-6299	●	-	16.00	-	76.00	-	153.00	-	16.00	BRIGHT
484-7087	●	-	18.00	-	76.00	-	153.00	-	18.00	BRIGHT
484-7501	●	3/4	-	2.000	-	6.000	-	0.750	-	BRIGHT
484-7500	●	3/4	-	3.000	-	6.000	-	0.750	-	BRIGHT
484-750011	●	3/4	-	3.000	-	6.000	-	0.750	-	TiAlN
484-7874	●	-	20.00	-	76.00	-	153.00	-	20.00	BRIGHT
484-9843	●	-	25.00	-	76.00	-	153.00	-	25.00	BRIGHT
484-1000	●	1	-	3.000	-	6.000	-	1.000	-	BRIGHT
484-100011	●	1	-	3.000	-	6.000	-	1.000	-	TiAlN
484-100008	●	1	-	3.000	-	6.000	-	1.000	-	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○		

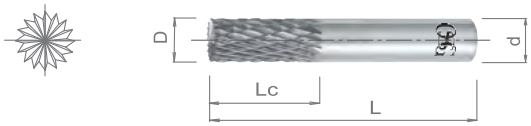
○ Good ◎ Best

List 415

OSG STANDARD CARBIDE TOUGHY MILLS, Standard Cut

CARBIDE	BR	15°			STUB	REG	LONG	PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/4"	+0 / -0.003"
5/16" ≤ D ≤ 1/2"	+0 / -0.004"
9/16" ≤ D ≤ 1"	+0 / -0.005"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
415-1250	●	1/8	0.500	1.500	0.125
415-1562	●	5/32	0.563	2.000	0.188
415-1875	●	3/16	0.625	2.000	0.188
415-2188	●	7/32	0.625	2.500	0.250
415-2500	●	1/4	0.750	2.500	0.250
415-3125	●	5/16	0.813	2.500	0.313
415-3750	●	3/8	1.000	2.500	0.375
415-4375	●	7/16	1.000	2.750	0.438
415-5000	●	1/2	1.000	3.000	0.500
415-5625	●	9/16	1.125	3.500	0.563
415-6250	●	5/8	1.250	3.500	0.625
415-7500	●	3/4	1.500	4.000	0.750
415-8750	●	7/8	1.500	4.000	0.875
415-1000	●	1	1.500	4.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
		○	○										○	○	○	

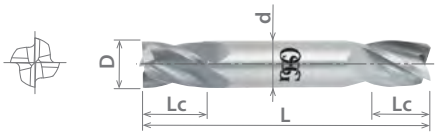
○ Good ◎ Best

List 424

OSG STANDARD CARBIDE DOUBLE END SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Surface Treatment
424-0312	●	1/32	0.078	1.500	0.125	BRIGHT
424-031211	●	1/32	0.078	1.500	0.125	TiAlN
424-0469	●	3/64	0.094	1.500	0.125	BRIGHT
424-046911	●	3/64	0.094	1.500	0.125	TiAlN
424-0625	●	1/16	0.125	1.500	0.125	BRIGHT
424-062511	●	1/16	0.125	1.500	0.125	TiAlN
424-0781	●	5/64	0.156	1.500	0.125	BRIGHT
424-078111	●	5/64	0.156	1.500	0.125	TiAlN
424-0938	●	3/32	0.188	1.500	0.125	BRIGHT
424-093811	●	3/32	0.188	1.500	0.125	TiAlN
424-1094	●	7/64	0.219	1.500	0.125	BRIGHT
424-109411	●	7/64	0.219	1.500	0.125	TiAlN
424-1250	●	1/8	0.250	1.500	0.125	BRIGHT
424-125011	●	1/8	0.250	1.500	0.125	TiAlN
424-1406	●	9/64	0.281	2.000	0.188	BRIGHT
424-1562	●	5/32	0.313	2.000	0.188	BRIGHT
424-156211	●	5/32	0.313	2.000	0.188	TiAlN
424-1875	●	3/16	0.375	2.000	0.188	BRIGHT
424-187511	●	3/16	0.375	2.000	0.188	TiAlN
424-2188	●	7/32	0.500	2.500	0.250	BRIGHT
424-2500	●	1/4	0.500	2.500	0.250	BRIGHT
424-250011	●	1/4	0.500	2.500	0.250	TiAlN
424-3125	●	5/16	0.500	2.500	0.313	BRIGHT
424-312511	●	5/16	0.500	2.500	0.313	TiAlN
424-3750	●	3/8	0.500	2.500	0.375	BRIGHT
424-375011	●	3/8	0.500	2.500	0.375	TiAlN
424-4375	●	7/16	0.563	2.750	0.438	BRIGHT
424-5000	●	1/2	0.625	3.000	0.500	BRIGHT
424-500011	●	1/2	0.625	3.000	0.500	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○		

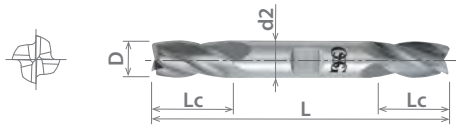
○ Good ◎ Best

List 444

OSG STANDARD CARBIDE DOUBLE END SQ

SPEED FEED 1406-1407 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | WELDON FLAT | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Surface Treatment
444-1250	●	1/8	0.375	3.063	0.375	BRIGHT
444-125011	●	1/8	0.375	3.063	0.375	TiAlN
444-1562	●	5/32	0.438	3.125	0.375	BRIGHT
444-1875	●	3/16	0.500	3.250	0.375	BRIGHT
444-187511	●	3/16	0.500	3.250	0.375	TiAlN
444-2188	●	7/32	0.563	3.375	0.375	BRIGHT
444-2500	●	1/4	0.625	3.375	0.375	BRIGHT
444-250011	●	1/4	0.625	3.375	0.375	TiAlN
444-2812	●	9/32	0.688	3.375	0.375	BRIGHT
444-3125	●	5/16	0.750	3.500	0.375	BRIGHT
444-3438	●	11/32	0.750	3.500	0.375	BRIGHT
444-3750	●	3/8	0.750	3.500	0.375	BRIGHT
444-375011	●	3/8	0.750	3.500	0.375	TiAlN
444-4375	●	7/16	0.875	4.000	0.500	BRIGHT
444-5000	●	1/2	1.000	4.000	0.500	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

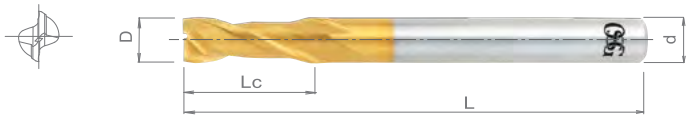
○ Good ◎ Best

List 673

EXOMINI VC-10 TIN-CPM-M-EDL

SPEED FEED	VC10	TiN	2 FLUTE	30°			REG	PACKED
1408-1409								1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 11/64"	+0 / -0.0011"
D = 3/16"	-0.0004 / -0.0015"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
6737005	●	1/32	0.094	1.875	0.188
6737105	●	3/64	0.141	1.875	0.188
6737205	●	1/16	0.188	1.875	0.188
6737305	●	5/64	0.234	1.875	0.188
6737405	●	3/32	0.281	1.875	0.188
6737505	●	7/64	0.328	1.875	0.188
6737605	●	1/8	0.375	1.875	0.188
6737705	●	9/64	0.406	1.875	0.188
6737805	●	5/32	0.438	1.875	0.188
6737905	●	11/64	0.500	1.875	0.188
6738005	●	3/16	0.500	1.875	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		

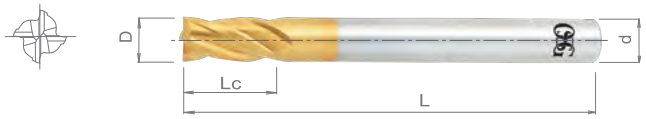
○ Good ◎ Best

List 676

EXOMINI VC-10 TIN-CPM-M-EMS

SPEED FEED 1410-1411 | VC10 | TiN | 4 FLUTE | 30° | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 5/32"	+0 / -0.0011"
D = 3/16"	-0.0004 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Center Cutting
6767205	●	1/16	0.094	1.750	0.188	-
6767405	●	3/32	0.141	1.750	0.188	-
6767605	●	1/8	0.188	1.750	0.188	●
6767805	●	5/32	0.234	1.750	0.188	●
6768005	●	3/16	0.281	1.750	0.188	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		

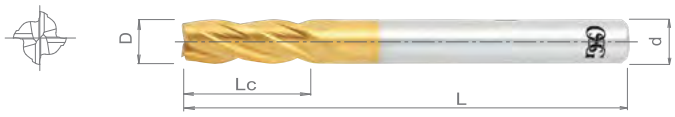
○ Good ◎ Best

List 677

EXOMINI VC-10 TIN-CPM-M-EML

SPEED FEED 1410-1411 | VC10 | TiN | 4 FLUTE | 30° | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 5/32"	+0 / -0.0011"
D = 3/16"	-0.0004 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Center Cutting
6777205	●	1/16	0.188	1.875	0.19	-
6777405	●	3/32	0.281	1.875	0.19	-
6777605	●	1/8	0.375	1.875	0.19	●
6777805	●	5/32	0.438	1.875	0.19	●
6778005	●	3/16	0.500	1.875	0.19	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		

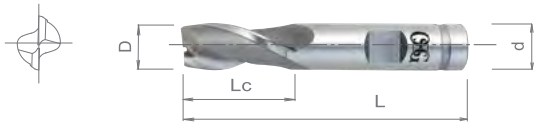
○ Good ◎ Best

List 620

EXOMILL VC-10 CPM-EDS

SPEED FEED	VC10	BR	2 FLUTE	30°			STUB	REG	WELDON FLAT	PACKED
1408-1409										1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1-1/2"	+0 / -0.0011"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
6200100	●	1/8	0.375	2.313	0.375
6200200	●	3/16	0.438	2.313	0.375
6200300	●	1/4	0.500	2.313	0.375
6200400	●	5/16	0.563	2.313	0.375
6200500	●	3/8	0.563	2.313	0.375
6201100	●	1/2	1.000	3.000	0.500
6202100	●	5/8	1.313	3.438	0.625
6203100	●	3/4	1.313	3.563	0.750
6205100	●	1	1.625	4.125	1.000
6206100	●	1-1/4	1.625	4.125	1.250
6206200	●	1-1/2	1.625	4.125	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		

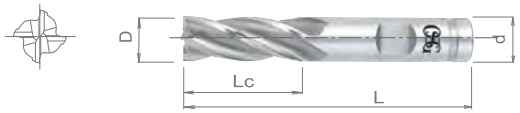
○ Good ◎ Best

List 641

EXOMILL VC-10 CPM-CC-EMS

SPEED FEED	VC10	BR	30°			WELDON FLAT	STUB	REG	PACKED
1410-1411									1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 2"	+0 / -0.0011"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
6410100	●	1/8	0.375	2.313	0.375	4
6410200	●	3/16	0.500	2.375	0.375	4
6410300	●	1/4	0.625	2.438	0.375	4
6410400	●	5/16	0.750	2.500	0.375	4
6410500	●	3/8	0.750	2.500	0.375	4
6410600	●	7/16	1.000	2.688	0.375	4
6411100	●	1/2	1.250	3.250	0.500	4
6411500	●	1/2	1.250	3.250	0.500	6
6412100	●	5/8	1.625	3.750	0.625	4
6412500	●	5/8	1.625	3.750	0.625	6
6413100	●	3/4	1.625	3.875	0.750	4
6413500	●	3/4	1.625	3.875	0.750	6
6414100	●	7/8	1.875	4.125	0.875	4
6414500	●	7/8	1.875	4.125	0.875	6
6415100	●	1	2.000	4.500	1.000	4
6415500	●	1	2.000	4.500	1.000	6
6416100	●	1-1/4	2.000	4.500	1.250	6
6416200	●	1-1/2	2.000	4.500	1.250	6
6416400	●	2	2.000	5.750	2.000	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		

○ Good ◎ Best

List 646

EXOMILL VC-10 CPM-CC-EML

SPEED FEED	VC10	BR	30°			WELDON FLAT	REG	LONG	PACKED
1410-1411									1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 2"	+0 / -0.0011"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
6460300	●	1/4	1.250	3.063	0.375	4
6460500	●	3/8	1.500	3.250	0.375	4
6461100	●	1/2	2.000	4.000	0.500	4
6461500	●	1/2	2.000	4.000	0.500	6
6462100	●	5/8	2.500	4.625	0.625	4
6462500	●	5/8	2.500	4.625	0.625	6
6463100	●	3/4	3.000	5.250	0.750	4
6463500	●	3/4	3.000	5.250	0.750	6
6464100	●	7/8	3.500	5.750	0.875	4
6464500	●	7/8	3.500	5.750	0.875	6
6465100	●	1	4.000	6.500	1.000	4
6465500	●	1	4.000	6.500	1.000	6
6466100	●	1-1/4	4.000	6.500	1.250	6
6466200	●	1-1/2	4.000	6.500	1.250	6
6466400	●	2	4.000	7.750	2.000	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	◎	◎	◎	○	○	○		○	◎	○		

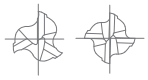
○ Good ◎ Best

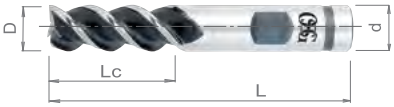
List 660

EXOMILL VC-10 CPM-EHS, High Helix

SPEED FEED	VC10	BR	50°			WELDON FLAT	REG	PACKED
1412								1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0011"





EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
6600300	●	1/4	0.625	2.438	0.375	3
6600400	●	5/16	0.750	2.500	0.375	3
6600500	●	3/8	0.750	2.500	0.375	3
6600600	●	7/16	1.000	2.688	0.375	3
6601100	●	1/2	1.250	3.250	0.500	3
6602100	●	5/8	1.625	3.750	0.625	3
6603100	●	3/4	1.625	3.875	0.750	3
6604100	●	7/8	1.875	4.125	0.875	4
6605100	●	1	2.000	4.500	1.000	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

EXM

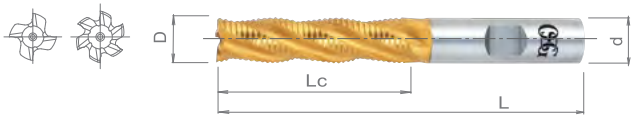
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	◎	◎	◎	○	○	○		○	○			

○ Good ◎ Best

List 690

EXOTIN EXO-TIN-EX-REE

SPEED FEED 1413 | HSSE | TiN | ROUGH | 30° | WELDON FLAT | STUB | REG | LONG | PACKED 1 PIECE



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
6909105	●	1/4	0.750	2.500	0.375	4
6909405	●	5/16	0.750	2.500	0.375	4
6909705	●	3/8	0.875	2.625	0.375	4
6909805	●	3/8	1.500	3.250	0.375	4
6900105	●	1/2	1.250	3.250	0.500	4
6900305	●	1/2	2.000	4.000	0.500	4
6900505	●	5/8	1.625	3.750	0.625	4
6900705	●	5/8	2.500	4.625	0.625	4
6900905	●	3/4	1.625	3.875	0.625	4
6901305	●	3/4	1.625	3.875	0.750	4
6901505	●	3/4	3.000	5.250	0.750	4
6901705	●	7/8	1.875	4.125	0.750	5
6910105	●	1	2.000	4.250	0.750	5
6910505	●	1	2.000	4.500	1.000	5
6910905	●	1	4.000	6.500	1.000	5
6912105	●	1-1/4	2.000	4.500	1.250	6
6912305	●	1-1/4	3.000	5.500	1.250	6
6912505	●	1-1/4	4.000	6.500	1.250	6
6913305	●	1-1/2	2.000	4.500	1.250	6
6913505	●	1-1/2	3.000	5.500	1.250	6
6920105	●	2	2.000	4.500	1.250	8
6920705	●	2	3.000	6.750	2.000	8
6920505	●	2	4.000	6.500	1.250	8
6920905	●	2	4.000	7.750	2.000	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	◎	◎	○	○	○	○		○	◎	○		

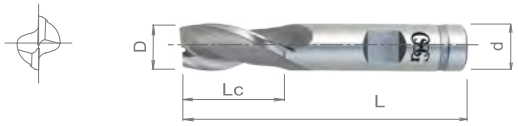
○ Good ◎ Best

List 573

HY-PRO V EDS

SPEED FEED	HSSE	BR	TiCN	2 FLUTE	30°			WELDON FLAT	STUB	REG	PACKED
1414											1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0011"



EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Surface Treatment
5730100	●	1/8	0.375	2.313	0.375	BRIGHT
5730108	●	1/8	0.375	2.313	0.375	TiCN
5730200	●	5/32	0.438	2.313	0.375	BRIGHT
5730300	●	3/16	0.438	2.313	0.375	BRIGHT
5730308	●	3/16	0.438	2.313	0.375	TiCN
5730400	●	7/32	0.500	2.313	0.375	BRIGHT
5730408	●	7/32	0.500	2.313	0.375	TiCN
5730500	●	1/4	0.500	2.313	0.375	BRIGHT
5730508	●	1/4	0.500	2.313	0.375	TiCN
5730600	●	9/32	0.563	2.313	0.375	BRIGHT
5730608	●	9/32	0.563	2.313	0.375	TiCN
5730700	●	5/16	0.563	2.313	0.375	BRIGHT
5730708	●	5/16	0.563	2.313	0.375	TiCN
5730800	●	11/32	0.563	2.313	0.375	BRIGHT
5730808	●	11/32	0.563	2.313	0.375	TiCN
5730900	●	3/8	0.563	2.313	0.375	BRIGHT
5730908	●	3/8	0.563	2.313	0.375	TiCN
5731000	●	13/32	0.813	2.500	0.375	BRIGHT
5731008	●	13/32	0.813	2.500	0.375	TiCN
5731100	●	7/16	0.813	2.500	0.375	BRIGHT
5731108	●	7/16	0.813	2.500	0.375	TiCN
5731200	●	15/32	0.813	2.500	0.375	BRIGHT
5731208	●	15/32	0.813	2.500	0.375	TiCN
5731400	●	1/2	1.000	3.000	0.500	BRIGHT
5731408	●	1/2	1.000	3.000	0.500	TiCN
5731500	●	17/32	1.125	3.125	0.500	BRIGHT
5731508	●	17/32	1.125	3.125	0.500	TiCN
5731600	●	9/16	1.125	3.125	0.500	BRIGHT
5731608	●	9/16	1.125	3.125	0.500	TiCN
5731700	●	19/32	1.125	3.125	0.500	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.

STE

EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Surface Treatment
5731708	●	19/32	1.125	3.125	0.500	TiCN
5732300	●	5/8	1.313	3.438	0.625	BRIGHT
5732308	●	5/8	1.313	3.438	0.625	TiCN
5731900	●	21/32	1.313	3.313	0.500	BRIGHT
5731908	●	21/32	1.313	3.313	0.500	TiCN
5732000	●	11/16	1.313	3.313	0.500	BRIGHT
5732008	●	11/16	1.313	3.313	0.500	TiCN
5732400	●	11/16	1.313	3.438	0.625	BRIGHT
5732408	●	11/16	1.313	3.438	0.625	TiCN
5732100	●	23/32	1.313	3.313	0.500	BRIGHT
5732108	●	23/32	1.313	3.313	0.500	TiCN
5733200	●	3/4	1.313	3.563	0.750	BRIGHT
5733208	●	3/4	1.313	3.563	0.750	TiCN
5732600	●	25/32	1.500	3.625	0.625	BRIGHT
5732608	●	25/32	1.500	3.625	0.625	TiCN
5732700	●	13/16	1.500	3.625	0.625	BRIGHT
5732708	●	13/16	1.500	3.625	0.625	TiCN
5732800	●	27/32	1.500	3.625	0.625	BRIGHT
5732808	●	27/32	1.500	3.625	0.625	TiCN
5733700	●	7/8	1.500	3.750	0.875	BRIGHT
5733708	●	7/8	1.500	3.750	0.875	TiCN
5733400	●	29/32	1.500	3.750	0.750	BRIGHT
5733408	●	29/32	1.500	3.750	0.750	TiCN
5733000	●	15/16	1.500	3.625	0.625	BRIGHT
5733008	●	15/16	1.500	3.625	0.625	TiCN
5733500	●	31/32	1.500	3.750	0.750	BRIGHT
5733508	●	31/32	1.500	3.750	0.750	TiCN
5733900	●	1	1.625	4.125	1.000	BRIGHT
5733908	●	1	1.625	4.125	1.000	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○		◎	◎	◎		○	○	○		

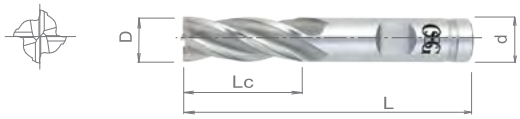
○ Good ◎ Best

List 574

HY-PRO V CC-EMS

SPEED FEED 1414-1415 | HSSE | BR | TiCN | 30° | WELDON FLAT | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0011"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment
5740100	●	1/8	0.375	2.313	0.375	4	BRIGHT
5740108	●	1/8	0.375	2.313	0.375	4	TiCN
5740200	●	5/32	0.438	2.375	0.375	4	BRIGHT
5740208	●	5/32	0.438	2.375	0.375	4	TiCN
5740300	●	3/16	0.500	2.375	0.375	4	BRIGHT
5740308	●	3/16	0.500	2.375	0.375	4	TiCN
5740400	●	7/32	0.563	2.438	0.375	4	BRIGHT
5740408	●	7/32	0.563	2.438	0.375	4	TiCN
5740500	●	1/4	0.625	2.438	0.375	4	BRIGHT
5740508	●	1/4	0.625	2.438	0.375	4	TiCN
5740600	●	9/32	0.688	2.500	0.375	4	BRIGHT
5740608	●	9/32	0.688	2.500	0.375	4	TiCN
5740700	●	5/16	0.750	2.500	0.375	4	BRIGHT
5740708	●	5/16	0.750	2.500	0.375	4	TiCN
5740800	●	11/32	0.750	2.500	0.375	4	BRIGHT
5740808	●	11/32	0.750	2.500	0.375	4	TiCN
5740900	●	3/8	0.750	2.500	0.375	4	BRIGHT
5740908	●	3/8	0.750	2.500	0.375	4	TiCN
5741000	●	13/32	1.000	2.688	0.375	4	BRIGHT
5741008	●	13/32	1.000	2.688	0.375	4	TiCN
5741100	●	7/16	1.000	2.688	0.375	4	BRIGHT
5741108	●	7/16	1.000	2.688	0.375	4	TiCN
5741200	●	15/32	1.250	3.250	0.500	4	BRIGHT
5741208	●	15/32	1.250	3.250	0.500	4	TiCN
5741400	●	1/2	1.250	3.250	0.500	4	BRIGHT
5741408	●	1/2	1.250	3.250	0.500	4	TiCN
5741500	●	17/32	1.375	3.375	0.500	4	BRIGHT
5741508	●	17/32	1.375	3.375	0.500	4	TiCN
5741600	●	9/16	1.375	3.375	0.500	4	BRIGHT
5741608	●	9/16	1.375	3.375	0.500	4	TiCN
5741700	●	19/32	1.375	3.375	0.500	4	BRIGHT
5741708	●	19/32	1.375	3.375	0.500	4	TiCN
5742300	●	5/8	1.625	3.750	0.625	4	BRIGHT
5742308	●	5/8	1.625	3.750	0.625	4	TiCN
5741900	●	21/32	1.625	3.625	0.500	4	BRIGHT
5741908	●	21/32	1.625	3.625	0.500	4	TiCN
5742000	●	11/16	1.625	3.625	0.500	4	BRIGHT
5742008	●	11/16	1.625	3.625	0.500	4	TiCN
5742400	●	11/16	1.625	3.750	0.625	4	BRIGHT
5742408	●	11/16	1.625	3.750	0.625	4	TiCN
5742100	●	23/32	1.625	3.625	0.500	4	BRIGHT
5742108	●	23/32	1.625	3.625	0.500	4	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○		◎	◎	◎		○	○	○		

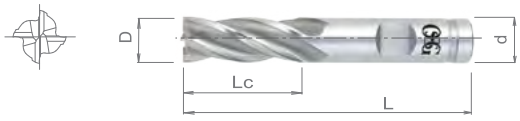
○ Good ◎ Best

List 574 (Continued)

HY-PRO V CC-EMS

SPEED FEED	HSSE	BR	TiCN	30°			WELDON FLAT	STUB	REG	PACKED
1414-1415										1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0011"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment
5743200	●	3/4	1.625	3.875	0.750	4	BRIGHT
5743208	●	3/4	1.625	3.875	0.750	4	TiCN
5742600	●	25/32	1.875	4.000	0.625	6	BRIGHT
5742608	●	25/32	1.875	4.000	0.625	6	TiCN
5742700	●	13/16	1.875	4.000	0.625	6	BRIGHT
5742708	●	13/16	1.875	4.000	0.625	6	TiCN
5742800	●	27/32	1.875	4.000	0.625	6	BRIGHT
5742808	●	27/32	1.875	4.000	0.625	6	TiCN
5743700	●	7/8	1.875	4.125	0.875	6	BRIGHT
5743708	●	7/8	1.875	4.125	0.875	6	TiCN
5743400	●	29/32	1.875	4.125	0.750	4	BRIGHT
5743408	●	29/32	1.875	4.125	0.750	4	TiCN
5743000	●	15/16	1.875	4.000	0.625	4	BRIGHT
5743008	●	15/16	1.875	4.000	0.625	4	TiCN
5743500	●	31/32	1.875	4.125	0.750	4	BRIGHT
5743508	●	31/32	1.875	4.125	0.750	4	TiCN
5743900	●	1	2.000	4.500	1.000	4	BRIGHT
5743908	●	1	2.000	4.500	1.000	4	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○		◎	◎	◎		○	○	○		

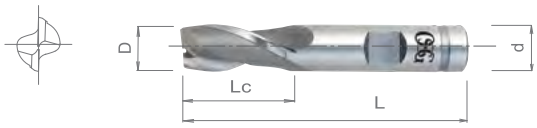
○ Good ◎ Best

List 520

OSG COBALT HSS SQ

SPEED FEED 1408-1409 | HSS-Co | BR | TiN | 2 FLUTE | 30° | WELDON FLAT | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 2"	+0.003 / -0"



EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Surface Treatment
5200100	●	1/8	0.375	2.313	0.375	BRIGHT
5200105	●	1/8	0.375	2.313	0.375	TiN
5209100	●	5/32	0.438	2.313	0.375	BRIGHT
5200200	●	3/16	0.438	2.313	0.375	BRIGHT
5200205	●	3/16	0.438	2.313	0.375	TiN
5209200	●	7/32	0.500	2.313	0.375	BRIGHT
5200300	●	1/4	0.500	2.313	0.375	BRIGHT
5200305	●	1/4	0.500	2.313	0.375	TiN
5209300	●	9/32	0.563	2.313	0.375	BRIGHT
5200400	●	5/16	0.563	2.313	0.375	BRIGHT
5200405	●	5/16	0.563	2.313	0.375	TiN
5209400	●	11/32	0.563	2.313	0.375	BRIGHT
5200500	●	3/8	0.563	2.313	0.375	BRIGHT
5200505	●	3/8	0.563	2.313	0.375	TiN
5209500	●	13/32	0.813	2.500	0.375	BRIGHT
5200600	●	7/16	0.813	2.500	0.375	BRIGHT
5200605	●	7/16	0.813	2.500	0.375	TiN
5209700	●	15/32	0.813	2.500	0.375	BRIGHT
5200700	●	1/2	0.813	2.500	0.375	BRIGHT
5201105	●	1/2	0.813	2.500	0.375	TiN
5201100	●	1/2	1.000	3.000	0.500	BRIGHT
5201600	●	17/32	1.125	3.125	0.500	BRIGHT
5201200	●	9/16	1.125	3.125	0.500	BRIGHT
5201700	●	19/32	1.125	3.125	0.500	BRIGHT
5201300	●	5/8	1.125	3.125	0.500	BRIGHT
5201305	●	5/8	1.125	3.125	0.500	TiN
5202100	●	5/8	1.313	3.438	0.625	BRIGHT
5202105	●	5/8	1.313	3.438	0.625	TiN
5201800	●	21/32	1.313	3.313	0.500	BRIGHT
5201400	●	11/16	1.313	3.313	0.500	BRIGHT
5202200	●	11/16	1.313	3.438	0.625	BRIGHT
5201900	●	23/32	1.313	3.313	0.500	BRIGHT
5201500	●	3/4	1.313	3.313	0.500	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.
2" diameter shanks have combination drive.

STE

EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Surface Treatment
5201505	●	3/4	1.313	3.313	0.500	TiN
5202300	●	3/4	1.313	3.438	0.625	BRIGHT
5203100	●	3/4	1.313	3.563	0.750	BRIGHT
5203105	●	3/4	1.313	3.563	0.750	TiN
5202800	●	25/32	1.500	3.625	0.625	BRIGHT
5202400	●	13/16	1.500	3.625	0.625	BRIGHT
5202900	●	27/32	1.500	3.625	0.625	BRIGHT
5202500	●	7/8	1.500	3.625	0.625	BRIGHT
5203200	●	7/8	1.500	3.750	0.750	BRIGHT
5204100	●	7/8	1.500	3.750	0.875	BRIGHT
5203205	●	7/8	1.500	3.750	0.750	TiN
5204105	●	7/8	1.500	3.750	0.875	TiN
5203400	●	29/32	1.500	3.750	0.750	BRIGHT
5202600	●	15/16	1.500	3.625	0.625	BRIGHT
5203500	●	31/32	1.500	3.750	0.750	BRIGHT
5202700	●	1	1.500	3.625	0.625	BRIGHT
5203300	●	1	1.500	3.750	0.750	BRIGHT
5204200	●	1	1.500	3.750	0.875	BRIGHT
5203305	●	1	1.500	3.750	0.750	TiN
5205100	●	1	1.625	4.125	1.000	BRIGHT
5205105	●	1	1.625	4.125	1.000	TiN
5204300	●	1-1/8	1.625	3.875	0.875	BRIGHT
5205200	●	1-1/8	1.625	4.125	1.000	BRIGHT
5204400	●	1-1/4	1.625	3.875	0.875	BRIGHT
5205300	●	1-1/4	1.625	4.125	1.000	BRIGHT
5206100	●	1-1/4	1.625	4.125	1.250	BRIGHT
5205400	●	1-3/8	1.625	4.125	1.000	BRIGHT
5205500	●	1-1/2	1.625	4.125	1.000	BRIGHT
5206200	●	1-1/2	1.625	4.125	1.250	BRIGHT
5206300	●	1-3/4	1.625	4.125	1.250	BRIGHT
5206400	●	2	1.625	4.125	1.250	BRIGHT
5207400	●	2	2.000	5.750	2.000	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.
2" diameter shanks have combination drive.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

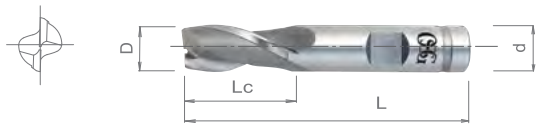
○ Good ◎ Best

List 580

OSG COBALT HSS EDS

SPEED FEED	HSS-Co	BR	2 FLUTE	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1416											1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 50mm	+0.028 / -0mm



EDP Number		Diameter	Length of Cut	Overall Length	Shank Dia.
		D (mm)	Lc (mm)	L (mm)	d (mm)
5800100	●	3.00	9.52	58.70	9.52
5808100	●	3.50	11.11	58.70	9.52
5800200	●	4.00	11.11	58.70	9.52
5808200	●	4.50	11.11	58.70	9.52
5800300	●	5.00	12.70	58.70	9.52
5808300	●	5.50	12.70	58.70	9.52
5800400	●	6.00	12.70	58.70	9.52
5808400	●	6.50	12.70	58.70	9.52
5800500	●	7.00	14.28	58.70	9.52
5808500	●	7.50	14.28	58.70	9.52
5800600	●	8.00	14.28	58.70	9.52
5808600	●	8.50	14.28	58.70	9.52
5800700	●	9.00	14.28	58.70	9.52
5808700	●	9.50	14.28	58.70	9.52
5800800	●	10.00	20.63	63.50	9.52
5808800	●	10.50	20.63	63.50	9.52
5800900	●	11.00	20.63	63.50	9.52
5808900	●	11.50	20.63	63.50	9.52
5801100	●	12.00	25.40	76.20	12.70
5809100	●	12.50	28.57	79.30	12.70
5801200	●	13.00	28.57	79.30	12.70
5809200	●	13.50	28.57	79.30	12.70
5801300	●	14.00	28.57	79.30	12.70
5809300	●	14.50	28.57	79.30	12.70
5801400	●	15.00	28.57	79.30	12.70
5802100	●	16.00	33.33	87.30	15.87
5802200	●	17.00	33.33	87.30	15.87
5802300	●	18.00	33.33	87.30	15.87
5803100	●	19.00	33.33	90.40	19.05
5803200	●	20.00	38.10	95.20	19.05
5803300	●	21.00	38.10	95.20	19.05
5804100	●	22.00	38.10	95.20	22.22
5804200	●	23.00	38.10	95.20	22.22
5805100	●	24.00	41.27	104.70	25.40
5805200	●	25.00	41.27	104.70	25.40
5805300	●	28.00	41.27	104.70	25.40
5806100	●	32.00	41.27	104.70	31.75
5806200	●	36.00	41.27	104.70	31.75
5806300	●	40.00	41.27	104.70	31.75
5806400	●	45.00	41.27	104.70	31.75
5806500	●	50.00	41.27	104.70	31.75

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request. 2" diameter shanks have combination drive.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

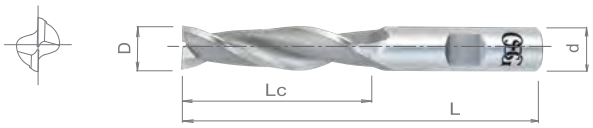
○ Good ◎ Best

List 525

OSG COBALT HSS EDL

SPEED FEED	HSS-Co	BR	2 FLUTE	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1408-1409											1 PIECE

Cutting Diameter Tolerance	
3/8" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Dia.
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5250500	●	3/8	1.500	3.250	0.375
5251100	●	1/2	2.000	4.000	0.500
5252100	●	5/8	2.000	4.125	0.625
5253100	●	3/4	2.250	4.500	0.750
5254100	●	7/8	2.500	4.750	0.875
5255100	●	1	3.000	5.500	1.000
5255200	●	1-1/8	3.000	5.500	1.000
5255300	●	1-1/4	3.000	5.500	1.000
5256100	●	1-1/4	3.000	5.500	1.250
5256200	●	1-1/2	3.000	5.500	1.250
5256300	●	1-3/4	3.000	5.500	1.250
5256400	●	2	3.000	5.500	1.250
5257400	●	2	3.000	6.750	2.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request. 2" diameter shanks have combination drive.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

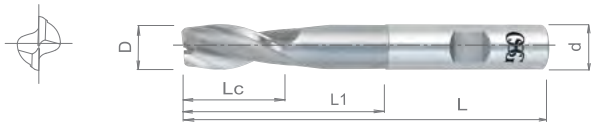
○ Good ◎ Best

List 527

OSG COBALT HSS LS-EDS, Reduced Neck

SPEED FEED	HSS-Co	BR	2 FLUTE	30°			WELDON FLAT	REG	PACKED
1408-1409									1 PIECE

Cutting Diameter Tolerance	
3/8" ≤ D ≤ 1-1/4"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Neck Length	Overall Length	Shank Dia.
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	L (Inch)	d (Inch)
5270100	●	1/8	0.375	0.813	2.375	0.375
5270200	●	3/16	0.500	1.125	2.688	0.375
5270300	●	1/4	0.625	1.500	3.063	0.375
5270400	●	5/16	0.750	1.750	3.313	0.375
5270500	●	3/8	0.750	1.750	3.313	0.375
5271100	●	1/2	1.000	2.250	4.000	0.500
5272100	●	5/8	1.375	2.750	4.625	0.625
5273100	●	3/4	1.625	3.375	5.375	0.750
5274100	●	7/8	2.000	4.000	6.000	0.875
5275100	●	1	2.500	5.000	7.250	1.000
5276100	●	1-1/4	3.000	5.000	7.250	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

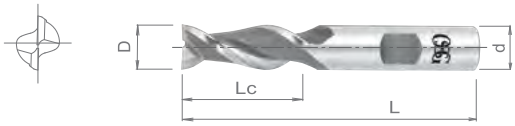
○ Good ◎ Best

List 530

OSG COBALT HSS AL-EDS, High Helix

SPEED FEED 1408-1409 | HSS-Co | BR | 2 FLUTE | 40° | WELDON FLAT | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Dia.
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5300300	●	1/4	0.625	2.438	0.375
5300400	●	5/16	0.750	2.500	0.375
5300500	●	3/8	0.750	2.500	0.375
5300600	●	7/16	1.000	2.688	0.375
5301100	●	1/2	1.250	3.250	0.500
5302100	●	5/8	1.625	3.750	0.625
5303100	●	3/4	1.625	3.875	0.750
5303200	●	7/8	1.875	4.125	0.750
5304100	●	7/8	1.875	4.125	0.875
5303300	●	1	1.875	4.125	0.750
5305100	●	1	2.000	4.500	1.000
5306100	●	1-1/4	2.000	4.500	1.250
5306200	●	1-1/2	2.000	4.500	1.250
5306300	●	1-3/4	2.000	4.500	1.250
5306400	●	2	2.000	4.500	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○					○	○			◎	◎						

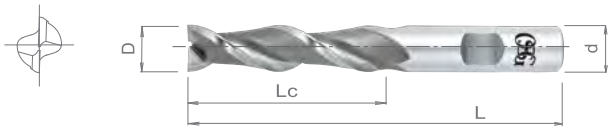
○ Good ◎ Best

List 535

OSG COBALT HSS AL-EDL, High Helix

SPEED FEED	HSS-Co	BR	2 FLUTE	40°			WELDON FLAT	REG	LONG	PACKED
1408-1409										1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5350300	●	1/4	1.250	3.063	0.375
5350400	●	5/16	1.375	3.125	0.375
5350500	●	3/8	1.500	3.250	0.375
5351000	●	7/16	1.750	3.750	0.500
5351100	●	1/2	2.000	4.000	0.500
5352100	●	5/8	2.500	4.625	0.625
5353100	●	3/4	3.000	5.250	0.750
5355100	●	1	4.000	6.500	1.000
5356100	●	1-1/4	4.000	6.500	1.250
5356200	●	1-1/2	4.000	6.500	1.250
5356400	●	2	4.000	6.500	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○					○	○			◎	◎						

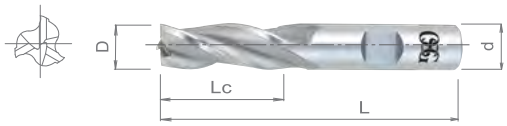
○ Good ◎ Best

List 531

OSG COBALT HSS ETS

SPEED FEED	HSS-Co	BR	3 FLUTE	30°			WELDON FLAT	STUB	REG	PACKED
1417										1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5310100	●	1/8	0.375	2.313	0.375
5310200	●	3/16	0.500	2.375	0.375
5310300	●	1/4	0.625	2.438	0.375
5310400	●	5/16	0.750	2.500	0.375
5310500	●	3/8	0.750	2.500	0.375
5310600	●	7/16	1.000	2.688	0.375
5310700	●	1/2	1.000	2.688	0.375
5311100	●	1/2	1.250	3.250	0.500
5311200	●	9/16	1.375	3.375	0.500
5311300	●	5/8	1.375	3.375	0.500
5312100	●	5/8	1.625	3.750	0.625
5311500	●	3/4	1.625	3.625	0.500
5312300	●	3/4	1.625	3.750	0.625
5313100	●	3/4	1.625	3.875	0.750
5312500	●	7/8	1.875	4.000	0.625
5313200	●	7/8	1.875	4.125	0.750
5314100	●	7/8	1.875	4.125	0.875
5312700	●	1	1.875	4.000	0.625
5313300	●	1	1.875	4.125	0.750
5314200	●	1	1.875	4.125	0.875
5315100	●	1	2.000	4.500	1.000
5315200	●	1-1/8	2.000	4.500	1.000
5315300	●	1-1/4	2.000	4.500	1.000
5316100	●	1-1/4	2.000	4.500	1.250
5315500	●	1-1/2	2.000	4.500	1.000
5316200	●	1-1/2	2.000	4.500	1.250
5316300	●	1-3/4	2.000	4.500	1.250
5316400	●	2	2.000	4.500	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

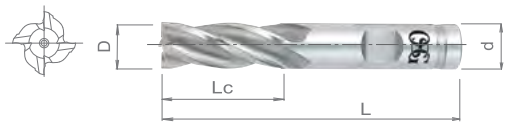
○ Good ◎ Best

List 581

OSG COBALT HSS CE-EMS

SPEED FEED	HSS-Co	BR	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1418										1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 45mm	+0.028 / -0mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
5810100	●	3.00	9.52	58.70	9.52	4
5818100	●	3.50	11.11	60.30	9.52	4
5810200	●	4.00	11.11	60.30	9.52	4
5818200	●	4.50	12.70	60.30	9.52	4
5810300	●	5.00	14.28	61.90	9.52	4
5818300	●	5.50	14.28	61.90	9.52	4
5810400	●	6.00	15.87	61.90	9.52	4
5818400	●	6.50	15.87	61.90	9.52	4
5810500	●	7.00	17.46	63.50	9.52	4
5818500	●	7.50	19.05	63.50	9.52	4
5810600	●	8.00	19.05	63.50	9.52	4
5818600	●	8.50	19.05	63.50	9.52	4
5810700	●	9.00	19.05	63.50	9.52	4
5818700	●	9.50	19.05	63.50	9.52	4
5810800	●	10.00	19.05	63.50	9.52	4
5818800	●	10.50	25.40	68.20	9.52	4
5810900	●	11.00	25.40	68.20	9.52	4
5818900	●	11.50	25.40	68.20	9.52	4
5811100	●	12.00	31.75	82.50	12.70	4
5819100	●	12.50	31.75	82.50	12.70	4
5811200	●	13.00	31.75	82.50	12.70	4
5819200	●	13.50	34.92	85.70	12.70	4
5811300	●	14.00	34.92	85.70	12.70	4
5819300	●	14.50	34.92	85.70	12.70	4
5811400	●	15.00	34.92	85.70	12.70	4
5812100	●	16.00	41.27	95.20	15.87	4
5812200	●	17.00	41.27	95.20	15.87	4
5812300	●	18.00	41.27	95.20	15.87	4
5813100	●	19.00	41.27	98.40	19.05	4
5813200	●	20.00	47.62	104.70	19.05	4
5813300	●	21.00	47.62	104.70	19.05	4
5814100	●	22.00	47.62	104.70	22.22	4
5814200	●	23.00	47.62	104.70	22.22	4
5815100	●	24.00	50.80	114.30	25.40	4
5815200	●	25.00	50.80	114.30	25.40	4
5815300	●	28.00	50.80	114.30	25.40	6
5816100	●	32.00	50.80	114.30	31.75	6
5816200	●	36.00	50.80	114.30	31.75	6
5816300	●	40.00	50.80	114.30	31.75	6
5816400	●	45.00	50.80	114.30	31.75	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

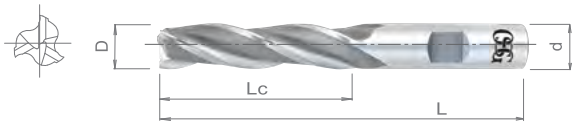
○ Good ◎ Best

List 536

OSG COBALT HSS ETL

SPEED FEED	HSS-Co	BR	3 FLUTE	30°			WELDON FLAT	REG	LONG	PACKED
1417										1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5360300	●	1/4	1.250	3.063	0.375
5360400	●	5/16	1.375	3.125	0.375
5360500	●	3/8	1.500	3.250	0.375
5361000	●	7/16	1.750	3.750	0.500
5361100	●	1/2	2.000	4.000	0.500
5362100	●	5/8	2.500	4.625	0.625
5363100	●	3/4	3.000	5.250	0.750
5364100	●	7/8	3.500	5.750	0.875
5365100	●	1	4.000	6.500	1.000
5366100	●	1-1/4	4.000	6.500	1.250
5366200	●	1-1/2	4.000	6.500	1.250
5366400	●	2	4.000	6.500	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

○ Good ◎ Best

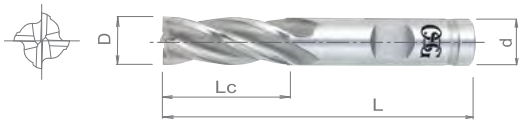
Single End
Cobalt High Speed Steel

List 541

OSG COBALT HSS SQ

SPEED FEED 1410-1411 | HSS-Co | BR | TiCN | TiAlN | TiN | 30° | WELDON FLAT | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment
5410100	●	1/8	0.375	2.313	0.375	4	BRIGHT
5410108	●	1/8	0.375	2.313	0.375	4	TiCN
5410105	●	1/8	0.375	2.313	0.375	4	TiN
5410200	●	3/16	0.500	2.375	0.375	4	BRIGHT
5410208	●	3/16	0.500	2.375	0.375	4	TiCN
5410205	●	3/16	0.500	2.375	0.375	4	TiN
5417000	●	1/4	0.250	2.063	0.375	4	BRIGHT
5410300	●	1/4	0.625	2.438	0.375	4	BRIGHT
5410308	●	1/4	0.625	2.438	0.375	4	TiCN
5410305	●	1/4	0.625	2.438	0.375	4	TiN
5410400	●	5/16	0.750	2.500	0.375	4	BRIGHT
5410408	●	5/16	0.750	2.500	0.375	4	TiCN
5410405	●	5/16	0.750	2.500	0.375	4	TiN
5417100	●	3/8	0.375	2.125	0.375	4	BRIGHT
5417108	●	3/8	0.375	2.125	0.375	4	TiCN
5410500	●	3/8	0.750	2.500	0.375	4	BRIGHT
5410508	●	3/8	0.750	2.500	0.375	4	TiCN
5410505	●	3/8	0.750	2.500	0.375	4	TiN
5410900	●	7/16	1.250	3.250	0.500	4	BRIGHT
5411000	●	1/2	0.500	2.500	0.500	4	BRIGHT
5411008	●	1/2	0.500	2.500	0.500	4	TiCN
5411100	●	1/2	1.250	3.250	0.500	4	BRIGHT
5411500	●	1/2	1.250	3.250	0.500	6	BRIGHT
5411105	●	1/2	1.250	3.250	0.500	4	TiN
5411700	●	9/16	1.375	3.375	0.500	4	BRIGHT
5412000	●	5/8	0.625	2.750	0.625	4	BRIGHT
5412008	●	5/8	0.625	2.750	0.625	4	TiCN
5412100	●	5/8	1.625	3.750	0.625	4	BRIGHT
5412500	●	5/8	1.625	3.750	0.625	6	BRIGHT
5412111	●	5/8	1.625	3.750	0.625	4	TiAlN
5412108	●	5/8	1.625	3.750	0.625	4	TiCN
5412508	●	5/8	1.625	3.750	0.625	6	TiCN
5412105	●	5/8	1.625	3.750	0.625	4	TiN
5412200	●	11/16	1.625	3.750	0.625	4	BRIGHT
5412600	●	11/16	1.625	3.750	0.625	6	BRIGHT
5413000	●	3/4	0.750	3.000	0.750	4	BRIGHT
5413100	●	3/4	1.625	3.875	0.750	4	BRIGHT
5413500	●	3/4	1.625	3.875	0.750	6	BRIGHT
5413108	●	3/4	1.625	3.875	0.750	4	TiCN
5413105	●	3/4	1.625	3.875	0.750	4	TiN
5414100	●	7/8	1.875	4.125	0.875	4	BRIGHT
5414500	●	7/8	1.875	4.125	0.875	6	BRIGHT
5414108	●	7/8	1.875	4.125	0.875	4	TiCN
5414105	●	7/8	1.875	4.125	0.875	4	TiN
5414900	●	1	1.875	4.125	0.750	4	BRIGHT
5415000	●	1	1.875	4.125	0.750	6	BRIGHT
5415100	●	1	2.000	4.500	1.000	4	BRIGHT
5415500	●	1	2.000	4.500	1.000	6	BRIGHT
5415111	●	1	2.000	4.500	1.000	4	TiAlN
5415511	●	1	2.000	4.500	1.000	6	TiAlN
5415108	●	1	2.000	4.500	1.000	4	TiCN
5415105	●	1	2.000	4.500	1.000	4	TiN
5415200	●	1-1/8	2.000	4.500	1.000	4	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

List 541 (Continued)

OSG COBALT HSS SQ

SPEED FEED 1410-1411 | HSS-Co | BR | TiCN | TiAlN | TiN | 30° | WELDON FLAT | STUB | REG | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment
5415600	●	1-1/8	2.000	4.500	1.000	6	BRIGHT
5416100	●	1-1/4	2.000	4.500	1.250	4	BRIGHT
5416500	●	1-1/4	2.000	4.500	1.250	6	BRIGHT
5416108	●	1-1/4	2.000	4.500	1.250	4	TiCN
5416200	●	1-1/2	2.000	4.500	1.250	4	BRIGHT
5416600	●	1-1/2	2.000	4.500	1.250	6	BRIGHT
5416208	●	1-1/2	2.000	4.500	1.250	4	TiCN
5416400	●	2	2.000	4.500	1.250	6	BRIGHT
5418400	●	2	2.000	5.750	2.000	6	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

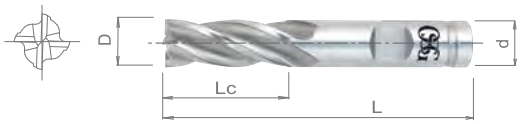
○ Good ◎ Best

List 548

OSG COBALT HSS CC-EMN

SPEED FEED	HSS-Co	BR	TiCN	4 FLUTE	30°			WELDON FLAT	REG	LONG	PACKED
1410-1411											1 PIECE

Cutting Diameter Tolerance	
5/8" ≤ D ≤ 1-1/2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter	Surface Treatment
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)	
5483100	●	5/8	2.000	4.125	0.625	BRIGHT
5484100	●	3/4	2.250	4.500	0.750	BRIGHT
5484108	●	3/4	2.250	4.500	0.750	TiCN
5485100	●	1	3.000	5.500	1.000	BRIGHT
5485108	●	1	3.000	5.500	1.000	TiCN
5485208	●	1	3.000	5.500	1.000	TiCN
5486100	●	1-1/4	3.000	5.500	1.250	BRIGHT
5486108	●	1-1/4	3.000	5.500	1.250	TiCN
5486200	●	1-1/2	3.000	5.500	1.250	BRIGHT
5486208	●	1-1/2	3.000	5.500	1.250	TiCN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

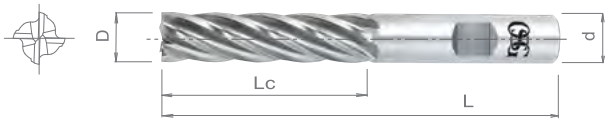
○ Good ◎ Best

List 546

OSG COBALT HSS CC-EML

SPEED FEED 1410-1411 | HSS-Co | BR | TiCN | 30° | WELDON FLAT | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment
5460300	●	1/4	1.250	3.063	0.375	4	BRIGHT
5460308	●	1/4	1.250	3.063	0.375	4	TiCN
5460400	●	5/16	1.375	3.125	0.375	4	BRIGHT
5460408	●	5/16	1.375	3.125	0.375	4	TiCN
5460500	●	3/8	1.500	3.250	0.375	4	BRIGHT
5460508	●	3/8	1.500	3.250	0.375	4	TiCN
5461100	●	1/2	2.000	4.000	0.500	4	BRIGHT
5461500	●	1/2	2.000	4.000	0.500	6	BRIGHT
5461108	●	1/2	2.000	4.000	0.500	4	TiCN
5462100	●	5/8	2.500	4.625	0.625	4	BRIGHT
5462500	●	5/8	2.500	4.625	0.625	6	BRIGHT
5462108	●	5/8	2.500	4.625	0.625	4	TiCN
5463100	●	3/4	3.000	5.250	0.750	4	BRIGHT
5463500	●	3/4	3.000	5.250	0.750	6	BRIGHT
5463108	●	3/4	3.000	5.250	0.750	4	TiCN
5464100	●	7/8	3.500	5.750	0.875	4	BRIGHT
5464500	●	7/8	3.500	5.750	0.875	6	BRIGHT
5464108	●	7/8	3.500	5.750	0.875	4	TiCN
5465100	●	1	4.000	6.500	1.000	4	BRIGHT
5465500	●	1	4.000	6.500	1.000	6	BRIGHT
5465108	●	1	4.000	6.500	1.000	4	TiCN
5466100	●	1-1/4	4.000	6.500	1.250	4	BRIGHT
5466500	●	1-1/4	4.000	6.500	1.250	6	BRIGHT
5466600	●	1-1/2	4.000	6.500	1.250	6	BRIGHT
5466400	●	2	4.000	6.500	1.250	6	BRIGHT
5468400	●	2	4.000	7.750	2.000	6	BRIGHT
5469400	●	2	6.000	9.750	2.000	6	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

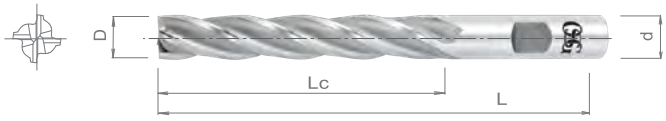
○ Good ◎ Best

List 558

OSG COBALT HSS CC-EXML

SPEED FEED 1410-1411 | HSS-Co | BR | TiCN | 30° | WELDON FLAT | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment
5580300	●	1/4	1.750	3.563	0.375	4	BRIGHT
5580400	●	5/16	2.000	3.750	0.375	4	BRIGHT
5580500	●	3/8	2.500	4.250	0.375	4	BRIGHT
5581100	●	1/2	3.000	5.000	0.500	4	BRIGHT
5581500	●	1/2	3.000	5.000	0.500	6	BRIGHT
5581108	●	1/2	3.000	5.000	0.500	4	TiCN
5582100	●	5/8	4.000	6.125	0.625	4	BRIGHT
5582500	●	5/8	4.000	6.125	0.625	6	BRIGHT
5582108	●	5/8	4.000	6.125	0.625	4	TiCN
5583100	●	3/4	4.000	6.250	0.750	4	BRIGHT
5583500	●	3/4	4.000	6.250	0.750	6	BRIGHT
5583108	●	3/4	4.000	6.250	0.750	4	TiCN
5584100	●	7/8	5.000	7.250	0.875	4	BRIGHT
5584500	●	7/8	5.000	7.250	0.875	6	BRIGHT
5584108	●	7/8	5.000	7.250	0.875	4	TiCN
5585100	●	1	6.000	8.500	1.000	4	BRIGHT
5585500	●	1	6.000	8.500	1.000	6	BRIGHT
5585108	●	1	6.000	8.500	1.000	4	TiCN
5585508	●	1	6.000	8.500	1.000	6	TiCN
5586100	●	1-1/4	6.000	8.500	1.250	4	BRIGHT
5586500	●	1-1/4	6.000	8.500	1.250	6	BRIGHT
5586600	●	1-1/2	8.000	10.500	1.250	6	BRIGHT
5588400	●	2	8.000	11.750	2.000	6	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

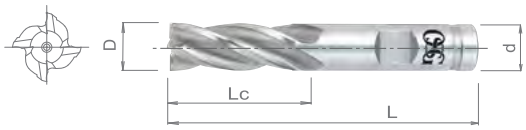
○ Good ◎ Best

List 540

OSG COBALT HSS SQ

SPEED FEED 1410-1411 | HSS-Co | BR | TiN | 30° | WELDON FLAT | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 2"	+0.003 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment
5400100	●	1/8	0.375	2.313	0.375	4	BRIGHT
5400105	●	1/8	0.375	2.313	0.375	4	TiN
5409100	●	5/32	0.438	2.375	0.375	4	BRIGHT
5400200	●	3/16	0.500	2.375	0.375	4	BRIGHT
5400205	●	3/16	0.500	2.375	0.375	4	TiN
5409200	●	7/32	0.563	2.438	0.375	4	BRIGHT
5400300	●	1/4	0.625	2.438	0.375	4	BRIGHT
5400305	●	1/4	0.625	2.438	0.375	4	TiN
5409300	●	9/32	0.688	2.500	0.375	4	BRIGHT
5400400	●	5/16	0.750	2.500	0.375	4	BRIGHT
5400405	●	5/16	0.750	2.500	0.375	4	TiN
5409400	●	11/32	0.750	2.500	0.375	4	BRIGHT
5400500	●	3/8	0.750	2.500	0.375	4	BRIGHT
5400505	●	3/8	0.750	2.500	0.375	4	TiN
5409500	●	13/32	1.000	2.688	0.375	4	BRIGHT
5400600	●	7/16	1.000	2.688	0.375	4	BRIGHT
5400605	●	7/16	1.000	2.688	0.375	4	TiN
5409700	●	15/32	1.250	3.250	0.500	4	BRIGHT
5400700	●	1/2	1.000	2.688	0.375	4	BRIGHT
5401100	●	1/2	1.250	3.250	0.500	4	BRIGHT
5401105	●	1/2	1.250	3.250	0.500	4	TiN
5401600	●	17/32	1.375	3.375	0.500	4	BRIGHT
5401200	●	9/16	1.375	3.375	0.500	4	BRIGHT
5401700	●	19/32	1.375	3.375	0.500	4	BRIGHT
5401300	●	5/8	1.375	3.375	0.500	4	BRIGHT
5401305	●	5/8	1.375	3.375	0.500	4	TiN
5402100	●	5/8	1.625	3.750	0.625	4	BRIGHT
5401800	●	21/32	1.625	3.625	0.500	4	BRIGHT
5401400	●	11/16	1.625	3.625	0.500	4	BRIGHT
5402200	●	11/16	1.625	3.750	0.625	4	BRIGHT
5401900	●	23/32	1.625	3.625	0.500	4	BRIGHT
5401500	●	3/4	1.625	3.625	0.500	4	BRIGHT
5401505	●	3/4	1.625	3.625	0.500	4	TiN
5402300	●	3/4	1.625	3.750	0.625	4	BRIGHT
5403100	●	3/4	1.625	3.875	0.750	4	BRIGHT
5403105	●	3/4	1.625	3.875	0.750	4	TiN
5402800	●	25/32	1.875	4.000	0.625	4	BRIGHT
5402400	●	13/16	1.875	4.000	0.625	6	BRIGHT
5402900	●	27/32	1.875	4.000	0.625	6	BRIGHT
5402500	●	7/8	1.875	4.000	0.625	6	BRIGHT
5403200	●	7/8	1.875	4.125	0.750	4	BRIGHT
5404100	●	7/8	1.875	4.125	0.875	4	BRIGHT
5403205	●	7/8	1.875	4.125	0.750	4	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request. 2" diameter shanks have combination drive.

STE

CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

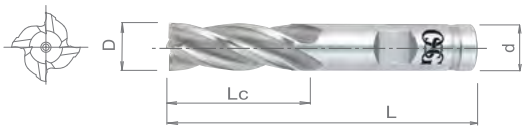
○ Good ◎ Best

List 540 (Continued)

OSG COBALT HSS SQ

SPEED FEED	HSS-Co	BR	TiN	30°			WELDON FLAT	STUB	REG	PACKED
1410-1411										1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 2"	+0.003 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment
5403400	●	29/32	1.875	4.125	0.750	4	BRIGHT
5402600	●	15/16	1.875	4.000	0.625	6	BRIGHT
5403500	●	31/32	1.875	4.125	0.750	4	BRIGHT
5402700	●	1	1.875	4.000	0.625	6	BRIGHT
5403300	●	1	1.875	4.125	0.750	4	BRIGHT
5404200	●	1	1.875	4.125	0.875	4	BRIGHT
5403305	●	1	1.875	4.125	0.750	4	TiN
5405100	●	1	2.000	4.500	1.000	4	BRIGHT
5405105	●	1	2.000	4.500	1.000	4	TiN
5404300	●	1-1/8	2.000	4.250	0.875	6	BRIGHT
5405200	●	1-1/8	2.000	4.500	1.000	6	BRIGHT
5404400	●	1-1/4	2.000	4.250	0.875	6	BRIGHT
5405300	●	1-1/4	2.000	4.500	1.000	6	BRIGHT
5406100	●	1-1/4	2.000	4.500	1.250	6	BRIGHT
5405400	●	1-3/8	2.000	4.500	1.000	6	BRIGHT
5405500	●	1-1/2	2.000	4.500	1.000	6	BRIGHT
5406200	●	1-1/2	2.000	4.500	1.250	6	BRIGHT
5406300	●	1-3/4	2.000	4.500	1.250	6	BRIGHT
5406400	●	2	2.000	4.500	1.250	8	BRIGHT
5407400	●	2	2.000	5.750	2.000	4	BRIGHT
5408400	●	2	2.000	5.750	2.000	6	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request. 2" diameter shanks have combination drive.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

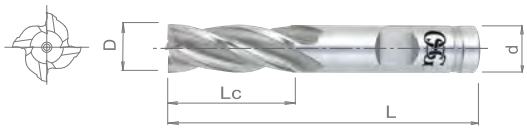
○ Good ◎ Best

List 547

OSG COBALT HSS CC-EMS

SPEED FEED 1410-1411 | HSS-Co | BR | 30° | WELDON FLAT | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
5475100	●	1	3.000	5.500	1.000	4
5476100	●	1-1/4	3.000	5.500	1.250	6
5476200	●	1-1/2	3.000	5.500	1.250	6
5476300	●	1-3/4	3.000	5.500	1.250	6
5476400	●	2	3.000	5.500	1.250	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

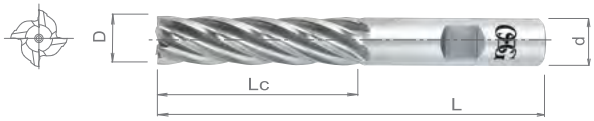
○ Good ◎ Best

List 545

OSG COBALT HSS EML

SPEED FEED	HSS-Co	BR	30°			WELDON FLAT	REG	LONG	PACKED
1410-1411									1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
5450300	●	1/4	1.250	3.063	0.375	4
5450400	●	5/16	1.375	3.125	0.375	4
5450500	●	3/8	1.500	3.250	0.375	4
5451000	●	7/16	1.750	3.750	0.500	4
5451100	●	1/2	2.000	4.000	0.500	4
5452100	●	5/8	2.500	4.625	0.625	4
5453100	●	3/4	3.000	5.250	0.750	4
5454100	●	7/8	3.500	5.750	0.875	4
5455100	●	1	4.000	6.500	1.000	4
5455200	●	1-1/8	4.000	6.500	1.000	6
5455300	●	1-1/4	4.000	6.500	1.000	6
5456100	●	1-1/4	4.000	6.500	1.250	6
5455500	●	1-1/2	4.000	6.500	1.000	6
5456200	●	1-1/2	4.000	6.500	1.250	6
5456300	●	1-3/4	4.000	6.500	1.250	6
5456400	●	2	4.000	6.500	1.250	8
5457400	●	2	4.000	7.750	2.000	4
5458400	●	2	4.000	7.750	2.000	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request. 2" diameter shanks have combination drive.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

○ Good ◎ Best

List 557

OSG COBALT HSS CE-EXML

SPEED FEED 1410-1411 | HSS-Co | BR | 30° | WELDON FLAT | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 2"	+0.0011 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
5570300	●	1/4	1.750	3.563	0.375	4
5570400	●	5/16	2.000	3.750	0.375	4
5570500	●	3/8	2.500	4.250	0.375	4
5571100	●	1/2	3.000	5.000	0.500	4
5572100	●	5/8	4.000	6.125	0.625	4
5573100	●	3/4	4.000	6.250	0.750	4
5574100	●	7/8	5.000	7.250	0.875	4
5575100	●	1	6.000	8.500	1.000	4
5576100	●	1-1/4	6.000	8.500	1.250	6
5576200	●	1-1/2	8.000	10.500	1.250	6
5578400	●	2	8.000	11.750	2.000	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

○ Good ◎ Best

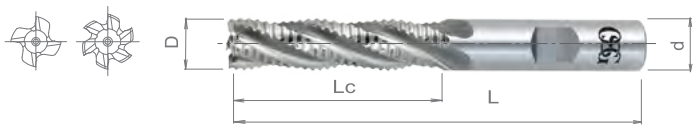
Roughing Cut

Cobalt High Speed Steel

List 450

OSG COBALT HSS EX-REEF

SPEED FEED 1419 | HSS-Co | BR | TiCN | FINE ROUGH | 30° | WELDON FLAT | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE



EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	No. of Flutes	Surface Treatment
4509000	●	3/16	0.500	2.375	0.375	4	BRIGHT
4509100	●	1/4	0.750	2.500	0.375	3	BRIGHT
4509200	●	1/4	1.250	3.063	0.375	3	BRIGHT
4509400	●	5/16	0.750	2.500	0.375	3	BRIGHT
4509500	●	5/16	1.375	3.125	0.375	3	BRIGHT
4509700	●	3/8	0.875	2.625	0.375	4	BRIGHT
4509800	●	3/8	1.500	3.250	0.375	4	BRIGHT
4509900	●	7/16	1.000	2.688	0.375	4	BRIGHT
4500000	●	7/16	1.250	3.250	0.500	4	BRIGHT
4500100	●	1/2	1.250	3.250	0.500	4	BRIGHT
4500300	●	1/2	2.000	4.000	0.500	4	BRIGHT
4500500	●	5/8	1.625	3.750	0.625	4	BRIGHT
4500508	●	5/8	1.625	3.750	0.625	4	TiCN
4500700	●	5/8	2.500	4.625	0.625	4	BRIGHT
4500708	●	5/8	2.500	4.625	0.625	4	BRIGHT
4500800	●	5/8	3.000	5.125	0.625	4	BRIGHT
4500808	●	5/8	3.000	5.125	0.625	4	TiCN
4500900	●	3/4	1.625	3.875	0.625	4	BRIGHT
4501300	●	3/4	1.625	3.875	0.750	4	BRIGHT
4501000	●	3/4	2.250	4.500	0.750	4	BRIGHT
4501008	●	3/4	2.250	4.500	0.750	4	TiCN
4501100	●	3/4	3.000	5.250	0.625	4	BRIGHT
4501500	●	3/4	3.000	5.250	0.750	4	BRIGHT
4501600	●	3/4	4.000	6.250	0.750	4	BRIGHT
4501700	●	7/8	1.875	4.125	0.750	5	BRIGHT
4502100	●	7/8	1.875	4.125	0.875	5	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.
2" diameter shanks have combination drive.

STE

EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	No. of Flutes	Surface Treatment
4501900	●	7/8	3.500	5.750	0.750	5	BRIGHT
4502300	●	7/8	3.500	5.750	0.875	5	BRIGHT
4510100	●	1	2.000	4.250	0.750	5	BRIGHT
4510500	●	1	2.000	4.500	1.000	5	BRIGHT
4510700	●	1	3.000	5.500	1.000	5	BRIGHT
4510900	●	1	4.000	6.500	1.000	5	BRIGHT
4510908	●	1	4.000	6.500	1.000	5	TiCN
4511500	●	1-1/8	2.000	4.500	1.000	5	BRIGHT
4512100	●	1-1/4	2.000	4.500	1.250	6	BRIGHT
4512300	●	1-1/4	3.000	5.500	1.250	6	BRIGHT
4511900	●	1-1/4	4.000	6.250	0.750	6	BRIGHT
4512500	●	1-1/4	4.000	6.500	1.250	6	BRIGHT
4513300	●	1-1/2	2.000	4.500	1.250	6	BRIGHT
4513308	●	1-1/2	2.000	4.500	1.250	6	TiCN
4513500	●	1-1/2	3.000	5.500	1.250	6	BRIGHT
4513100	●	1-1/2	4.000	6.250	0.750	6	BRIGHT
4513700	●	1-1/2	4.000	6.500	1.250	6	BRIGHT
4513900	●	1-1/2	5.000	7.500	1.250	6	BRIGHT
4514500	●	1-3/4	4.000	6.500	1.250	6	BRIGHT
4520100	●	2	2.000	4.500	1.250	8	BRIGHT
4520700	●	2	3.000	6.750	2.000	8	BRIGHT
4520500	●	2	4.000	6.500	1.250	8	BRIGHT
4520900	●	2	4.000	7.750	2.000	8	BRIGHT
4521100	●	2	6.000	9.750	2.000	8	BRIGHT
4521300	●	2	8.000	11.750	2.000	8	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.
2" diameter shanks have combination drive.

STE

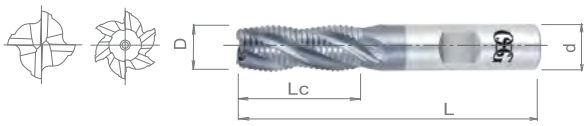
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	◎	○	○	○		○		○	○	○		

○ Good ◎ Best

List 455

OSG COBALT HSS ROUGHER SQ

SPEED FEED 1420 | HSS-Co | TiAlN | TiCN | FINE ROUGH | 30° | WELDON FLAT | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment	Center Cutting
4559011	●	1/4	0.250	2.063	0.375	4	TiAlN	●
4558908	●	1/4	0.250	2.063	0.375	4	TiCN	●
4559008	●	1/4	0.250	2.063	0.375	4	TiCN	●
4569108	●	1/4	0.625	2.438	0.375	3	TiCN	-
4559111	●	1/4	0.750	2.500	0.375	4	TiAlN	-
4559108	●	1/4	0.750	2.500	0.375	4	TiCN	-
4559211	●	1/4	1.250	3.063	0.375	4	TiAlN	-
4559208	●	1/4	1.250	3.063	0.375	4	TiCN	-
4559311	●	5/16	0.313	2.063	0.375	3	TiAlN	●
4559308	●	5/16	0.313	2.063	0.375	3	TiCN	●
4559411	●	5/16	0.750	2.500	0.375	4	TiAlN	-
4559408	●	5/16	0.750	2.500	0.375	4	TiCN	-
4559511	●	5/16	1.375	3.125	0.375	4	TiAlN	-
4559508	●	5/16	1.375	3.125	0.375	4	TiCN	-
4559611	●	3/8	0.375	2.156	0.375	3	TiAlN	●
4559608	●	3/8	0.375	2.156	0.375	3	TiCN	●
4559711	●	3/8	0.875	2.625	0.375	4	TiAlN	-
4559708	●	3/8	0.875	2.625	0.375	4	TiCN	-
4559811	●	3/8	1.500	3.250	0.375	4	TiAlN	-
4559808	●	3/8	1.500	3.250	0.375	4	TiCN	-
4569808	●	7/16	0.500	2.500	0.500	4	TiCN	●
4559908	●	7/16	1.250	3.250	0.500	4	TiCN	-
4550011	●	1/2	0.500	2.500	0.500	3	TiAlN	●
4550008	●	1/2	0.500	2.500	0.500	3	TiCN	●
4560008	●	1/2	0.500	2.500	0.500	4	TiCN	●
4550111	●	1/2	1.250	3.250	0.500	4	TiAlN	-
4550108	●	1/2	1.250	3.250	0.500	4	TiCN	-
4550311	●	1/2	2.000	4.000	0.500	4	TiAlN	-
4550308	●	1/2	2.000	4.000	0.500	4	TiCN	-
4560308	●	1/2	3.000	5.000	0.500	4	TiCN	-
4550411	●	5/8	0.625	2.750	0.625	3	TiAlN	●
4550408	●	5/8	0.625	2.750	0.625	3	TiCN	●
4560408	●	5/8	0.625	2.750	0.625	4	TiCN	●
4550511	●	5/8	1.625	3.750	0.625	4	TiAlN	-
4550508	●	5/8	1.625	3.750	0.625	4	TiCN	-
4550608	●	5/8	2.000	4.125	0.625	4	TiCN	-
4550711	●	5/8	2.500	4.625	0.625	4	TiAlN	-
4550708	●	5/8	2.500	4.625	0.625	4	TiCN	-
4551211	●	3/4	0.750	2.875	0.750	3	TiAlN	●
4551208	●	3/4	0.750	2.875	0.750	3	TiCN	●
4561208	●	3/4	0.750	2.875	0.750	4	TiCN	●
4551311	●	3/4	1.625	3.875	0.750	4	TiAlN	-
4551308	●	3/4	1.625	3.875	0.750	4	TiCN	-
4552108	●	3/4	2.250	4.500	0.750	4	TiCN	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Center cutting available in stub length only.

STE

CONTINUED ›

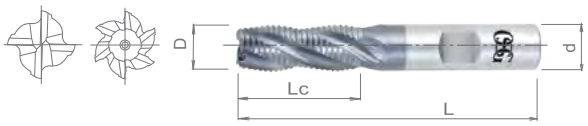
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	◎	◎	○	○		○		○	◎	○		

○ Good ◎ Best

List 455 (Continued)

OSG COBALT HSS ROUGHER SQ

SPEED FEED 1420 | HSS-Co | TiAlN | TiCN | FINE ROUGH | 30° | WELDON FLAT | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Surface Treatment	Center Cutting
4551408	●	3/4	2.500	4.500	0.750	4	TiCN	-
4551511	●	3/4	3.000	5.250	0.750	4	TiAlN	-
4551508	●	3/4	3.000	5.250	0.750	4	TiCN	-
4551608	●	3/4	4.000	6.250	0.750	4	TiCN	-
4561008	●	1	1.000	3.500	1.000	5	TiCN	●
4560111	●	1	2.000	4.500	0.750	5	TiAlN	-
4560511	●	1	2.000	4.500	1.000	5	TiAlN	-
4560108	●	1	2.000	4.500	0.750	5	TiCN	-
4560508	●	1	2.000	4.500	1.000	5	TiCN	-
4560711	●	1	3.000	5.500	1.000	5	TiAlN	-
4560708	●	1	3.000	5.500	1.000	5	TiCN	-
4560911	●	1	4.000	6.500	1.000	5	TiAlN	-
4560908	●	1	4.000	6.500	1.000	5	TiCN	-
4562111	●	1-1/4	2.000	4.500	1.250	6	TiAlN	●
4562108	●	1-1/4	2.000	4.500	1.250	6	TiCN	●
4562311	●	1-1/4	3.000	5.500	1.250	6	TiAlN	-
4562308	●	1-1/4	3.000	5.500	1.250	6	TiCN	-
4562511	●	1-1/4	4.000	6.500	1.250	6	TiAlN	-
4562508	●	1-1/4	4.000	6.500	1.250	6	TiCN	-
4563311	●	1-1/2	2.000	4.500	1.250	6	TiAlN	●
4563308	●	1-1/2	2.000	4.500	1.250	6	TiCN	●
4563511	●	1-1/2	3.000	5.500	1.250	6	TiAlN	-
4563508	●	1-1/2	3.000	5.500	1.250	6	TiCN	-
4563711	●	1-1/2	4.000	6.500	1.250	6	TiAlN	-
4563708	●	1-1/2	4.000	6.500	1.250	6	TiCN	-
4570708	●	2	3.000	6.750	2.000	8	TiCN	●
4570908	●	2	4.000	7.750	2.000	8	TiCN	-
4571111	●	2	6.000	9.750	2.000	8	TiAlN	-
4571108	●	2	6.000	9.750	2.000	8	TiCN	-
4571308	●	2	8.000	11.750	2.000	8	TiCN	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Center cutting available in stub length only.

STE

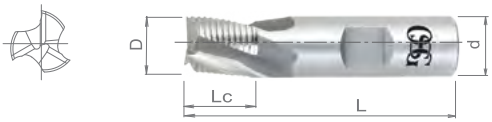
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	◎	◎	○	○		○		○	◎	○		

○ Good ◎ Best

List 420

OSG COBALT HSS ROUGHER SQ

SPEED FEED 1419 | HSS-Co | BR | FINE ROUGH | 25° | WELDON FLAT | STUB | PACKED 1 PIECE



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
4205000	●	1/4	0.250	2.063	0.375	3
4205100	●	3/8	0.375	2.156	0.375	3
4205200	●	1/2	0.500	2.500	0.500	3
4205300	●	5/8	0.625	2.750	0.625	3
4205400	●	3/4	0.750	2.875	0.750	3
4205500	●	7/8	0.875	3.125	0.750	3
4205600	●	1	1.000	3.500	0.750	3
4205700	●	1	1.000	3.750	1.000	3
4205800	●	1-1/4	1.250	3.750	1.250	4
4205900	●	1-1/2	1.250	3.750	1.250	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	◎	○	○	○		○		○	○	○		

○ Good ◎ Best

Roughing Cut
Cobalt High Speed Steel

List 460

OSG COBALT HSS ROUGHER SQ

SPEED FEED 1421 | HSS-Co | BR | FINE ROUGH | 30° | WELDON FLAT | STUB | REG | LONG | PACKED 1 PIECE



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
4600600	●	7/16	0.500	2.500	0.500	4
4600100	●	1/2	1.250	3.250	0.500	4
4600300	●	1/2	2.000	4.000	0.500	4
4600500	●	5/8	1.625	3.750	0.625	4
4600700	●	5/8	2.500	4.625	0.625	4
4601200	●	3/4	0.750	2.875	0.750	4
4601300	●	3/4	1.625	3.875	0.750	4
4601500	●	3/4	3.000	5.250	0.750	4
4610400	●	1	1.000	3.500	1.000	5
4610500	●	1	2.000	4.500	1.000	5
4610700	●	1	3.000	5.250	1.000	5
4610900	●	1	4.000	6.500	1.000	5
4612100	●	1-1/4	2.000	4.500	1.250	6
4612300	●	1-1/4	3.000	5.500	1.250	6
4612500	●	1-1/4	4.000	6.500	1.250	6
4613300	●	1-1/2	2.000	4.500	1.250	6
4613700	●	1-1/2	4.000	6.500	1.250	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

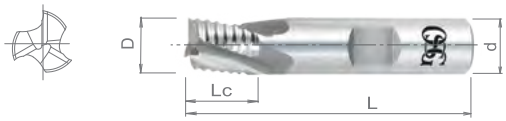
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	◎	○	○	○		○		○	○	○		

○ Good ◎ Best

List 410

OSG COBALT HSS ROUGHER SQ

SPEED FEED	HSS-Co	BR	ROUGH	3 FLUTE	25°			WELDON FLAT	STUB	PACKED
1422										1 PIECE



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
4105200	●	1/2	0.500	2.500	0.500
4105300	●	5/8	0.625	2.750	0.625
4105400	●	3/4	0.750	2.875	0.750
4105700	●	1	1.000	3.500	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○	○	○	○	○		○	○			

○ Good ◎ Best

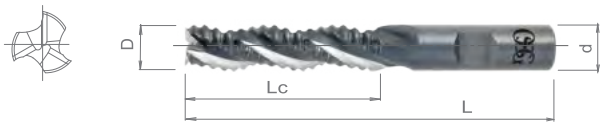
Roughing Cut

Cobalt High Speed Steel

List 430E

OSG COBALT HSS ROUGHER SQ

SPEED FEED	HSS-Co	BR	ROUGH	3 FLUTE	35°			WELDON FLAT	STUB	REG	LONG	PACKED
1423												1 PIECE



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
4309700	●	3/8	0.875	2.625	0.375
4300100	●	1/2	1.250	3.250	0.500
4300300	●	1/2	2.000	4.000	0.500
4300500	●	5/8	1.625	3.750	0.625
4300700	●	5/8	2.500	4.625	0.625
4301200	●	3/4	0.750	3.000	0.750
4301300	●	3/4	1.625	3.875	0.750
4301500	●	3/4	3.000	5.250	0.750
4301700	●	7/8	1.875	4.125	0.750
4302100	●	7/8	1.875	4.125	0.875
4310300	●	1	1.000	3.500	1.000
4310100	●	1	2.000	4.250	0.750
4310500	●	1	2.000	4.500	1.000
4310700	●	1	3.000	5.500	1.000
4310900	●	1	4.000	6.500	1.000
4312100	●	1-1/4	2.000	4.500	1.250
4312300	●	1-1/4	3.000	5.500	1.250
4312500	●	1-1/4	4.000	6.500	1.250
4313300	●	1-1/2	2.000	4.500	1.250
4313500	●	1-1/2	3.000	5.500	1.250
4313700	●	1-1/2	4.000	6.500	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

○ Good ◎ Best

List 490

OSG COBALT HSS ROUGHER SQ

SPEED FEED	HSS-Co	BR	ROUGH	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1422											1 PIECE



EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Number of Flutes
4909000	●	1/4	0.625	2.438	0.625	4
4909100	●	1/4	0.750	2.500	0.375	4
4909200	●	1/4	1.250	3.063	0.375	4
4909400	●	5/16	0.750	2.500	0.375	4
4909500	●	5/16	1.375	3.125	0.375	4
4909700	●	3/8	0.875	2.625	0.375	4
4909800	●	3/8	1.500	3.250	0.375	4
4909900	●	7/16	1.000	2.688	0.375	4
4900100	●	1/2	1.250	3.250	0.500	4
4900300	●	1/2	2.000	4.000	0.500	4
4900500	●	5/8	1.625	3.750	0.625	4
4900600	●	5/8	2.000	4.125	0.625	4
4900700	●	5/8	2.500	4.625	0.625	4
4900800	●	5/8	3.000	5.125	0.625	4
4900900	●	3/4	1.625	3.875	0.625	4
4901300	●	3/4	1.625	3.875	0.750	4
4901400	●	3/4	2.250	4.500	0.750	4
4901100	●	3/4	3.000	5.250	0.625	4
4901500	●	3/4	3.000	5.250	0.750	4
4901700	●	7/8	1.875	4.125	0.750	5
4902100	●	7/8	1.875	4.125	0.875	5
4901900	●	7/8	3.500	5.750	0.750	5
4902300	●	7/8	3.500	5.750	0.875	5
4910100	●	1	2.000	4.250	0.750	5
4910500	●	1	2.000	4.500	1.000	5

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.
2" diameter shanks have combination drive.

STE

EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Number of Flutes
4910700	●	1	3.000	5.500	1.000	5
4910900	●	1	4.000	6.500	1.000	5
4911500	●	1-1/8	2.000	4.500	1.000	5
4912100	●	1-1/4	2.000	4.500	1.250	6
4912300	●	1-1/4	3.000	5.500	1.250	6
4911900	●	1-1/4	4.000	6.250	0.750	6
4912500	●	1-1/4	4.000	6.500	1.250	6
4913300	●	1-1/2	2.000	4.500	1.250	6
4913500	●	1-1/2	3.000	5.500	1.250	6
4913100	●	1-1/2	4.000	6.250	0.750	6
4913700	●	1-1/2	4.000	6.500	1.250	6
4913900	●	1-1/2	5.000	7.500	1.250	6
4914500	●	1-3/4	4.000	6.500	1.250	6
4926100	●	2	2.000	4.500	1.250	6
4920100	●	2	2.000	4.500	1.250	8
4926700	●	2	3.000	6.750	2.000	6
4920700	●	2	3.000	6.750	2.000	8
4926500	●	2	4.000	6.500	1.250	6
4920500	●	2	4.000	6.500	1.250	8
4926900	●	2	4.000	7.750	2.000	6
4920900	●	2	4.000	7.750	2.000	8
4927100	●	2	6.000	9.750	2.000	6
4921100	●	2	6.000	9.750	2.000	8
4927300	●	2	8.000	11.750	2.000	6
4921300	●	2	8.000	11.750	2.000	8

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.
2" diameter shanks have combination drive.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○	○	○	○	○		○	○			

○ Good ◎ Best

Roughing Cut
Cobalt High Speed Steel

List 470

OSG COBALT HSS CC-RFE

SPEED FEED 1424 | HSS-Co | BR | ROUGH FINISH | 25° | WELDON FLAT | STUB | REG | LONG | PACKED 1 PIECE



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
4709100	●	1/4	0.750	2.500	0.375	4
4709400	●	5/16	0.750	2.500	0.375	4
4709500	●	3/8	0.375	2.156	0.375	4
4709600	●	3/8	0.750	2.500	0.375	4
4709700	●	3/8	0.875	2.625	0.375	4
4700200	●	3/8	1.500	3.250	0.375	4
4700000	●	1/2	0.500	2.500	0.500	4
4700100	●	1/2	1.250	3.250	0.500	4
4700300	●	1/2	2.000	4.000	0.500	4
4700500	●	5/8	1.625	3.750	0.625	4
4700600	●	5/8	2.000	4.125	0.625	4
4700700	●	5/8	2.500	4.625	0.625	4
4700900	●	3/4	1.625	3.875	0.625	4
4701300	●	3/4	1.625	3.875	0.750	4
4701400	●	3/4	2.250	4.500	0.750	4
4701500	●	3/4	3.000	5.250	0.750	4
4701700	●	7/8	1.875	4.125	0.750	4
4702100	●	7/8	1.875	4.125	0.875	4
4701900	●	7/8	3.500	5.750	0.750	5
4710000	●	1	1.000	3.500	1.000	5
4710100	●	1	2.000	4.250	0.750	4
4716100	●	1	2.000	4.250	0.750	6
4710500	●	1	2.000	4.500	1.000	4
4710600	●	1	2.000	4.500	1.000	5
4716500	●	1	2.000	4.500	1.000	6
4710900	●	1	4.000	6.500	1.000	4
4716900	●	1	4.000	6.500	1.000	6
4711500	●	1-1/8	2.000	4.500	1.000	5
4712100	●	1-1/4	2.000	4.500	1.250	6
4712300	●	1-1/4	3.000	5.500	1.250	6
4712500	●	1-1/4	4.000	6.500	1.250	6
4713300	●	1-1/2	2.000	4.500	1.250	6
4713500	●	1-1/2	3.000	5.500	1.250	6
4713700	●	1-1/2	4.000	6.500	1.250	6
4713900	●	1-1/2	5.000	7.500	1.250	6
4720100	●	2	2.000	4.500	1.250	8
4726700	●	2	3.000	6.750	2.000	6
4726500	●	2	4.000	6.500	1.250	6
4720500	●	2	4.000	6.500	1.250	8
4726900	●	2	4.000	7.750	2.000	6
4720900	●	2	4.000	7.750	2.000	8
4727100	●	2	6.000	9.750	2.000	6
4721100	●	2	6.000	9.750	2.000	8
4727300	●	2	8.000	11.750	2.000	6
4721300		2	8.000	11.750	2.000	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request. 2" diameter shanks have combination drive.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○	○	○	○	○			○			

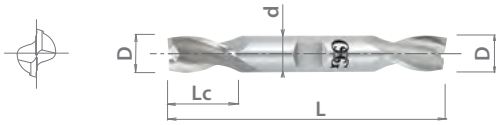
○ Good ◎ Best

List 522

OSG COBALT HSS DOUBLE END SQ

SPEED FEED 1408-1409 | HSS-Co | BR | TiN | 2 FLUTE | 30° | WELDON FLAT | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0011"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Surface Treatment
5220100	●	1/8	0.375	3.063	0.375	BRIGHT
5220105	●	1/8	0.375	3.063	0.375	TiN
5226000	●	9/64	0.438	3.125	0.375	BRIGHT
5229100	●	5/32	0.438	3.125	0.375	BRIGHT
5226100	●	11/64	0.438	3.125	0.375	BRIGHT
5220200	●	3/16	0.438	3.125	0.375	BRIGHT
5220205	●	3/16	0.438	3.125	0.375	TiN
5226200	●	13/64	0.500	3.125	0.375	BRIGHT
5229200	●	7/32	0.500	3.125	0.375	BRIGHT
5226300	●	15/64	0.500	3.125	0.375	BRIGHT
5220300	●	1/4	0.500	3.125	0.375	BRIGHT
5220305	●	1/4	0.500	3.125	0.375	TiN
5226400	●	17/64	0.563	3.125	0.375	BRIGHT
5229300	●	9/32	0.563	3.125	0.375	BRIGHT
5226500	●	19/64	0.563	3.125	0.375	BRIGHT
5220400	●	5/16	0.563	3.125	0.375	BRIGHT
5220405	●	5/16	0.563	3.125	0.375	TiN
5226600	●	21/64	0.563	3.125	0.375	BRIGHT
5229400	●	11/32	0.563	3.125	0.375	BRIGHT
5226700	●	23/64	0.563	3.125	0.375	BRIGHT
5220500	●	3/8	0.563	3.125	0.375	BRIGHT
5220505	●	3/8	0.563	3.125	0.375	TiN
5226800	●	25/64	0.813	3.750	0.500	BRIGHT
5229500	●	13/32	0.813	3.750	0.500	BRIGHT
5226900	●	27/64	0.813	3.750	0.500	BRIGHT
5229600	●	7/16	0.813	3.750	0.500	BRIGHT
5229605	●	7/16	0.813	3.750	0.500	TiN
5227000	●	29/64	0.813	3.750	0.500	BRIGHT
5229700	●	15/32	0.813	3.750	0.500	BRIGHT
5227100	●	31/64	0.813	3.750	0.500	BRIGHT
5221100	●	1/2	0.813	3.750	0.500	BRIGHT
5221105	●	1/2	0.813	3.750	0.500	TiN
5227200	●	17/32	1.125	4.500	0.625	BRIGHT
5229800	●	9/16	1.125	4.500	0.625	BRIGHT
5227300	●	19/32	1.125	4.500	0.625	BRIGHT
5222100	●	5/8	1.125	4.500	0.625	BRIGHT
5222105	●	5/8	1.125	4.500	0.625	TiN
5227400	●	21/32	1.313	5.000	0.750	BRIGHT
5229900	●	11/16	1.313	5.000	0.750	BRIGHT
5227500	●	23/32	1.313	5.000	0.750	BRIGHT
5223100	●	3/4	1.313	5.000	0.750	BRIGHT
5223105	●	3/4	1.313	5.000	0.750	TiN
5227600	●	25/32	1.563	5.500	0.875	BRIGHT
5227700	●	13/16	1.563	5.500	0.875	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

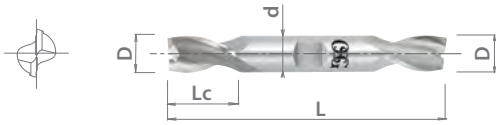
○ Good ◎ Best

List 522 (Continued)

OSG COBALT HSS DOUBLE END SQ

SPEED FEED 1408-1409 | HSS-Co | BR | TiN | 2 FLUTE | 30° | WELDON FLAT | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0011"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Surface Treatment
5227800	●	27/32	1.563	5.500	0.875	BRIGHT
5224100	●	7/8	1.563	5.500	0.875	BRIGHT
5224105	●	7/8	1.563	5.500	0.875	TiN
5228000	●	29/32	1.625	5.875	1.000	BRIGHT
5228100	●	15/16	1.625	5.875	1.000	BRIGHT
5228200	●	31/32	1.625	5.875	1.000	BRIGHT
5225100	●	1	1.625	5.875	1.000	BRIGHT
5225105	●	1	1.625	5.875	1.000	TiN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

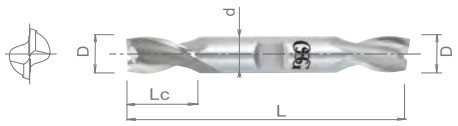
○ Good ◎ Best

List 582

OSG COBALT HSS DOUBLE END DDE

SPEED FEED	HSS-Co	BR	2 FLUTE	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1416											1 PIECE

Cutting Diameter Tolerance	
1mm ≤ D ≤ 25mm	+0 / - 0.028mm



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L (mm)	d (mm)
5827100	●	1.00	2.38	57.10	4.76
5827200	●	1.50	4.76	57.10	4.76
5827400	●	2.00	5.95	57.10	4.76
5827500	●	2.50	7.14	57.10	4.76
5820100	●	3.00	9.52	77.70	9.52
5828100	●	3.50	11.11	79.30	9.52
5820200	●	4.00	11.11	79.30	9.52
5828200	●	4.50	11.11	79.30	9.52
5820300	●	5.00	12.70	79.30	9.52
5828300	●	5.50	12.70	79.30	9.52
5820400	●	6.00	12.70	79.30	9.52
5828400	●	6.50	12.70	79.30	9.52
5820500	●	7.00	14.28	79.30	9.52
5828500	●	7.50	14.28	79.30	9.52
5820600	●	8.00	14.28	79.30	9.52
5828600	●	8.50	14.28	79.30	9.52
5820700	●	9.00	14.28	79.30	9.52
5828700	●	9.50	14.28	79.30	9.52
5820800	●	10.00	20.63	95.20	12.70
5828800	●	10.50	20.63	95.20	12.70
5820900	●	11.00	20.63	95.20	12.70
5828900	●	11.50	20.63	95.20	12.70
5821100	●	12.00	20.63	95.20	12.70
5829100	●	12.50	20.63	95.20	12.70
5821200	●	13.00	28.57	114.30	15.87
5829200	●	13.50	28.57	114.30	15.87
5821300	●	14.00	28.57	114.30	15.87
5829300	●	14.50	28.57	114.30	15.87
5821400	●	15.00	28.57	114.30	15.87
5822100	●	16.00	33.33	127.00	19.05
5822200	●	17.00	33.33	127.00	19.05
5822300	●	18.00	33.33	127.00	19.05
5823100	●	19.00	33.33	127.00	19.05
5823200	●	20.00	39.68	139.70	22.22
5823300	●	21.00	39.68	139.70	22.22
5824100	●	22.00	39.68	139.70	22.22
5824200	●	23.00	41.27	149.20	25.40
5825100	●	24.00	41.27	149.20	25.40
5825200	●	25.00	41.27	149.20	25.40

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request. 4.76mm diameter shanks have straight shanks.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

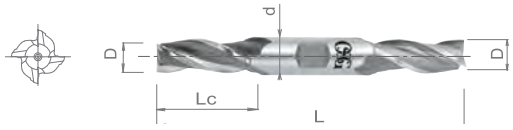
○ Good ◎ Best

List 532

OSG COBALT HSS DOUBLE END TDE

SPEED FEED	HSS-Co	BR	3 FLUTE	30°			WELDON FLAT	STUB	REG	PACKED
1417										1 PIECE

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5320100	●	1/8	0.375	3.063	0.375
5320200	●	3/16	0.500	3.250	0.375
5320300	●	1/4	0.625	3.375	0.375
5320400	●	5/16	0.750	3.500	0.375
5320500	●	3/8	0.750	3.500	0.375
5329600	●	7/16	1.000	4.125	0.500
5321100	●	1/2	1.000	4.125	0.500
5329800	●	9/16	1.375	5.000	0.625
5322100	●	5/8	1.375	5.000	0.625
5323100	●	3/4	1.625	5.625	0.750
5324100	●	7/8	1.875	6.125	0.875
5325100	●	1	1.875	6.375	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

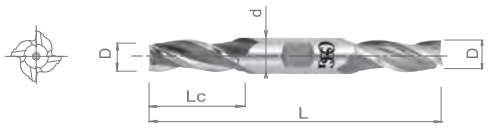
○ Good ◎ Best

List 542

OSG COBALT HSS DOUBLE END SQ

SPEED FEED	HSS-Co	BR	TiN	4 FLUTE	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1410-1411												1 PIECE

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Surface Treatment
5420100	●	1/8	0.375	3.063	0.375	BRIGHT
5420105	●	1/8	0.375	3.063	0.375	TiN
5426000	●	9/64	0.438	3.125	0.375	BRIGHT
5429100	●	5/32	0.438	3.125	0.375	BRIGHT
5426100	●	11/64	0.500	3.250	0.375	BRIGHT
5420200	●	3/16	0.500	3.250	0.375	BRIGHT
5420205	●	3/16	0.500	3.250	0.375	TiN
5426200	●	13/64	0.563	3.250	0.375	BRIGHT
5429200	●	7/32	0.563	3.250	0.375	BRIGHT
5426300	●	15/64	0.625	3.375	0.375	BRIGHT
5420300	●	1/4	0.625	3.375	0.375	BRIGHT
5420305	●	1/4	0.625	3.375	0.375	TiN
5426400	●	17/64	0.688	3.375	0.375	BRIGHT
5429300	●	9/32	0.688	3.375	0.375	BRIGHT
5426500	●	19/64	0.750	3.500	0.375	BRIGHT
5420400	●	5/16	0.750	3.500	0.375	BRIGHT
5420405	●	5/16	0.750	3.500	0.375	TiN
5426600	●	21/64	0.750	3.500	0.375	BRIGHT
5429400	●	11/32	0.750	3.500	0.375	BRIGHT
5426700	●	23/64	0.750	3.500	0.375	BRIGHT
5420500	●	3/8	0.750	3.500	0.375	BRIGHT
5420505	●	3/8	0.750	3.500	0.375	TiN
5426800	●	25/64	1.000	4.125	0.500	BRIGHT
5429500	●	13/32	1.000	4.125	0.500	BRIGHT
5426900	●	27/64	1.000	4.125	0.500	BRIGHT
5429600	●	7/16	1.000	4.125	0.500	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.

STE

EDP Number		Dia. D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Surface Treatment
5429605	●	7/16	1.000	4.125	0.500	TiN
5427000	●	29/64	1.000	4.125	0.500	BRIGHT
5429700	●	15/32	1.000	4.125	0.500	BRIGHT
5427100	●	31/64	1.000	4.125	0.500	BRIGHT
5421100	●	1/2	1.000	4.125	0.500	BRIGHT
5421105	●	1/2	1.000	4.125	0.500	TiN
5427200	●	17/32	1.375	5.000	0.625	BRIGHT
5429800	●	9/16	1.375	5.000	0.625	BRIGHT
5427300	●	19/32	1.375	5.000	0.625	BRIGHT
5422100	●	5/8	1.375	5.000	0.625	BRIGHT
5422105	●	5/8	1.375	5.000	0.625	TiN
5427400	●	21/32	1.625	5.625	0.750	BRIGHT
5429900	●	11/16	1.625	5.625	0.750	BRIGHT
5427500	●	23/32	1.625	5.625	0.750	BRIGHT
5423100	●	3/4	1.625	5.625	0.750	BRIGHT
5423105	●	3/4	1.625	5.625	0.750	TiN
5427600	●	25/32	1.875	6.125	0.875	BRIGHT
5428100	●	13/16	1.875	6.125	0.875	BRIGHT
5424100	●	7/8	1.875	6.125	0.875	BRIGHT
5424105	●	7/8	1.875	6.125	0.875	TiN
5428000	●	29/32	1.875	6.375	1.000	BRIGHT
5428200	●	15/16	1.875	6.375	1.000	BRIGHT
5428300	●	31/32	1.875	6.375	1.000	BRIGHT
5425100	●	1	1.875	6.375	1.000	BRIGHT
5425105	●	1	1.875	6.375	1.000	TiN

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

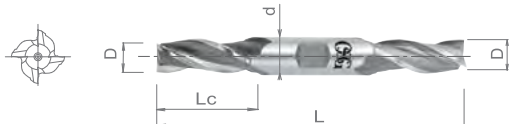
○ Good ◎ Best

List 543

OSG COBALT HSS DOUBLE END SQ

SPEED FEED	HSS-Co	BR	4 FLUTE	30°			WELDON FLAT	STUB	REG	PACKED
1410-1411										1 PIECE

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5430100	●	1/8	0.375	3.063	0.375
5430200	●	3/16	0.500	3.250	0.375
5430300	●	1/4	0.625	3.375	0.375
5430400	●	5/16	0.750	3.500	0.375
5430500	●	3/8	0.750	3.500	0.375
5431100	●	1/2	1.000	4.125	0.500
5432100	●	5/8	1.375	5.000	0.625
5433100	●	3/4	1.625	5.625	0.750
5434100	●	7/8	1.875	6.125	0.875
5435100	●	1	1.875	6.375	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

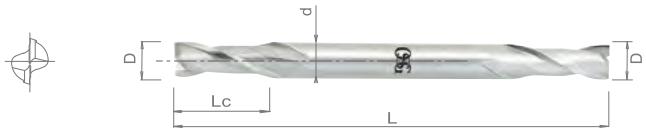
○ Good ◎ Best

List 562

HSS-Co | BR | 2 FLUTE | 30° | STUB | PACKED 1 PIECE

OSG COBALT HSS DOUBLE END M-DDE, Miniature

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5627000	●	1/32	0.047	2.000	0.188
5627100	●	3/64	0.063	2.000	0.188
5627200	●	1/16	0.094	2.000	0.188
5627300	●	5/64	0.125	2.000	0.188
5627400	●	3/32	0.141	2.000	0.188
5627500	●	7/64	0.156	2.000	0.188
5627600	●	1/8	0.188	2.000	0.188
5627700	●	9/64	0.219	2.000	0.188
5627800	●	5/32	0.234	2.000	0.188
5627900	●	11/64	0.250	2.000	0.188
5628000	●	3/16	0.281	2.000	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

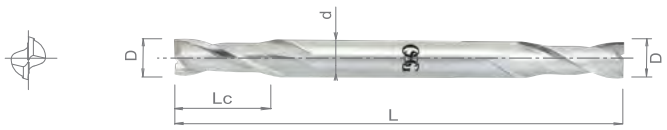
○ Good ◎ Best

List 563

HSS-Co | BR | 2 FLUTE | 30° | REG | PACKED 1 PIECE

OSG COBALT HSS DOUBLE END M-DDE, Miniature

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
5637000	●	1/32	0.094	2.250	0.188
5637100	●	3/64	0.141	2.250	0.188
5637200	●	1/16	0.188	2.250	0.188
5637300	●	5/64	0.234	2.250	0.188
5637400	●	3/32	0.281	2.250	0.188
5637500	●	7/64	0.328	2.250	0.188
5637600	●	1/8	0.375	2.250	0.188
5637700	●	9/64	0.406	2.250	0.188
5637800	●	5/32	0.438	2.250	0.188
5637900	●	11/64	0.500	2.250	0.188
5638000	●	3/16	0.500	2.250	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

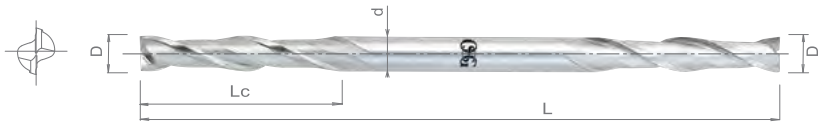
○ Good ◎ Best

List 564

HSS-Co | BR | 2 FLUTE | 30° | REG | LONG | EXTRA LONG | PACKED 1 PIECE

OSG COBALT HSS DOUBLE END M-DDEL, Miniature

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
5647200	●	1/16	0.219	2.500	0.188
5647400	●	3/32	0.281	2.625	0.188
5647600	●	1/8	0.750	3.125	0.188
5647800	●	5/32	0.875	3.250	0.188
5648000	●	3/16	1.000	3.375	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

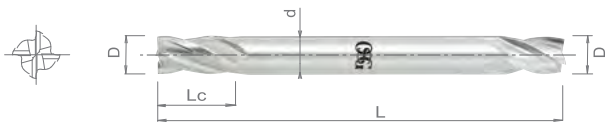
○ Good ◎ Best

List 566

OSG COBALT HSS DOUBLE END M-FDE, Miniature

HSS-Co | BR | 4 FLUTE | 30° | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
5667200	●	1/16	0.094	2.000	0.188
5667400	●	3/32	0.141	2.000	0.188
5667600	●	1/8	0.188	2.000	0.188
5667800	●	5/32	0.234	2.000	0.188
5668000	●	3/16	0.281	2.000	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○	○	○	○	○	○	○		○	○	○		

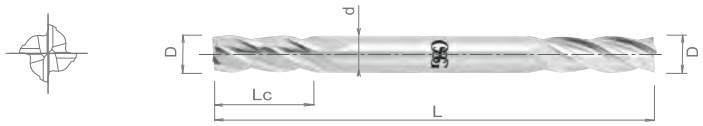
○ Good ◎ Best

List 567

OSG COBALT HSS DOUBLE END M-FDE, Miniature

HSS-Co | BR | 4 FLUTE | 30° | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
5677200	●	1/16	0.177	2.250	0.188
5677400	●	3/32	0.267	2.250	0.188
5677600	●	1/8	0.362	2.250	0.188
5677800	●	5/32	0.417	2.250	0.188
5678000	●	3/16	0.480	2.250	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○	○	○	○		○	○	○		

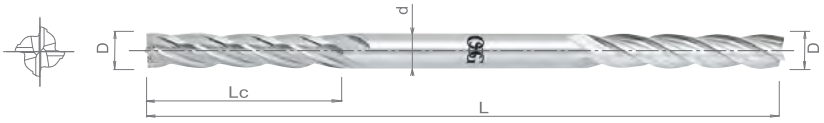
○ Good ◎ Best

List 568

OSG COBALT HSS DOUBLE END M-FDEL, Miniature

HSS-Co | BR | 4 FLUTE | 30° | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
D < Shank Dia.	+0.0011 / -0"
D = Shank Dia.	-0.0004 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
5687200	●	1/16	0.220	2.500	0.188
5687400	●	3/32	0.279	2.625	0.188
5687600	●	1/8	0.732	3.125	0.188
5687800	●	5/32	0.854	3.250	0.188
5688000	●	3/16	0.980	3.375	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○	○	○	○	○	○	○		○	○	○		

○ Good ◎ Best

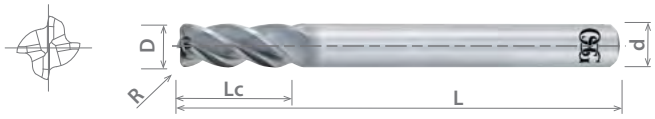
List 8210

A BRAND AE-CR-VMS

SPEED FEED 1425-1426 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHRINK FIT | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3/16" ≤ D ≤ 7/16"	+0 / -0.0008"
1/2" ≤ D ≤ 1"	+0 / -0.0012"

Radius Tolerance	
0.015 ≤ R ≤ 0.125	+/- 0.0008"



EDP Number		Dia. D (Fractional Size)	Corner Radius R (inch)	Length of Cut Lc (inch)	Overall Length L (inch)	Shank Dia. d (inch)
82100021	●	3/16	0.015	0.438	2.000	0.188
82100221	●	3/16	0.030	0.438	2.000	0.188
82100421	●	1/4	0.015	0.438	2.500	0.250
82100621	●	1/4	0.030	0.438	2.500	0.250
82100821	●	5/16	0.015	0.813	2.500	0.313
82101021	●	5/16	0.030	0.813	2.500	0.313
82101221	●	3/8	0.015	0.500	2.500	0.375
82101421	●	3/8	0.030	0.500	2.500	0.375
82101621	●	3/8	0.045	0.500	2.500	0.375
82101821	●	3/8	0.060	0.500	2.500	0.375
82102021	●	3/8	0.015	0.875	2.500	0.375
82102221	●	3/8	0.030	0.875	2.500	0.375
82102421	●	3/8	0.045	0.875	2.500	0.375
82102621	●	3/8	0.060	0.875	2.500	0.375
82102821	●	7/16	0.015	1.000	2.750	0.438
82103021	●	7/16	0.030	1.000	2.750	0.438
82103221	●	1/2	0.015	0.625	2.500	0.500
82103421	●	1/2	0.030	0.625	2.500	0.500
82103621	●	1/2	0.045	0.625	2.500	0.500
82103821	●	1/2	0.060	0.625	2.500	0.500
82104021	●	1/2	0.090	0.625	2.500	0.500
82104221	●	1/2	0.015	1.000	3.000	0.500
82104421	●	1/2	0.030	1.000	3.000	0.500
82104621	●	1/2	0.045	1.000	3.000	0.500
82104821	●	1/2	0.060	1.000	3.000	0.500
82105021	●	1/2	0.090	1.000	3.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

AEM

EDP Number		Dia. D (Fractional Size)	Corner Radius R (inch)	Length of Cut Lc (inch)	Overall Length L (inch)	Shank Dia. d (inch)
82105221	●	1/2	0.015	1.250	3.500	0.500
82105421	●	1/2	0.030	1.250	3.500	0.500
82105621	●	1/2	0.045	1.250	3.500	0.500
82105821	●	1/2	0.060	1.250	3.500	0.500
82106021	●	1/2	0.090	1.250	3.500	0.500
82106221	●	5/8	0.030	0.750	3.000	0.625
82106421	●	5/8	0.060	0.750	3.000	0.625
82106621	●	5/8	0.090	0.750	3.000	0.625
82106821	●	5/8	0.125	0.750	3.000	0.625
82107021	●	5/8	0.030	1.250	3.500	0.625
82107221	●	5/8	0.060	1.250	3.500	0.625
82107421	●	5/8	0.090	1.250	3.500	0.625
82107621	●	5/8	0.125	1.250	3.500	0.625
82107821	●	3/4	0.030	0.875	3.500	0.750
82108021	●	3/4	0.060	0.875	3.500	0.750
82108221	●	3/4	0.090	0.875	3.500	0.750
82108421	●	3/4	0.125	0.875	3.500	0.750
82108621	●	3/4	0.030	1.500	4.000	0.750
82108821	●	3/4	0.060	1.500	4.000	0.750
82109021	●	3/4	0.090	1.500	4.000	0.750
82109221	●	3/4	0.125	1.500	4.000	0.750
82109421	●	1	0.030	1.500	4.000	1.000
82109621	●	1	0.060	1.500	4.000	1.000
82109821	●	1	0.090	1.500	4.000	1.000
82109921	●	1	0.125	1.500	4.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

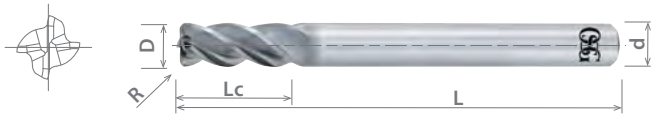
List 8215

A BRAND AE-CR-VMS

SPEED FEED 1425-1426 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHRINK FIT | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm

Radius Tolerance	
0.2 ≤ R ≤ 3	+/- 0.020mm

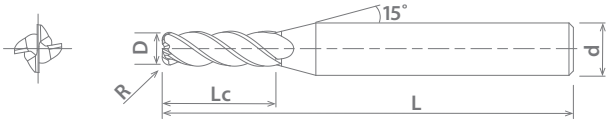


EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8556050	●	3.00	0.20	8.00	60.00	6.00	1
8556060	●	3.00	0.50	8.00	60.00	6.00	1
8556070	●	4.00	0.20	11.00	60.00	6.00	1
8556080	●	4.00	0.50	11.00	60.00	6.00	1
8556090	●	4.00	1.00	11.00	60.00	6.00	1
8556100	●	5.00	0.20	13.00	60.00	6.00	1
8556110	●	5.00	0.50	13.00	60.00	6.00	1
8556120	●	5.00	1.00	13.00	60.00	6.00	1
8556130	●	6.00	0.30	13.00	60.00	6.00	2
8556140	●	6.00	0.50	13.00	60.00	6.00	2
8556150	●	6.00	1.00	13.00	60.00	6.00	2
8556160	●	8.00	0.30	19.00	70.00	8.00	2
8556170	●	8.00	0.50	19.00	70.00	8.00	2
8556180	●	8.00	1.00	19.00	70.00	8.00	2
8556190	●	8.00	1.50	19.00	70.00	8.00	2
8556200	●	8.00	2.00	19.00	70.00	8.00	2
8556210	●	10.00	0.30	22.00	80.00	10.00	2
8556220	●	10.00	0.50	22.00	80.00	10.00	2
8556230	●	10.00	1.00	22.00	80.00	10.00	2
8556240	●	10.00	1.50	22.00	80.00	10.00	2
8556250	●	10.00	2.00	22.00	80.00	10.00	2
8556260	●	10.00	3.00	22.00	80.00	10.00	2
8556270	●	12.00	0.50	26.00	90.00	12.00	2
8556280	●	12.00	1.00	26.00	90.00	12.00	2
8556290	●	12.00	1.50	26.00	90.00	12.00	2
8556300	●	12.00	2.00	26.00	90.00	12.00	2
8556310	●	12.00	3.00	26.00	90.00	12.00	2

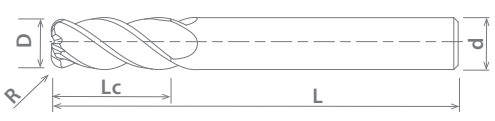
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type 1



Type 2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

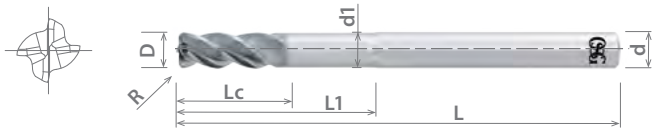
List 8220

A BRAND AE-LN-CR-VMS, Long Neck, Long Reach

SPEED FEED 1427 | CARBIDE | DUARISE | 4 FLUTE | 37-40° | SHRINK FIT | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 7/16"	+0 / -0.0008"
1/2" ≤ D ≤ 1"	+0 / -0.0012"

Radius Tolerance	
0.015 ≤ R ≤ 0.125	+/- 0.0008"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
82200021	●	1/4	0.015	0.375	1.250	0.235	4.000	0.250
82200221	●	1/4	0.030	0.375	1.250	0.235	4.000	0.250
82200421	●	1/4	0.060	0.375	1.250	0.235	4.000	0.250
82200621	●	5/16	0.015	0.438	1.562	0.295	4.000	0.313
82200821	●	5/16	0.030	0.438	1.562	0.295	4.000	0.313
82201021	●	3/8	0.015	0.500	1.875	0.353	4.000	0.375
82201221	●	3/8	0.030	0.500	1.875	0.353	4.000	0.375
82201421	●	3/8	0.045	0.500	1.875	0.353	4.000	0.375
82201621	●	3/8	0.060	0.500	1.875	0.353	4.000	0.375
82201821	●	7/16	0.015	0.547	1.968	0.400	4.000	0.438
82202021	●	7/16	0.030	0.547	1.968	0.400	4.000	0.438
82202221	●	1/2	0.015	0.625	2.250	0.470	4.000	0.500
82202421	●	1/2	0.030	0.625	2.250	0.470	4.000	0.500
82202621	●	1/2	0.045	0.625	2.250	0.470	4.000	0.500
82202821	●	1/2	0.060	0.625	2.250	0.470	4.000	0.500
82203021	●	1/2	0.090	0.625	2.250	0.470	4.000	0.500
82203221	●	5/8	0.030	0.780	2.250	0.588	4.125	0.625
82203421	●	5/8	0.060	0.780	2.250	0.588	4.125	0.625
82203621	●	5/8	0.090	0.780	2.250	0.588	4.125	0.625
82203821	●	5/8	0.125	0.780	2.250	0.588	4.125	0.625
82204021	●	3/4	0.030	1.000	3.250	0.705	5.250	0.750
82204221	●	3/4	0.060	1.000	3.250	0.705	5.250	0.750
82204421	●	3/4	0.090	1.000	3.250	0.705	5.250	0.750
82204621	●	3/4	0.125	1.000	3.250	0.705	5.250	0.750
82204821	●	1	0.030	1.125	3.250	0.940	5.500	1.000
82205021	●	1	0.060	1.125	3.250	0.940	5.500	1.000
82205221	●	1	0.090	1.125	3.250	0.940	5.500	1.000
82205421	●	1	0.125	1.125	3.250	0.940	5.500	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

A Brand *AE-CR-VML*

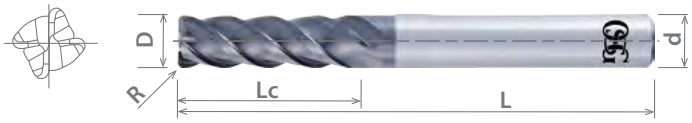
Advanced Performance Anti-Vibration Carbide End Mills

List 8271

A BRAND AE-CR-VML

NEW | SPEED FEED 1340-1343 | CARBIDE | DUARISE | 4 FLUTE | 42-44° | SHRINK FIT | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1/2"	+0 / -0.0008"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
82710021	●	1/4	0.015	0.750	2.750	0.250
82710121	●	1/4	0.030	0.750	2.750	0.250
82711221	●	1/4	0.015	1.000	2.750	0.250
82711321	●	1/4	0.030	1.000	2.750	0.250
82710221	●	5/16	0.015	0.938	3.500	0.313
82710321	▲	5/16	0.030	0.938	3.500	0.313
82711421	●	5/16	0.015	1.250	3.500	0.313
82711521	▲	5/16	0.030	1.250	3.500	0.313
82710421	●	3/8	0.015	1.125	3.750	0.375
82710521	●	3/8	0.030	1.125	3.750	0.375
82710621	▲	3/8	0.060	1.125	3.750	0.375
82711621	●	3/8	0.015	1.500	4.000	0.375
82711721	●	3/8	0.030	1.500	4.000	0.375
82711821	▲	3/8	0.060	1.500	4.000	0.375
82710721	●	1/2	0.015	1.500	4.000	0.500
82710821	●	1/2	0.030	1.500	4.000	0.500
82710921	▲	1/2	0.045	1.500	4.000	0.500
82711021	●	1/2	0.060	1.500	4.000	0.500
82711121	▲	1/2	0.090	1.500	4.000	0.500
82711921	●	1/2	0.015	2.000	4.500	0.500
82712021	●	1/2	0.030	2.000	4.500	0.500
82712121	▲	1/2	0.045	2.000	4.500	0.500
82712221	●	1/2	0.060	2.000	4.500	0.500
82712321	●	1/2	0.090	2.000	4.500	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	○

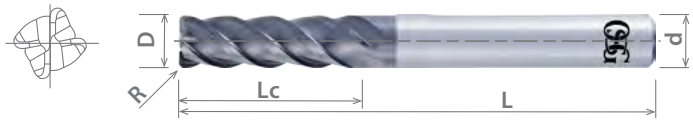
○ Good ◎ Best

List 8277

A BRAND AE-CR-VML

NEW | SPEED FEED 1340-1343 | CARBIDE | DUARISE | 4 FLUTE | 42-44° | SHRINK FIT | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8556336	●	6.00	0.30	19.00	70.00	6.00
8556337	●	6.00	0.50	19.00	70.00	6.00
8556338	●	6.00	1.00	19.00	70.00	6.00
8556355	●	6.00	0.30	24.00	70.00	6.00
8556356	●	6.00	0.50	24.00	70.00	6.00
8556357	●	6.00	1.00	24.00	70.00	6.00
8556339	▲	8.00	0.30	25.00	80.00	8.00
8556340	▲	8.00	0.50	25.00	80.00	8.00
8556341	●	8.00	1.00	25.00	80.00	8.00
8556342	▲	8.00	1.50	25.00	80.00	8.00
8556343	●	8.00	2.00	25.00	80.00	8.00
8556358	▲	8.00	0.30	32.00	90.00	8.00
8556359	▲	8.00	0.50	32.00	90.00	8.00
8556360	●	8.00	1.00	32.00	90.00	8.00
8556361	▲	8.00	1.50	32.00	90.00	8.00
8556362	●	8.00	2.00	32.00	90.00	8.00
8556344	▲	10.00	0.30	31.00	90.00	10.00
8556345	▲	10.00	0.50	31.00	90.00	10.00
8556346	●	10.00	1.00	31.00	90.00	10.00
8556347	▲	10.00	1.50	31.00	90.00	10.00
8556348	▲	10.00	2.00	31.00	90.00	10.00
8556349	●	10.00	3.00	31.00	90.00	10.00
8556363	▲	10.00	0.30	40.00	100.00	10.00
8556364	▲	10.00	0.50	40.00	100.00	10.00
8556365	●	10.00	1.00	40.00	100.00	10.00
8556366	▲	10.00	1.50	40.00	100.00	10.00
8556367	▲	10.00	2.00	40.00	100.00	10.00
8556368	●	10.00	3.00	40.00	100.00	10.00
8556350	●	12.00	0.50	38.00	100.00	12.00
8556351	▲	12.00	1.00	38.00	100.00	12.00
8556352	▲	12.00	1.50	38.00	100.00	12.00
8556353	▲	12.00	2.00	38.00	100.00	12.00
8556354	●	12.00	3.00	38.00	100.00	12.00
8556369	●	12.00	0.50	48.00	110.00	12.00
8556370	▲	12.00	1.00	48.00	110.00	12.00
8556371	▲	12.00	1.50	48.00	110.00	12.00
8556372	▲	12.00	2.00	48.00	110.00	12.00
8556373	●	12.00	3.00	48.00	110.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	○

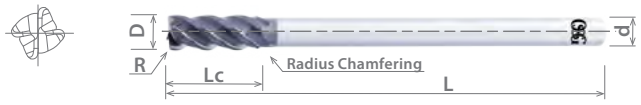
○ Good ◎ Best

List 8246

A BRAND AE-CR-VMFE

NEW | SPEED FEED 1344 | CARBIDE | DUARISE | 4 FLUTE | 40-44° | SHRINK FIT | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8549945	▲	6.00	0.50	15.00	100.00	4.00
8549955	▲	8.00	0.50	20.00	110.00	6.00
8549965	▲	10.00	0.50	25.00	130.00	8.00
8549966	▲	10.00	1.00	25.00	130.00	8.00
8549975	▲	12.00	0.50	30.00	150.00	10.00
8549976	▲	12.00	1.00	30.00	150.00	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: The radius chamfering is not a full radius since it is for preventing streaks during step milling.

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	○		

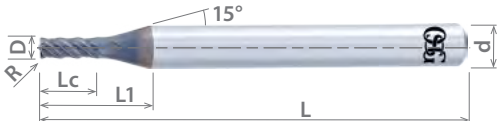
○ Good ◎ Best

List 8470

A BRAND AE-CR-MS-H

NEW | SPEED FEED 1348-1349 | CARBIDE | DUROREY | 43° | SHRINK FIT | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1/2"	+0 / -0.0008"

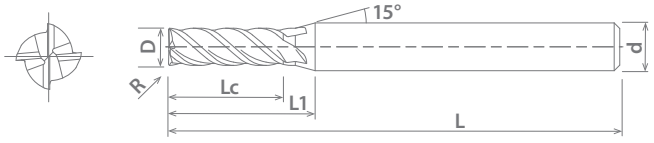


EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type	Center Cutting
84700023	●	1/16	0.010	0.156	0.600	2.500	0.250	4	1	-
84700123	●	5/64	0.010	0.195	0.646	2.500	0.250	4	1	-
84700223	●	3/32	0.010	0.234	0.698	2.500	0.250	4	1	-
84700323	●	7/64	0.010	0.273	0.668	2.500	0.250	4	1	-
84700423	●	1/8	0.010	0.313	0.686	2.500	0.250	4	1	-
84700523	●	1/8	0.020	0.313	0.686	2.500	0.250	4	1	●
84700623	○	1/8	0.030	0.313	0.686	2.500	0.250	4	1	●
84700723	●	5/32	0.020	0.391	0.825	2.500	0.250	4	1	●
84700823	○	5/32	0.030	0.391	0.825	2.500	0.250	4	1	●
84700923	●	3/16	0.010	0.469	0.767	2.500	0.250	4	1	●
84701023	●	3/16	0.020	0.469	0.767	2.500	0.250	4	1	●
84701123	○	3/16	0.030	0.469	0.767	2.500	0.250	4	1	●
84701223	●	7/32	0.020	0.547	0.871	2.500	0.250	4	1	●
84701323	●	1/4	0.010	0.625	-	2.500	0.250	6	2	●
84701423	●	1/4	0.020	0.625	-	2.500	0.250	6	2	●
84701523	○	1/4	0.030	0.625	-	2.500	0.250	6	2	●
84701623	○	9/32	0.020	0.703	1.033	2.500	0.313	6	1	●
84701723	●	5/16	0.020	0.781	-	2.750	0.313	6	2	●
84701823	●	3/8	0.020	0.938	-	3.000	0.375	6	2	●
84701923	●	3/8	0.030	0.938	-	3.000	0.375	6	2	●
84702023	○	3/8	0.060	0.938	-	3.000	0.375	6	2	●
84702123	●	7/16	0.030	1.094	-	3.000	0.438	6	2	●
84702223	●	1/2	0.020	1.250	-	3.500	0.500	6	2	●
84702323	●	1/2	0.030	1.250	-	3.500	0.500	6	2	●
84702423	○	1/2	0.060	1.250	-	3.500	0.500	6	2	●
84702523	●	5/8	0.030	1.563	-	4.000	0.625	6	2	●
84702623	●	5/8	0.060	1.563	-	4.000	0.625	6	2	●
84702723	●	3/4	0.030	1.875	-	4.250	0.750	6	2	●
84702823	○	3/4	0.060	1.875	-	4.250	0.750	6	2	●
84702923	○	1	0.060	2.500	-	4.500	1.000	8	2	-
84703023	○	1	0.090	2.500	-	4.500	1.000	8	2	-

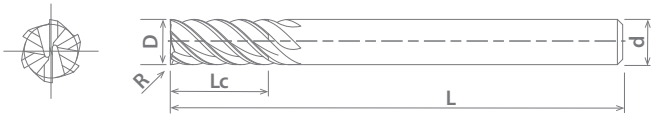
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

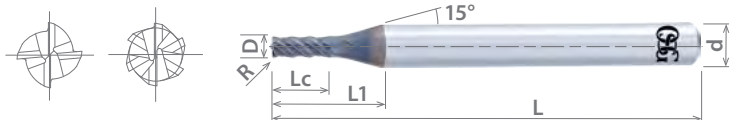
○ Good ◎ Best

List 8570

A BRAND AE-CR-MS-H

NEW | SPEED FEED 1348-1349 | CARBIDE | DURAREY | 43° | SHRINK FIT | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm

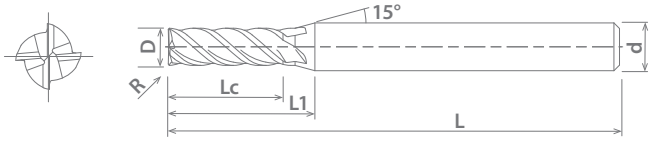


EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes	Type
8549842	●	3.00	0.20	7.50	15.40	60.00	6.00	4	1
8549845	▲	3.00	0.50	7.50	15.40	60.00	6.00	4	1
8549852	●	4.00	0.20	10.00	16.10	60.00	6.00	4	1
8549855	●	4.00	0.50	10.00	16.10	60.00	6.00	4	1
8549856	▲	4.00	1.00	10.00	16.10	60.00	6.00	4	1
8549862	●	5.00	0.20	12.50	16.70	60.00	6.00	4	1
8549865	▲	5.00	0.50	12.50	16.70	60.00	6.00	4	1
8549866	●	5.00	1.00	12.50	16.70	60.00	6.00	4	1
8549873	●	6.00	0.30	12.50	-	60.00	6.00	6	2
8549875	●	6.00	0.50	15.00	-	60.00	6.00	6	2
8549876	▲	6.00	1.00	15.00	-	60.00	6.00	6	2
8549883	●	8.00	0.30	20.00	-	70.00	8.00	6	2
8549885	●	8.00	0.50	20.00	-	70.00	8.00	6	2
8549886	●	8.00	1.00	20.00	-	70.00	8.00	6	2
8549887	▲	8.00	1.50	20.00	-	70.00	8.00	6	2
8549888	▲	8.00	2.00	20.00	-	70.00	8.00	6	2
8549893	●	10.00	0.30	25.00	-	80.00	10.00	6	2
8549895	●	10.00	0.50	25.00	-	80.00	10.00	6	2
8549896	●	10.00	1.00	25.00	-	80.00	10.00	6	2
8549897	▲	10.00	1.50	25.00	-	80.00	10.00	6	2
8549898	●	10.00	2.00	25.00	-	80.00	10.00	6	2
8549899	▲	10.00	3.00	25.00	-	80.00	10.00	6	2
8549903	●	12.00	0.30	30.00	-	90.00	12.00	6	2
8549905	●	12.00	0.50	30.00	-	90.00	12.00	6	2
8549906	●	12.00	1.00	30.00	-	90.00	12.00	6	2
8549907	▲	12.00	1.50	30.00	-	90.00	12.00	6	2
8549908	●	12.00	2.00	30.00	-	90.00	12.00	6	2
8549909	▲	12.00	3.00	30.00	-	90.00	12.00	6	2

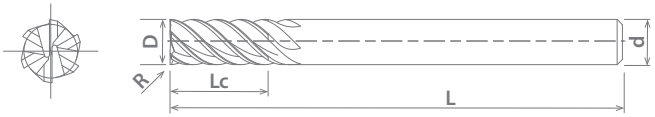
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



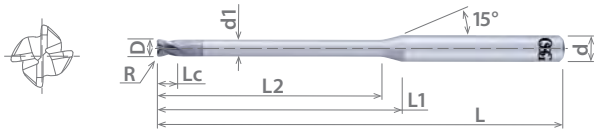
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

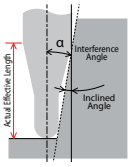
○ Good ◎ Best

List 8592

A BRAND AE-CPR4-H

NEW | SPEED FEED 1428-1430 | CARBIDE | DURO REY | 4 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE





Cutting Diameter Tolerance	
0.2mm ≤ D ≤ 0.4mm	+0 / -0.010mm
0.5mm ≤ D ≤ 4mm	+0 / -0.015mm

Radius Tolerance	
R = 0.02	+/- 0.002mm
R = 0.05	+/- 0.005mm

EDP Number		Dia.	Corner Radius	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Dia.	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Dia.	Center Cutting
		D (mm)	R (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
8557470	▲	0.20	0.02	0.15	7.70	0.50	0.18	13.88	0.53	0.57	0.61	0.65	0.73	45.00	4.00	-
8557471	▲	0.20	0.02	0.15	8.20	1.00	0.18	13.07	1.06	1.13	1.20	1.26	1.38	45.00	4.00	-
8557472	▲	0.20	0.02	0.15	8.70	1.50	0.18	12.34	1.60	1.69	1.77	1.85	2.00	45.00	4.00	-
8557473	▲	0.20	0.02	0.15	9.20	2.00	0.18	11.69	2.12	2.24	2.33	2.43	2.26	45.00	4.00	-
8557474	▲	0.20	0.05	0.15	7.70	0.50	0.18	13.93	0.53	0.56	0.60	0.64	0.72	45.00	4.00	-
8557475	▲	0.20	0.05	0.15	8.20	1.00	0.18	13.11	1.06	1.13	1.19	1.25	1.37	45.00	4.00	-
8557476	▲	0.20	0.05	0.15	8.70	1.50	0.18	12.37	1.59	1.68	1.77	1.84	1.99	45.00	4.00	-
8557477	▲	0.20	0.02	0.25	9.20	2.00	0.28	11.72	2.12	2.23	2.33	2.42	2.61	45.00	4.00	-
8557478	▲	0.30	0.02	0.25	8.00	1.00	0.28	13.02	1.06	1.13	1.20	1.26	1.38	45.00	4.00	-
8557479	▲	0.30	0.02	0.25	8.50	1.50	0.28	12.28	1.60	1.69	1.77	1.85	2.00	45.00	4.00	-
8557480	▲	0.30	0.02	0.25	9.00	2.00	0.28	11.62	2.12	2.24	2.33	2.43	2.62	45.00	4.00	-
8557481	▲	0.30	0.02	0.25	9.50	2.50	0.28	11.02	2.65	2.78	2.89	3.00	3.24	45.00	4.00	-
8557482	▲	0.30	0.02	0.25	10.00	3.00	0.28	10.48	3.18	3.32	3.45	3.58	3.87	45.00	4.00	-
8557483	▲	0.30	0.05	0.25	8.00	1.00	0.28	13.06	1.06	1.13	1.19	1.25	1.37	45.00	4.00	-
8557484	▲	0.30	0.05	0.25	8.50	1.50	0.28	12.32	1.59	1.68	1.77	1.84	1.99	45.00	4.00	-
8557485	▲	0.30	0.05	0.25	9.00	2.00	0.28	11.65	2.12	2.23	2.33	2.42	2.61	45.00	4.00	-
8557486	▲	0.30	0.05	0.25	9.50	2.50	0.28	11.05	2.65	2.78	2.89	3.00	3.24	45.00	4.00	-
8557487	▲	0.30	0.05	0.30	10.00	3.00	0.37	10.51	3.18	3.32	3.44	3.57	3.86	45.00	4.00	-
8557488	▲	0.40	0.02	0.30	8.20	1.00	0.37	12.41	1.08	1.17	1.28	1.38	1.62	45.00	4.00	-
8557489	▲	0.40	0.02	0.30	8.70	1.50	0.37	11.71	1.62	1.76	1.89	2.03	2.32	45.00	4.00	-
8557490	▲	0.40	0.02	0.30	9.20	2.00	0.37	11.09	2.16	2.33	2.50	2.67	3.00	45.00	4.00	-
8557491	▲	0.40	0.02	0.30	9.70	2.50	0.37	10.53	2.70	2.90	3.10	3.29	3.66	45.00	4.00	-
8557492	▲	0.40	0.02	0.30	10.20	3.00	0.37	10.03	3.24	3.47	3.69	3.90	4.31	45.00	4.00	-
8557493	▲	0.40	0.02	0.30	11.20	4.00	0.37	9.15	4.31	4.59	4.85	5.10	5.57	45.00	4.00	-
8557494	▲	0.40	0.05	0.30	8.20	1.00	0.37	12.45	1.08	1.17	1.27	1.37	1.60	45.00	4.00	-
8557495	▲	0.40	0.05	0.30	8.70	1.50	0.37	11.75	1.62	1.75	1.89	2.03	2.31	45.00	4.00	-
8557496	●	0.40	0.05	0.30	9.20	2.00	0.37	11.12	2.16	2.33	2.49	2.66	2.99	45.00	4.00	-
8557497	▲	0.40	0.05	0.30	9.70	2.50	0.37	10.56	2.70	2.90	3.09	3.28	3.65	45.00	4.00	-
8557498	●	0.40	0.05	0.30	10.20	3.00	0.37	10.05	3.24	3.46	3.68	3.89	4.30	45.00	4.00	-
8557499	▲	0.40	0.05	0.30	11.20	4.00	0.37	9.17	4.31	4.59	4.85	5.10	5.56	45.00	4.00	-
8557500	▲	0.40	0.10	0.30	8.20	1.00	0.37	12.51	1.07	1.16	1.26	1.36	1.58	45.00	4.00	-
8557501	●	0.40	0.10	0.30	9.20	2.00	0.37	11.18	2.16	2.32	2.48	2.65	2.98	45.00	4.00	-
8557502	▲	0.40	0.10	0.30	10.20	3.00	0.37	10.10	3.23	3.46	3.67	3.88	4.29	45.00	4.00	-
8557503	▲	0.40	0.10	0.30	11.20	4.00	0.37	9.21	4.30	4.58	4.84	5.09	5.55	45.00	4.00	-
8557504	▲	0.50	0.02	0.40	8.00	1.00	0.46	12.39	1.08	1.17	1.26	1.37	1.59	45.00	4.00	●
8557505	▲	0.50	0.02	0.40	9.00	2.00	0.46	11.04	2.16	2.32	2.48	2.64	2.97	45.00	4.00	●
8557506	▲	0.50	0.02	0.40	10.00	3.00	0.46	9.96	3.23	3.45	3.67	3.87	4.27	45.00	4.00	●
8557507	▲	0.50	0.02	0.40	11.00	4.00	0.46	9.07	4.30	4.57	4.83	5.07	5.53	45.00	4.00	●
8557508	▲	0.50	0.02	0.40	12.00	5.00	0.46	8.32	5.36	5.68	5.98	6.25	6.77	45.00	4.00	●
8557509	▲	0.50	0.02	0.40	13.00	6.00	0.46	7.69	6.42	6.79	7.11	7.41	8.02	45.00	4.00	●
8557510	●	0.50	0.05	0.40	8.00	1.00	0.46	12.43	1.08	1.16	1.26	1.36	1.58	45.00	4.00	●
8557511	●	0.50	0.05	0.40	9.00	2.00	0.46	11.08	2.15	2.31	2.47	2.64	2.96	45.00	4.00	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

CONTINUED ❯

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

○ Good ◎ Best

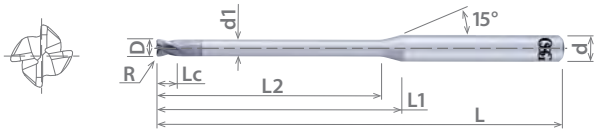
A Brand AE-CPR4-H

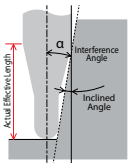
Advanced Performance Four-Fluted Long Neck Corner Radius End Mill for Hardened Steels

List 8592 (Continued)

A BRAND AE-CPR4-H

NEW | SPEED FEED 1428-1430 | CARBIDE | DUROREY | 4 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE





Cutting Diameter Tolerance	
0.2mm ≤ D ≤ 0.4mm	+0 / -0.010mm
0.5mm ≤ D ≤ 4mm	+0 / -0.015mm

Radius Tolerance	
R = 0.02	+/- 0.002mm
R = 0.05	+/- 0.005mm

EDP Number		Dia.	Corner Radius	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Dia.	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Dia.	Center Cutting
		D (mm)	R (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
8557512	●	0.50	0.05	0.40	10.00	3.00	0.46	9.99	3.23	3.45	3.66	3.87	4.27	45.00	4.00	●
8557513	●	0.50	0.05	0.40	11.00	4.00	0.46	9.09	4.30	4.57	4.82	5.07	5.52	45.00	4.00	●
8557514	▲	0.50	0.05	0.40	12.00	5.00	0.46	8.34	5.36	5.68	5.97	6.25	6.77	45.00	4.00	●
8557515	▲	0.50	0.05	0.40	13.00	6.00	0.46	7.71	6.42	6.79	7.11	7.41	8.01	45.00	4.00	●
8557516	▲	0.50	0.10	0.40	8.00	1.00	0.46	12.50	1.07	1.15	1.24	1.34	1.55	45.00	4.00	●
8557517	●	0.50	0.10	0.40	9.00	2.00	0.46	11.13	2.15	2.31	2.46	2.62	2.95	45.00	4.00	●
8557518	●	0.50	0.10	0.40	10.00	3.00	0.46	10.03	3.22	3.44	3.65	3.86	4.25	45.00	4.00	●
8557519	▲	0.50	0.10	0.40	11.00	4.00	0.46	9.13	4.29	4.56	4.82	5.06	5.51	45.00	4.00	●
8557520	▲	0.50	0.10	0.40	12.00	5.00	0.46	8.37	5.36	5.68	5.97	6.24	6.76	45.00	4.00	●
8557521	▲	0.50	0.10	0.40	13.00	6.00	0.46	7.73	6.42	6.78	7.10	7.40	8.00	45.00	4.00	●
8557524	▲	0.60	0.02	0.48	12.80	6.00	0.55	7.64	6.41	6.76	7.08	7.37	7.97	45.00	4.00	●
8557522	●	0.60	0.10	0.48	8.80	2.00	0.55	11.08	2.14	2.29	2.45	2.60	2.92	45.00	4.00	●
8557523	●	0.60	0.10	0.48	10.80	4.00	0.55	9.05	4.28	4.55	4.79	5.03	5.48	45.00	4.00	●
8557525	▲	0.70	0.02	0.55	8.60	2.00	0.65	10.90	2.15	2.31	2.46	2.62	2.94	45.00	4.00	●
8557526	▲	0.70	0.02	0.55	10.60	4.00	0.65	8.88	4.29	4.55	4.81	5.05	5.50	45.00	4.00	●
8557527	▲	0.70	0.02	0.55	12.60	6.00	0.65	7.48	6.41	6.77	7.09	7.38	7.98	45.00	4.00	●
8557528	▲	0.70	0.05	0.55	8.60	2.00	0.65	10.94	2.15	2.30	2.46	2.62	2.93	45.00	4.00	●
8557529	▲	0.70	0.05	0.55	10.60	4.00	0.65	8.90	4.28	4.55	4.80	5.04	5.49	45.00	4.00	●
8557530	▲	0.70	0.05	0.55	12.60	6.00	0.65	7.50	6.41	6.76	7.08	7.38	7.98	45.00	4.00	●
8557531	▲	0.70	0.10	0.55	8.60	2.00	0.65	10.99	2.14	2.29	2.45	2.60	2.92	45.00	4.00	●
8557532	▲	0.70	0.10	0.55	10.60	4.00	0.65	8.94	4.28	4.55	4.79	5.03	5.48	45.00	4.00	●
8557533	▲	0.70	0.10	0.55	12.60	6.00	0.65	7.53	6.41	6.76	7.08	7.37	7.97	45.00	4.00	●
8557534	●	0.80	0.10	0.65	10.40	4.00	0.75	8.83	4.28	4.55	4.79	5.03	5.48	45.00	4.00	●
8557535	▲	0.80	0.10	0.65	12.40	6.00	0.75	7.41	6.41	6.76	7.08	7.37	7.97	45.00	4.00	●
8557536	●	0.80	0.20	0.65	10.40	4.00	0.75	8.90	4.28	4.53	4.78	5.01	5.46	45.00	4.00	●
8557537	●	0.80	0.20	0.65	12.40	6.00	0.75	7.47	6.40	6.75	7.06	7.36	7.94	45.00	4.00	●
8557538	●	0.80	0.20	0.65	14.40	8.00	0.75	6.43	8.52	8.94	9.31	9.66	10.43	45.00	4.00	●
8557539	▲	0.90	0.10	0.70	10.20	4.00	0.85	8.71	4.28	4.55	4.79	5.03	5.48	45.00	4.00	●
8557540	▲	0.90	0.10	0.70	14.20	8.00	0.85	6.27	8.52	8.95	9.32	9.67	10.45	45.00	4.00	●
8557541	●	1.00	0.05	0.80	10.00	4.00	0.94	8.57	4.28	4.54	4.78	5.02	5.46	45.00	4.00	●
8557542	●	1.00	0.05	0.80	12.00	6.00	0.94	7.16	6.40	6.75	7.06	7.35	7.95	45.00	4.00	●
8557543	▲	1.00	0.05	0.80	14.00	8.00	0.94	6.14	8.51	8.93	9.30	9.65	10.43	45.00	4.00	●
8557544	▲	1.00	0.05	0.80	16.00	10.00	0.94	5.38	10.61	11.10	11.52	11.95	12.92	45.00	4.00	●
8557545	●	1.00	0.05	0.80	18.00	12.00	0.94	4.78	12.71	13.26	13.74	14.25	15.41	45.00	4.00	●
8557546	●	1.00	0.10	0.80	10.00	4.00	0.94	8.61	4.27	4.53	4.77	5.01	5.45	45.00	4.00	●
8557547	●	1.00	0.10	0.80	12.00	6.00	0.94	7.18	6.39	6.74	7.05	7.34	7.93	45.00	4.00	●
8557548	▲	1.00	0.10	0.80	14.00	8.00	0.94	6.16	8.51	8.93	9.30	9.65	10.42	45.00	4.00	●
8557549	▲	1.00	0.10	0.80	16.00	10.00	0.94	5.39	10.61	11.10	11.52	11.95	12.91	45.00	4.00	●
8557550	●	1.00	0.10	0.80	18.00	12.00	0.94	4.79	12.71	13.25	13.73	14.25	15.39	45.00	4.00	●
8557551	●	1.00	0.20	0.80	10.00	4.00	0.94	8.69	4.27	4.52	4.76	4.99	5.42	45.00	4.00	●
8557552	▲	1.00	0.20	0.80	12.00	6.00	0.94	7.24	6.39	6.73	7.04	7.33	7.91	45.00	4.00	●
8557553	▲	1.00	0.20	0.80	14.00	8.00	0.94	6.20	8.50	8.92	9.29	9.63	10.40	45.00	4.00	●
8557554	▲	1.00	0.20	0.80	16.00	10.00	0.94	5.42	10.61	11.09	11.51	11.93	12.88	45.00	4.00	●
8557555	●	1.00	0.20	0.80	18.00	12.00	0.94	4.82	12.70	13.24	13.72	14.23	15.37	45.00	4.00	●
8557556	▲	1.00	0.20	0.80	22.00	16.00	0.94	3.94	16.89	17.53	18.16	18.83	20.34	55.00	4.00	●
8557557	▲	1.00	0.20	0.80	26.00	20.00	0.94	3.33	21.05	21.81	22.59	23.43	25.32	55.00	4.00	●
8557558	●	1.00	0.30	0.80	10.00	4.00	0.94	8.77	4.26	4.51	4.74	4.97	5.40	45.00	4.00	●
8557559	●	1.00	0.30	0.80	12.00	6.00	0.94	7.30	6.38	6.72	7.03	7.31	7.89	45.00	4.00	●
8557560	●	1.00	0.30	0.80	14.00	8.00	0.94	6.24	8.50	8.91	9.27	9.62	10.37	45.00	4.00	●
8557561	▲	1.00	0.30	0.80	16.00	10.00	0.94	5.46	10.60	11.08	11.50	11.92	12.86	45.00	4.00	●
8557562	▲	1.00	0.30	0.80	18.00	12.00	0.94	4.84	12.70	13.24	13.71	14.22	15.35	45.00	4.00	●
8557563	●	1.20	0.20	1.00	11.60	6.00	1.14	6.98	6.39	6.73	7.04	7.33	7.91	45.00	4.00	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

List 8592 (Continued)

A BRAND AE-CPR4-H

NEW | SPEED FEED 1428-1430 | CARBIDE | DUROREY | 4 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE

EDP Number		Dia.	Corner Radius	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Dia.	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Dia.	Center Cutting
		D (mm)	R (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
8557564	●	1.20	0.20	1.00	13.60	8.00	1.14	5.95	8.50	8.92	9.29	9.63	10.40	45.00	4.00	●
8557565	▲	1.20	0.20	1.00	15.60	10.00	1.14	5.19	10.61	11.09	11.51	11.93	12.88	45.00	4.00	●
8557566	▲	1.20	0.30	1.00	11.60	6.00	1.14	7.04	6.38	6.72	7.03	7.31	7.89	45.00	4.00	●
8557567	▲	1.20	0.30	1.00	13.60	8.00	1.14	5.99	8.50	8.91	9.27	9.62	10.37	45.00	4.00	●
8557568	▲	1.20	0.30	1.00	15.60	10.00	1.14	5.22	10.60	11.08	11.50	11.92	12.86	45.00	4.00	●
8557569	●	1.50	0.20	1.20	11.00	6.00	1.43	6.57	6.38	6.71	7.02	7.30	7.88	45.00	4.00	●
8557570	●	1.50	0.20	1.20	13.00	8.00	1.43	5.56	8.49	8.90	9.26	9.60	10.37	45.00	4.00	●
8557571	●	1.50	0.20	1.20	15.00	10.00	1.43	4.81	10.59	11.07	11.48	11.90	12.85	45.00	4.00	●
8557572	●	1.50	0.20	1.20	17.00	12.00	1.43	4.25	12.69	13.22	13.70	14.20	15.34	45.00	4.00	●
8557573	▲	1.50	0.20	1.20	21.00	16.00	1.43	3.44	16.87	17.51	18.13	18.80	20.31	50.00	4.00	●
8557574	●	1.50	0.30	1.20	11.00	6.00	1.43	6.63	6.37	6.70	7.01	7.29	7.86	45.00	4.00	●
8557575	●	1.50	0.30	1.20	13.00	8.00	1.43	5.60	8.48	8.89	9.25	9.59	10.34	45.00	4.00	●
8557576	●	1.50	0.30	1.20	15.00	10.00	1.43	4.85	10.59	11.06	11.47	11.89	12.83	45.00	4.00	●
8557577	●	1.50	0.30	1.20	17.00	12.00	1.43	4.27	12.68	13.21	13.69	14.19	15.32	45.00	4.00	●
8557578	●	1.50	0.30	1.20	21.00	16.00	1.43	3.45	16.86	17.50	18.12	18.79	20.29	50.00	4.00	●
8557579	●	2.00	0.10	1.60	12.10	8.00	1.92	4.77	8.48	8.89	9.25	9.59	10.37	45.00	4.00	●
8557580	●	2.00	0.10	1.60	14.10	10.00	1.92	4.09	10.58	11.05	11.47	11.89	12.85	45.00	4.00	●
8557581	●	2.00	0.10	1.60	16.10	12.00	1.92	3.58	12.68	13.21	13.68	14.19	15.34	45.00	4.00	●
8557582	▲	2.00	0.10	1.60	20.10	16.00	1.92	2.87	16.85	17.49	18.12	18.79	-	60.00	4.00	●
8557583	●	2.00	0.10	1.60	24.10	20.00	1.92	2.39	21.02	21.77	22.55	23.39	-	60.00	4.00	●
8557584	●	2.00	0.10	1.60	29.10	25.00	1.92	1.98	26.20	27.12	28.09	-	-	60.00	4.00	●
8557585	●	2.00	0.20	1.60	12.10	8.00	1.92	4.81	8.48	8.88	9.24	9.58	10.34	45.00	4.00	●
8557586	●	2.00	0.20	1.60	14.10	10.00	1.92	4.12	10.58	11.05	11.46	11.88	12.83	45.00	4.00	●
8557587	▲	2.00	0.20	1.60	16.10	12.00	1.92	3.60	12.67	13.20	13.67	14.18	15.31	45.00	4.00	●
8557588	●	2.00	0.20	1.60	20.10	16.00	1.92	2.88	16.85	17.48	18.11	18.78	-	60.00	4.00	●
8557589	●	2.00	0.20	1.60	24.10	20.00	1.92	2.40	21.01	21.76	22.54	23.38	-	60.00	4.00	●
8557590	▲	2.00	0.20	1.60	29.10	25.00	1.92	1.99	26.20	27.11	28.08	-	-	60.00	4.00	●
8557591	●	2.00	0.30	1.60	12.10	8.00	1.92	4.85	8.47	8.87	9.23	9.56	10.32	45.00	4.00	●
8557592	●	2.00	0.30	1.60	14.10	10.00	1.92	4.15	10.57	11.04	11.45	11.86	12.80	45.00	4.00	●
8557593	●	2.00	0.30	1.60	16.10	12.00	1.92	3.63	12.67	13.19	13.66	14.16	15.29	45.00	4.00	●
8557594	▲	2.00	0.30	1.60	20.10	16.00	1.92	2.90	16.85	17.48	18.10	18.76	-	60.00	4.00	●
8557595	▲	2.00	0.30	1.60	24.10	20.00	1.92	2.41	21.01	21.75	22.53	23.36	-	60.00	4.00	●
8557596	●	2.00	0.50	1.60	12.10	8.00	1.92	4.93	8.46	8.85	9.20	9.54	10.27	45.00	4.00	●
8557597	▲	2.00	0.50	1.60	14.10	10.00	1.92	4.21	10.56	11.02	11.42	11.83	12.76	45.00	4.00	●
8557598	▲	2.00	0.50	1.60	16.10	12.00	1.92	3.67	12.66	13.18	13.64	14.13	15.24	45.00	4.00	●
8557599	●	2.00	0.50	1.60	20.10	16.00	1.92	2.92	16.84	17.46	18.07	18.73	-	60.00	4.00	●
8557600	▲	2.00	0.50	1.60	24.10	20.00	1.92	2.43	21.00	21.74	22.51	23.33	-	60.00	4.00	●
8557601	▲	2.00	0.50	1.60	29.10	25.00	1.92	2.01	26.19	27.09	28.05	29.08	-	60.00	4.00	●
8557602	●	2.50	0.20	2.00	13.10	10.00	2.40	3.33	10.55	11.01	11.41	11.83	12.78	55.00	4.00	●
8557603	▲	2.50	0.20	2.00	23.10	20.00	2.40	1.88	20.98	21.72	22.50	-	-	55.00	4.00	●
8557604	▲	2.50	0.50	2.00	13.10	10.00	2.40	3.40	10.54	10.98	11.38	11.79	12.71	55.00	4.00	●
8557605	▲	2.50	0.50	2.00	23.10	20.00	2.40	1.90	20.97	21.70	22.46	-	-	55.00	4.00	●
8557606	●	3.00	0.20	2.50	13.80	8.00	2.40	6.28	8.41	8.77	9.11	9.44	10.19	45.00	6.00	●
8557607	●	3.00	0.20	2.50	17.80	12.00	2.85	4.86	12.59	13.07	13.54	14.04	15.16	55.00	6.00	●
8557608	●	3.00	0.20	2.50	21.80	16.00	2.85	3.97	16.75	17.35	17.97	18.64	20.14	55.00	6.00	●
8557609	●	3.00	0.20	2.50	25.80	20.00	2.85	3.35	20.90	21.63	22.40	23.24	25.11	55.00	6.00	●
8557610	●	3.00	0.20	2.50	30.80	25.00	2.85	2.81	26.08	26.98	27.95	28.99	-	70.00	6.00	●
8557611	●	3.00	0.20	2.50	35.80	30.00	2.85	2.41	31.25	32.33	33.49	34.74	-	70.00	6.00	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

○ Good ◎ Best

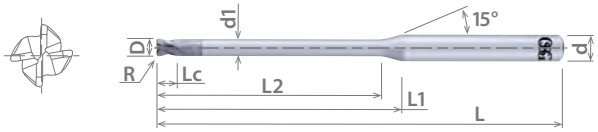
A Brand AE-CPR4-H

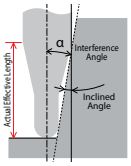
Advanced Performance Four-Fluted Long Neck Corner Radius End Mill for Hardened Steels

List 8592 (Continued)

A BRAND AE-CPR4-H

NEW | SPEED FEED 1428-1430 | CARBIDE | DUROREY | 4 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE





Cutting Diameter Tolerance	
0.2mm ≤ D ≤ 0.4mm	+0 / -0.010mm
0.5mm ≤ D ≤ 4mm	+0 / -0.015mm

Radius Tolerance	
R = 0.02	+/- 0.002mm
R = 0.05	+/- 0.005mm

EDP Number		Dia.	Corner Radius	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Dia.	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Dia.	Center Cutting
		D (mm)	R (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
8557612	▲	3.00	0.20	2.50	40.80	35.00	2.85	2.12	36.41	37.68	39.03	40.49	-	70.00	6.00	●
8557613	●	3.00	0.30	2.50	17.80	12.00	2.85	4.89	12.58	13.07	13.53	14.02	15.14	55.00	6.00	●
8557614	▲	3.00	0.30	2.50	21.80	16.00	2.85	3.99	16.75	17.34	17.96	18.62	20.11	55.00	6.00	●
8557615	▲	3.00	0.30	2.50	25.80	20.00	2.85	3.37	20.90	21.62	22.39	23.22	25.08	55.00	6.00	●
8557616	▲	3.00	0.30	2.50	30.80	25.00	2.85	2.82	26.07	26.97	27.94	28.97	-	70.00	6.00	●
8557617	▲	3.00	0.30	2.50	35.80	30.00	2.85	2.42	31.24	32.32	33.48	34.72	-	70.00	6.00	●
8557618	▲	3.00	0.30	2.50	40.80	35.00	2.85	2.12	36.41	37.67	39.02	40.47	-	70.00	6.00	●
8557619	●	3.00	0.50	2.50	17.80	12.00	2.85	4.94	12.57	13.05	13.51	13.99	15.09	55.00	6.00	●
8557620	●	3.00	0.50	2.50	21.80	16.00	2.85	4.02	16.74	17.33	17.94	18.59	20.06	55.00	6.00	●
8557621	●	3.00	0.50	2.50	25.80	20.00	2.85	3.39	20.89	21.61	22.37	23.19	25.04	55.00	6.00	●
8557622	●	3.00	0.50	2.50	30.80	25.00	2.85	2.83	26.07	26.96	27.91	28.94	-	70.00	6.00	●
8557623	▲	3.00	0.50	2.50	35.80	30.00	2.85	2.43	31.24	32.31	33.46	34.69	-	70.00	6.00	●
8557624	▲	3.00	0.50	2.50	40.80	35.00	2.85	2.13	36.40	37.66	39.00	40.44	-	70.00	6.00	●
8557625	●	4.00	0.20	3.20	20.00	16.00	3.84	2.90	16.74	17.34	17.96	18.62	-	50.00	6.00	●
8557626	●	4.00	0.20	3.20	24.00	20.00	3.84	2.41	20.89	21.62	22.39	23.22	-	60.00	6.00	●
8557627	●	4.00	0.20	3.20	29.00	25.00	3.84	2.00	26.06	26.96	27.93	-	-	60.00	6.00	●
8557628	●	4.00	0.20	3.20	34.00	30.00	3.84	1.70	31.23	32.31	33.47	-	-	75.00	6.00	●
8557629	●	4.00	0.20	3.20	44.00	40.00	3.84	1.31	41.57	43.01	-	-	-	75.00	6.00	●
8557630	●	4.00	0.30	3.20	20.00	16.00	3.84	2.92	16.74	17.33	17.95	18.61	-	50.00	6.00	●
8557631	●	4.00	0.30	3.20	24.00	20.00	3.84	2.42	20.89	21.61	22.38	23.21	-	60.00	6.00	●
8557632	●	4.00	0.30	3.20	29.00	25.00	3.84	2.00	26.06	26.96	27.92	-	-	60.00	6.00	●
8557633	●	4.00	0.30	3.20	34.00	30.00	3.84	1.71	31.23	32.31	33.46	-	-	75.00	6.00	●
8557634	●	4.00	0.30	3.20	44.00	40.00	3.84	1.32	41.56	43.00			-	75.00	6.00	●
8557635	●	4.00	0.50	3.20	20.00	16.00	3.84	2.95	16.73	17.32	17.92	18.58	-	50.00	6.00	●
8557636	●	4.00	0.50	3.20	24.00	20.00	3.84	2.44	20.88	21.59	22.36	23.18	-	60.00	6.00	●
8557637	●	4.00	0.50	3.20	29.00	25.00	3.84	2.02	26.05	26.94	27.90	28.93	-	60.00	6.00	●
8557638	●	4.00	0.50	3.20	34.00	30.00	3.84	1.72	31.22	32.29	33.44		-	75.00	6.00	●
8557639	▲	4.00	0.50	3.20	44.00	40.00	3.84	1.32	41.56	42.99			-	75.00	6.00	●
8557640	▲	4.00	0.50	3.20	54.00	50.00	3.84	1.08	51.89	53.69			-	90.00	6.00	●
8557641	●	4.00	1.00	3.20	20.00	16.00	3.84	3.02	16.71	17.28	17.87	18.50	19.93	50.00	6.00	●
8557642	●	4.00	1.00	3.20	24.00	20.00	3.84	2.50	20.86	21.56	22.30	23.10	-	60.00	6.00	●
8557643	●	4.00	1.00	3.20	29.00	25.00	3.84	2.05	26.04	26.91	27.85	28.85	-	60.00	6.00	●
8557644	●	4.00	1.00	3.20	34.00	30.00	3.84	1.74	31.20	32.26	33.39		-	75.00	6.00	●
8557645	▲	4.00	1.00	3.20	44.00	40.00	3.84	1.34	41.54	42.95			-	75.00	6.00	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

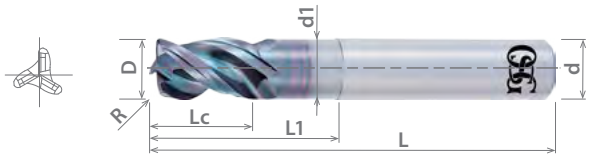
○ Good ◎ Best

List 8870

A BRAND AE-CR-VTS-N, Reduced Neck

NEW | SPEED FEED 1351-1352 | CARBIDE | DLC-IGUSS | 3 FLUTE | 40-43° | SHRINK FIT | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.0008"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
88700009	●	1/8	0.015	0.250	0.375	0.120	2.250	0.125
88700109	●	3/16	0.015	0.375	0.563	0.181	2.250	0.188
88700209	●	3/16	0.030	0.375	0.563	0.181	2.250	0.188
88700309	●	1/4	0.015	0.500	0.750	0.242	2.500	0.250
88700409	●	1/4	0.030	0.500	0.750	0.242	2.500	0.250
88700509	●	5/16	0.015	0.750	0.938	0.305	3.000	0.313
88700609	●	5/16	0.030	0.750	0.938	0.305	3.000	0.313
88700709	●	3/8	0.015	0.875	1.125	0.367	3.000	0.375
88700809	●	3/8	0.030	0.875	1.125	0.367	3.000	0.375
88700909	●	3/8	0.060	0.875	1.125	0.367	3.000	0.375
88701009	●	1/2	0.030	1.125	1.500	0.488	3.250	0.500
88701109	●	1/2	0.060	1.125	1.500	0.488	3.250	0.500
88701209	●	1/2	0.090	1.125	1.500	0.488	3.250	0.500
88701309	●	1/2	0.120	1.125	1.500	0.488	3.250	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

○ Good ◎ Best

A Brand AE-CR-VTS-N

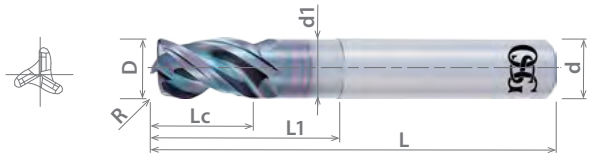
Advanced Performance DLC Coated End Mills for Non-Ferrous Materials

List 8970

A BRAND AE-CR-VTS-N, Reduced Neck

NEW | SPEED FEED 1351-1352 | CARBIDE | DLC-IGUSS | 3 FLUTE | 40-43° | SHRINK FIT | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm

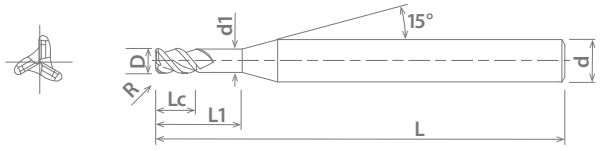


EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
8557400	●	3.00	0.20	6.00	9.00	2.85	55.00	6.00	1
8557401	●	3.00	0.50	6.00	9.00	2.85	55.00	6.00	1
8557402	●	4.00	0.20	8.00	12.00	3.80	55.00	6.00	1
8557403	●	4.00	0.50	8.00	12.00	3.80	55.00	6.00	1
8557404	●	4.00	1.00	8.00	12.00	3.80	55.00	6.00	1
8557405	●	5.00	0.20	10.00	15.00	4.80	55.00	6.00	1
8557406	●	5.00	0.50	10.00	15.00	4.80	55.00	6.00	1
8557407	●	5.00	1.00	10.00	15.00	4.80	55.00	6.00	1
8557408	●	6.00	0.30	12.00	18.00	5.80	60.00	6.00	2
8557409	●	6.00	0.50	12.00	18.00	5.80	60.00	6.00	2
8557410	●	6.00	1.00	12.00	18.00	5.80	60.00	6.00	2
8557411	●	8.00	0.30	16.00	24.00	7.70	70.00	8.00	2
8557412	●	8.00	0.50	16.00	24.00	7.70	70.00	8.00	2
8557413	●	8.00	1.00	16.00	24.00	7.70	70.00	8.00	2
8557414	●	8.00	1.50	16.00	24.00	7.70	70.00	8.00	2
8557415	●	8.00	2.00	16.00	24.00	7.70	70.00	8.00	2
8557416	●	10.00	0.30	20.00	30.00	9.70	75.00	10.00	2
8557417	●	10.00	0.50	20.00	30.00	9.70	75.00	10.00	2
8557418	●	10.00	1.00	20.00	30.00	9.70	75.00	10.00	2
8557419	●	10.00	1.50	20.00	30.00	9.70	75.00	10.00	2
8557420	●	10.00	2.00	20.00	30.00	9.70	75.00	10.00	2
8557421	●	10.00	3.00	20.00	30.00	9.70	75.00	10.00	2
8557422	●	12.00	0.30	24.00	36.00	11.70	80.00	12.00	2
8557423	●	12.00	0.50	24.00	36.00	11.70	80.00	12.00	2
8557424	●	12.00	1.00	24.00	36.00	11.70	80.00	12.00	2
8557425	●	12.00	1.50	24.00	36.00	11.70	80.00	12.00	2
8557426	●	12.00	2.00	24.00	36.00	11.70	80.00	12.00	2
8557427	●	12.00	3.00	24.00	36.00	11.70	80.00	12.00	2

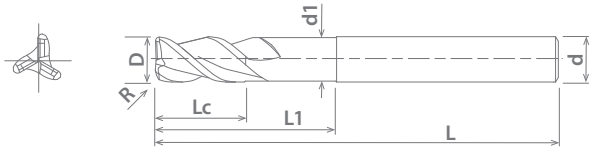
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340						◎	◎						

○ Good ◎ Best

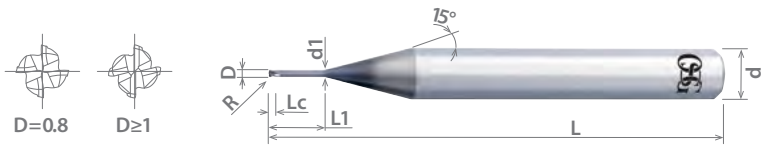
List 9592

SPEED FEED 1431 | CARBIDE | WXS | 4 FLUTE | 54° | SHANK h6 | STUB | PACKED 1 PIECE

EXOPRO® PHX-LN-CRE, Pencil Neck, Long Neck, Rib Processing

Cutting Diameter Tolerance	
0.8mm ≤ D ≤ 3mm	+0 / -0.015mm

Radius Tolerance	
0.1 ≤ R ≤ 0.5	+/- 0.007mm



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Effective Neck Length by Incline Angle			Overall Length	Shank Diameter	Center Cutting
		D (mm)	R (mm)	Lc (mm)	L1 (mm)	d1 (mm)	0° (mm)	0.5° (mm)	1.0° (mm)	L (mm)	d (mm)	
3190800	●	0.80	0.10	0.32	2.00	0.72	2.00	2.16	2.32	50.00	4.00	-
3190801	●	0.80	0.10	0.32	4.00	0.72	4.00	4.29	4.57	50.00	4.00	-
3190802	●	0.80	0.10	0.32	6.00	0.72	6.00	6.42	6.78	50.00	4.00	-
3190803	●	0.80	0.10	0.32	8.00	0.72	8.00	8.54	8.97	50.00	4.00	-
3191006	●	1.00	0.10	0.40	4.00	0.93	4.00	4.29	4.56	50.00	4.00	●
3191007	●	1.00	0.10	0.40	6.00	0.93	6.00	6.41	6.77	50.00	4.00	●
3191008	●	1.00	0.10	0.40	8.00	0.93	8.00	8.53	8.96	50.00	4.00	●
3191009	●	1.00	0.10	0.40	10.00	0.93	10.00	10.63	11.13	50.00	4.00	●
3191010	●	1.00	0.10	0.40	12.00	0.93	12.00	12.73	13.29	50.00	4.00	●
3191011	●	1.00	0.20	0.40	4.00	0.93	4.00	4.29	4.56	50.00	4.00	●
3191012	●	1.00	0.20	0.40	6.00	0.93	6.00	6.41	6.77	50.00	4.00	●
3191013	●	1.00	0.20	0.40	8.00	0.93	8.00	8.53	8.96	50.00	4.00	●
3191014	●	1.00	0.20	0.40	10.00	0.93	10.00	10.63	11.13	50.00	4.00	●
3191015	●	1.00	0.20	0.40	12.00	0.93	12.00	12.73	13.29	50.00	4.00	●
3191018	●	1.00	0.30	0.40	4.00	0.93	4.00	4.29	4.56	50.00	4.00	●
3191019	●	1.00	0.30	0.40	6.00	0.93	6.00	6.41	6.77	50.00	4.00	●
3191501	●	1.50	0.10	0.60	4.00	1.41	4.00	4.29	4.56	50.00	4.00	●
3191503	●	1.50	0.10	0.60	8.00	1.41	8.00	8.53	8.96	50.00	4.00	●
3191505	●	1.50	0.10	0.60	12.00	1.41	12.00	12.73	13.29	50.00	4.00	●
3191506	●	1.50	0.20	0.60	4.00	1.41	4.00	4.29	4.56	50.00	4.00	●
3191507	●	1.50	0.20	0.60	6.00	1.41	6.00	6.41	6.77	50.00	4.00	●
3191508	●	1.50	0.20	0.60	8.00	1.41	8.00	8.53	8.96	50.00	4.00	●
3192001	●	2.00	0.10	0.80	8.00	1.89	8.00	8.53	8.96	50.00	4.00	●
3192002	●	2.00	0.10	0.80	10.00	1.89	10.00	10.63	11.13	50.00	4.00	●
3192003	●	2.00	0.10	0.80	12.00	1.89	12.00	12.73	13.29	50.00	4.00	●
3192004	●	2.00	0.10	0.80	16.00	1.89	16.00	16.92	17.57	50.00	4.00	●
3192013	●	2.00	0.30	0.80	8.00	1.89	8.00	8.53	8.96	50.00	4.00	●
3192015	●	2.00	0.30	0.80	12.00	1.89	12.00	12.73	13.29	50.00	4.00	●
3192019	●	2.00	0.50	0.80	6.00	1.89	6.00	6.41	6.77	50.00	4.00	●
3192020	●	2.00	0.50	0.80	8.00	1.89	8.00	8.53	8.96	50.00	4.00	●
3192021	●	2.00	0.50	0.80	10.00	1.89	10.00	10.63	11.13	50.00	4.00	●
3192022	●	2.00	0.50	0.80	12.00	1.89	12.00	12.73	13.29	50.00	4.00	●
3193008	●	3.00	0.30	1.20	12.00	2.85	12.00	12.73	13.29	50.00	4.00	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○									○	◎	◎	○

○ Good ◎ Best

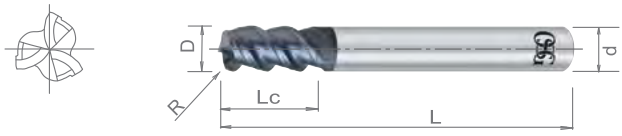
List 9575

EXOPRO® PHX-DFR, Deep Feed

SPEED FEED 1432-1433 | CARBIDE | WXS | 3 FLUTE | 55° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 20mm	+/- 0.010mm

Radius Tolerance	
1.5 ≤ R ≤ 3	+/- 0.030mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3090512	●	6.00	1.50	12.00	80.00	6.00
3090516	●	8.00	2.00	16.00	90.00	8.00
3090520	●	10.00	2.00	20.00	100.00	10.00
3090522	●	12.00	2.00	24.00	120.00	12.00
3090526	●	16.00	3.00	32.00	130.00	16.00
3090530	●	20.00	3.00	40.00	150.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○

○ Good ◎ Best

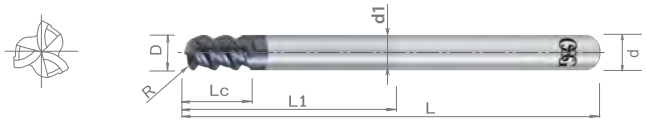
List 9576

EXOPRO® PHX-LN-DFR, Long Neck, Deep Feed

SPEED FEED 1432-1433 | CARBIDE | WXS | 3 FLUTE | 55° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
4mm ≤ D ≤ 16mm	+/- 0.010mm

Radius Tolerance	
1 ≤ R ≤ 3	+/- 0.030mm



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (mm)	R (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
3092041	●	4.00	1.00	6.00	20.00	3.80	70.00	4.00
3092042	●	4.00	1.00	6.00	28.00	3.80	70.00	4.00
3092061	●	6.00	1.50	9.00	30.00	5.80	80.00	6.00
3092062	●	6.00	1.50	9.00	42.00	5.80	90.00	6.00
3092063	●	6.00	1.50	9.00	54.00	5.80	100.00	6.00
3092081	●	8.00	2.00	12.00	40.00	7.70	85.00	8.00
3092082	●	8.00	2.00	12.00	56.00	7.70	100.00	8.00
3092083	●	8.00	2.00	12.00	72.00	7.70	120.00	8.00
3092101	●	10.00	2.00	15.00	50.00	9.70	100.00	10.00
3092102	●	10.00	2.00	15.00	70.00	9.70	120.00	10.00
3092103	●	10.00	2.00	15.00	90.00	9.70	140.00	10.00
3092121	●	12.00	2.00	18.00	60.00	11.70	110.00	12.00
3092122	●	12.00	2.00	18.00	84.00	11.70	135.00	12.00
3092123	●	12.00	2.00	18.00	108.00	11.70	160.00	12.00
3092161	●	16.00	3.00	24.00	80.00	15.50	140.00	16.00
3092162	●	16.00	3.00	24.00	120.00	15.50	175.00	16.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○

○ Good ◎ Best

List 9580

EXOPRO® PHX-PC-DFR, Pencil Neck, Deep Feed

SPEED FEED 1432-1433 | CARBIDE | WXS | 3 FLUTE | 55° | SHANK h6 | STUB | PACKED 1 PIECE



Cutting Diameter Tolerance	
2mm ≤ D ≤ 12mm	+0 / -0.015mm

Radius Tolerance	
0.5 ≤ R ≤ 2	+/- 0.030mm

EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter Min d1 Min (mm)	Neck Diameter Max d1 Max (mm)	Effective Draft Angle α (°)	Neck Draft Angle β (°)	Overall Length L (mm)	Shank Diameter d (mm)	Type
3097223	●	2.00	0.50	3.00	20.00	1.95	2.25	0.36	0.50	60.00	6.00	1
3097241	●	2.00	0.50	3.00	10.00	1.95	2.19	0.59	1.00	60.00	6.00	1
3097242	●	2.00	0.50	3.00	15.00	1.95	2.37	0.73	1.00	60.00	6.00	1
3097243	●	2.00	0.50	3.00	20.00	1.95	2.54	0.80	1.00	60.00	6.00	1
3097224	●	2.00	0.50	3.00	25.00	1.95	2.33	0.39	0.50	70.00	6.00	1
3097244	●	2.00	0.50	3.00	25.00	1.95	2.72	0.84	1.00	70.00	6.00	1
3097225	●	2.00	0.50	3.00	30.00	1.95	2.42	0.41	0.50	80.00	6.00	1
3097226	●	2.00	0.50	3.00	35.00	1.95	2.51	0.42	0.50	80.00	6.00	1
3097227	●	2.00	0.50	3.00	40.00	1.95	2.60	0.43	0.50	80.00	6.00	1
3097245	●	2.00	0.50	3.00	30.00	1.95	2.89	0.87	1.00	80.00	6.00	1
3097246	●	2.00	0.50	3.00	35.00	1.95	3.07	0.89	1.00	80.00	6.00	1
3097247	●	2.00	0.50	3.00	40.00	1.95	3.24	0.90	1.00	80.00	6.00	1
3097251	●	2.00	0.50	3.00	40.00	1.95	3.89	1.37	1.50	80.00	6.00	1
3097248	●	2.00	0.50	3.00	45.00	1.95	3.42	0.91	1.00	100.00	6.00	1
3097249	●	2.00	0.50	3.00	50.00	1.95	3.59	0.92	1.00	100.00	6.00	1
3097262	●	2.00	0.50	3.00	60.30	1.95	6.00	2.00	2.00	100.00	6.00	2
3097273	●	2.00	0.50	3.00	41.20	1.95	6.00	3.00	3.00	100.00	6.00	2
3097321	●	3.00	0.80	4.50	20.00	2.90	3.17	0.25	0.50	80.00	6.00	1
3097341	●	3.00	0.80	4.50	20.00	2.90	3.44	0.66	1.00	80.00	6.00	1
3097342	●	3.00	0.80	4.50	25.00	2.90	3.62	0.73	1.00	80.00	6.00	1
3097343	●	3.00	0.80	4.50	30.00	2.90	3.79	0.78	1.00	80.00	6.00	1
3097344	●	3.00	0.80	4.50	40.00	2.90	4.14	0.83	1.00	80.00	6.00	1
3097345	●	3.00	0.80	4.50	50.00	2.90	4.49	0.87	1.00	100.00	6.00	1
3097346	●	3.00	0.80	4.50	60.00	2.90	4.84	0.89	1.00	100.00	6.00	1
3097356	●	3.00	0.80	4.50	60.80	2.90	6.00	1.50	1.50	100.00	6.00	2
3097365	●	3.00	0.80	4.50	46.50	2.90	6.00	2.00	2.00	100.00	6.00	2
3097374	●	3.00	0.80	4.50	32.10	2.90	6.00	3.00	3.00	100.00	6.00	2
3097421	●	4.00	1.00	6.00	25.00	3.90	4.23	0.28	0.50	80.00	6.00	1
3097422	●	4.00	1.00	6.00	30.00	3.90	4.32	0.31	0.50	80.00	6.00	1
3097423	●	4.00	1.00	6.00	35.00	3.90	4.41	0.34	0.50	80.00	6.00	1
3097424	●	4.00	1.00	6.00	40.00	3.90	4.49	0.36	0.50	80.00	6.00	1
3097425	●	4.00	1.00	6.00	45.00	3.90	4.58	0.38	0.50	80.00	6.00	1
3097441	●	4.00	1.00	6.00	30.00	3.90	4.74	0.73	1.00	80.00	6.00	1
3097442	●	4.00	1.00	6.00	40.00	3.90	5.09	0.80	1.00	80.00	6.00	1
3097453	●	4.00	1.00	6.00	42.20	3.90	6.00	1.50	1.50	80.00	6.00	2
3097461	●	4.00	1.00	6.00	32.60	3.90	6.00	2.00	2.00	80.00	6.00	2
3097426	●	4.00	1.00	6.00	50.00	3.90	4.67	0.39	0.50	100.00	6.00	1
3097443	●	4.00	1.00	6.00	50.00	3.90	5.44	0.84	1.00	100.00	6.00	1
3097444	●	4.00	1.00	6.00	61.30	3.90	6.00	1.00	1.00	100.00	6.00	2
3097472	●	4.00	1.00	6.00	42.20	3.90	8.00	3.00	3.00	100.00	8.00	2
3097454	●	4.00	1.00	6.00	80.40	3.90	8.00	1.50	1.50	120.00	8.00	2
3097462	●	4.00	1.00	6.00	61.30	3.90	8.00	2.00	2.00	120.00	8.00	2
3097641	●	6.00	1.50	9.00	40.00	5.90	6.98	0.73	1.00	100.00	8.00	1
3097642	●	6.00	1.50	9.00	50.00	5.90	7.33	0.79	1.00	100.00	8.00	1
3097651	●	6.00	1.50	9.00	43.20	5.90	8.00	1.50	1.50	100.00	8.00	2
3097661	●	6.00	1.50	9.00	33.60	5.90	8.00	2.00	2.00	100.00	8.00	2
3097627	●	6.00	1.50	9.00	60.00	5.90	6.79	0.39	0.50	130.00	8.00	1
3097643	●	6.00	1.50	9.00	62.30	5.90	8.00	1.00	1.00	130.00	8.00	2
3097653	●	6.00	1.50	9.00	81.40	5.90	10.00	1.50	1.50	130.00	10.00	2
3097662	●	6.00	1.50	9.00	62.30	5.90	10.00	2.00	2.00	130.00	10.00	2
3097841	●	8.00	2.00	12.00	50.00	7.90	9.23	0.73	1.00	120.00	10.00	1
3097851	●	8.00	2.00	12.00	44.20	7.90	10.00	1.50	1.50	120.00	10.00	2
3097861	●	8.00	2.00	12.00	34.60	7.90	10.00	2.00	2.00	120.00	10.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

List 9580 (Continued)

EXOPRO® PHX-PC-DFR, Pencil Neck, Deep Feed

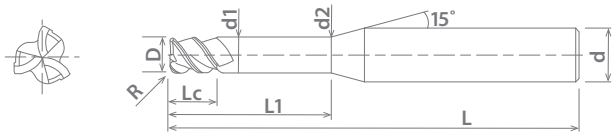
SPEED FEED 1432-1433 | CARBIDE | WXS | 3 FLUTE | 55° | SHANK h6 | STUB | PACKED 1 PIECE

EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter Min d1 Min (mm)	Neck Diameter Max d1 Max (mm)	Effective Draft Angle α (°)	Neck Draft Angle β (°)	Overall Length L (mm)	Shank Diameter d (mm)	Type
3097862	●	8.00	2.00	12.00	63.30	7.90	12.00	2.00	2.00	120.00	12.00	2
3097826	●	8.00	2.00	12.00	80.00	7.90	9.09	0.40	0.50	150.00	10.00	1
3097842	●	8.00	2.00	12.00	63.30	7.90	10.00	1.00	1.00	150.00	10.00	2
3097853	●	8.00	2.00	12.00	82.40	7.90	12.00	1.50	1.50	150.00	12.00	2
3097844	●	8.00	2.00	12.00	120.60	7.90	12.00	1.00	1.00	180.00	12.00	2
3098041	●	10.00	2.00	15.00	64.30	9.90	12.00	1.00	1.00	120.00	12.00	2
3098051	●	10.00	2.00	15.00	45.20	9.90	12.00	1.50	1.50	120.00	12.00	2
3098061	●	10.00	2.00	15.00	35.60	9.90	12.00	2.00	2.00	120.00	12.00	2
3098026	●	10.00	2.00	15.00	100.00	9.90	11.38	0.40	0.50	150.00	12.00	1
3098042	●	10.00	2.00	15.00	80.00	9.90	12.17	0.80	1.00	160.00	16.00	1
3098043	●	10.00	2.00	15.00	100.00	9.90	12.87	0.84	1.00	160.00	16.00	1
3098044	●	10.00	2.00	15.00	120.00	9.90	13.57	0.87	1.00	180.00	16.00	1
3098053	●	10.00	2.00	15.00	121.60	9.90	16.00	1.50	1.50	180.00	16.00	2
3098045	●	10.00	2.00	15.00	140.00	9.90	14.26	0.88	1.00	200.00	16.00	1
3098046	●	10.00	2.00	15.00	160.00	9.90	14.96	0.90	1.00	220.00	16.00	1
3098064	●	10.00	2.00	15.00	92.90	9.90	16.00	2.00	2.00	220.00	16.00	2
3098241	●	12.00	2.00	18.00	60.00	11.90	13.37	0.67	1.00	120.00	16.00	1
3098224	●	12.00	2.00	18.00	120.00	11.90	13.68	0.41	0.50	180.00	16.00	1
3098242	●	12.00	2.00	18.00	100.00	11.90	14.76	0.81	1.00	180.00	16.00	1
3098243	●	12.00	2.00	18.00	122.60	11.90	16.00	1.00	1.00	180.00	16.00	2
3098244	●	12.00	2.00	18.00	160.00	11.90	16.86	0.88	1.00	220.00	20.00	1
3098254	●	12.00	2.00	18.00	160.80	11.90	20.00	1.50	1.50	220.00	20.00	2

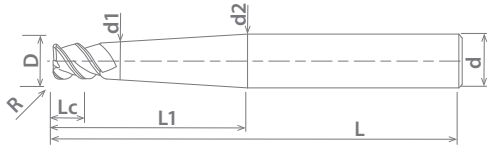
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

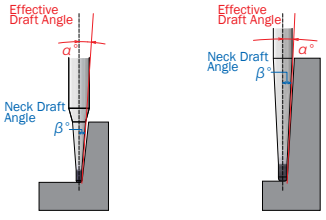
EP

Type 1



Type 2





* The tool may deflect and interfere with the draft area depending on the milling condition.

* For convenience, the Neck Draft Angle (β°) is shown the same as the Effective Draft Angle (α°), but actually it is different. (It does not interfere with the Effective Draft Angle (α°)

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○

○ Good ◎ Best

List 2055

EXOPRO® UVX-Ni

SPEED FEED 1434 | CARBIDE | EXO | 5 FLUTE | 41-43° | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
20552501	●	1/4	0.015	0.625	2.500	0.250	-
20552502	●	1/4	0.030	0.625	2.500	0.250	-
20552503	●	1/4	0.060	0.625	2.500	0.250	-
20553121	●	5/16	0.015	0.750	2.500	0.313	-
20553122	●	5/16	0.030	0.750	2.500	0.313	-
20553123	●	5/16	0.060	0.750	2.500	0.313	-
20553751	●	3/8	0.015	0.875	2.500	0.375	●
20553752	●	3/8	0.030	0.875	2.500	0.375	●
20553753	●	3/8	0.060	0.875	2.500	0.375	●
20555001	●	1/2	0.030	0.625	2.500	0.500	●
20555002	●	1/2	0.030	1.000	3.000	0.500	●
20555003	●	1/2	0.060	1.000	3.000	0.500	●
20555004	●	1/2	0.015	1.250	3.500	0.500	●
20555005	●	1/2	0.030	1.250	3.500	0.500	●
20555006	●	1/2	0.060	1.250	3.500	0.500	●
20555007	●	1/2	0.090	1.250	3.500	0.500	●
20555008	●	1/2	0.120	1.250	3.500	0.500	●
20556251	●	5/8	0.030	1.250	3.500	0.625	●
20556252	●	5/8	0.060	1.250	3.500	0.625	●
20556253	●	5/8	0.090	1.250	3.500	0.625	●
20556254	●	5/8	0.120	1.250	3.500	0.625	●
20557501	●	3/4	0.030	1.500	4.000	0.750	●
20557502	●	3/4	0.060	1.500	4.000	0.750	●
20557503	●	3/4	0.090	1.500	4.000	0.750	●
20557504	●	3/4	0.120	1.500	4.000	0.750	●
20551001	●	1	0.030	1.500	4.000	1.000	●
20551002	●	1	0.060	1.500	4.000	1.000	●
20551003	●	1	0.090	1.500	4.000	1.000	●
20551004	●	1	0.120	1.500	4.000	1.000	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					○	○	○				◎				○	

○ Good ◎ Best

List 3770

EXOCARB® WXL-CR-EDS

SPEED FEED 1435 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.6mm ≤ D ≤ 12mm	+0 / -0.020mm

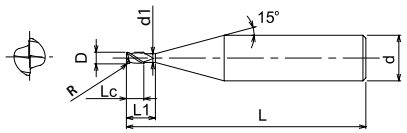


EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
37700000	●	0.60	0.10	0.90	2.00	0.55	50.00	6.00	1
37700001	●	0.80	0.10	1.20	2.60	0.75	50.00	6.00	1
37700002	●	1.00	0.10	1.50	2.70	0.95	50.00	6.00	1
37700003	●	1.20	0.10	1.80	3.20	1.15	50.00	6.00	1
37700004	●	1.40	0.10	2.10	3.70	1.35	50.00	6.00	1
37700005	●	1.50	0.10	2.30	4.00	1.45	50.00	6.00	1
37700006	●	1.60	0.10	2.40	4.20	1.55	50.00	6.00	1
37700007	●	1.80	0.10	2.70	4.70	1.75	50.00	6.00	1
37700008	●	2.00	0.10	3.00	5.20	1.95	50.00	6.00	1
37700009	●	2.50	0.10	3.70	5.20	2.40	50.00	6.00	1
37700010	●	3.00	0.20	8.00	-	-	60.00	6.00	2
37700011	●	3.00	0.50	8.00	-	-	60.00	6.00	2
37700012	●	4.00	0.20	11.00	-	-	70.00	6.00	2
37700013	●	4.00	0.50	11.00	-	-	70.00	6.00	2
37700014	●	4.00	1.00	11.00	-	-	70.00	6.00	2
37700015	●	5.00	0.20	13.00	-	-	80.00	6.00	2
37700016	●	5.00	0.50	13.00	-	-	80.00	6.00	2
37700017	●	5.00	1.00	13.00	-	-	80.00	6.00	2
37700018	●	6.00	0.20	13.00	-	-	90.00	6.00	3
37700019	●	6.00	0.50	13.00	-	-	90.00	6.00	3
37700020	●	6.00	1.00	13.00	-	-	90.00	6.00	3
37700021	●	6.00	1.50	13.00	-	-	90.00	6.00	3
37700022	●	6.00	2.00	13.00	-	-	90.00	6.00	3
37700023	●	8.00	0.50	19.00	-	-	100.00	8.00	3
37700024	●	8.00	1.00	19.00	-	-	100.00	8.00	3
37700025	●	8.00	1.50	19.00	-	-	100.00	8.00	3
37700026	●	8.00	2.00	19.00	-	-	100.00	8.00	3
37700027	●	10.00	0.50	22.00	-	-	100.00	10.00	3
37700028	●	10.00	1.00	22.00	-	-	100.00	10.00	3
37700029	●	10.00	1.50	22.00	-	-	100.00	10.00	3
37700030	●	10.00	2.00	22.00	-	-	100.00	10.00	3
37700031	●	10.00	3.00	22.00	-	-	100.00	10.00	3
37700032	●	12.00	0.50	26.00	-	-	110.00	12.00	3
37700033	●	12.00	1.00	26.00	-	-	110.00	12.00	3
37700034	●	12.00	1.50	26.00	-	-	110.00	12.00	3
37700035	●	12.00	2.00	26.00	-	-	110.00	12.00	3
37700036	●	12.00	3.00	26.00	-	-	110.00	12.00	3

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Type 1



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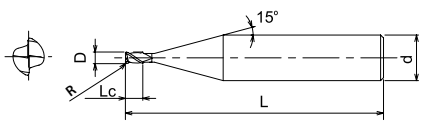

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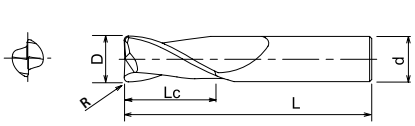


P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ Good ◎ Best

EXOCARB® WXL®

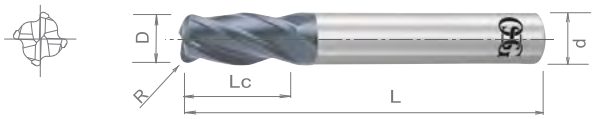
Premium Performance Carbide End Mills with OSG's Proprietary WXL Coating

List 3670

EXOCARB® WXL-CR-EMS

SPEED FEED 1435 | CARBIDE | WXL | 4 FLUTE | 30° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.0008"



EDP Number		Diameter	Corner Radius	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L (Inch)	d (Inch)
36700111	●	1/16	0.010	0.188	1.500	0.125
36700211	●	5/64	0.010	0.250	1.500	0.125
36700311	●	3/32	0.010	0.375	1.500	0.125
36700411	●	7/64	0.010	0.375	1.500	0.125
36700511	●	1/8	0.010	0.500	1.500	0.125
36700611	●	1/8	0.020	0.500	1.500	0.125
36700711	●	1/8	0.030	0.500	1.500	0.125
36700811	●	5/32	0.020	0.563	2.000	0.188
36700911	●	5/32	0.030	0.563	2.000	0.188
36701011	●	3/16	0.020	0.625	2.000	0.188
36701111	●	3/16	0.030	0.625	2.000	0.188
36701211	●	7/32	0.020	0.625	2.500	0.250
36701311	●	7/32	0.030	0.625	2.500	0.250
36701411	●	1/4	0.020	0.750	2.500	0.250
36701511	●	1/4	0.030	0.750	2.500	0.250
36701611	●	1/4	0.045	0.750	2.500	0.250
36701711	●	1/4	0.060	0.750	2.500	0.250
36701811	●	5/16	0.020	0.813	2.500	0.313
36701911	●	5/16	0.030	0.813	2.500	0.313
36703011	●	5/16	0.060	0.813	2.500	0.313
36702011	●	3/8	0.020	1.000	2.500	0.375
36702111	●	3/8	0.030	1.000	2.500	0.375
36702211	●	3/8	0.045	1.000	2.500	0.375
36702311	●	3/8	0.060	1.000	2.500	0.375
36703111	●	3/8	0.090	1.000	2.500	0.375
36702411	●	7/16	0.020	1.000	2.750	0.438
36702511	●	7/16	0.030	1.000	2.750	0.438
36703211	●	7/16	0.060	1.000	2.750	0.438
36702611	●	1/2	0.020	1.000	3.000	0.500
36702711	●	1/2	0.030	1.000	3.000	0.500
36702811	●	1/2	0.045	1.000	3.000	0.500
36702911	●	1/2	0.060	1.000	3.000	0.500
36703311	●	1/2	0.090	1.000	3.000	0.500
36703411	●	5/8	0.030	1.250	3.500	0.625
36703511	●	5/8	0.060	1.250	3.500	0.625
36703611	●	5/8	0.090	1.250	3.500	0.625
36703711	●	5/8	0.125	1.250	3.500	0.625
36703811	●	3/4	0.030	1.500	4.000	0.750
36703911	●	3/4	0.060	1.500	4.000	0.750
36704011	●	3/4	0.090	1.500	4.000	0.750
36704111	●	3/4	0.125	1.500	4.000	0.750
36704211	●	1	0.030	1.500	4.000	1.000
36704311	●	1	0.060	1.500	4.000	1.000
36704411	●	1	0.090	1.500	4.000	1.000
36704511	●	1	0.125	1.500	4.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	○	

○ Good ◎ Best

List 3771

EXOCARB® WXL-CR-PHS

SPEED FEED 1437 | CARBIDE | WXL | 4 FLUTE | 30° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
37710000	●	3.00	0.20	8.00	60.00	6.00
37710001	●	3.00	0.50	8.00	60.00	6.00
37710002	●	4.00	0.20	11.00	70.00	6.00
37710003	●	4.00	0.50	11.00	70.00	6.00
37710004	●	4.00	1.00	11.00	70.00	6.00
37710005	●	5.00	0.20	13.00	80.00	6.00
37710006	●	5.00	0.50	13.00	80.00	6.00
37710007	●	5.00	1.00	13.00	80.00	6.00
37710008	●	6.00	0.20	13.00	90.00	6.00
37710009	●	6.00	0.50	13.00	90.00	6.00
37710010	●	6.00	1.00	13.00	90.00	6.00
37710011	●	6.00	1.50	13.00	90.00	6.00
37710012	●	6.00	2.00	13.00	90.00	6.00
37710013	●	8.00	0.50	19.00	100.00	8.00
37710014	●	8.00	1.00	19.00	100.00	8.00
37710015	●	8.00	1.50	19.00	100.00	8.00
37710016	●	8.00	2.00	19.00	100.00	8.00
37710017	●	10.00	0.50	22.00	100.00	10.00
37710018	●	10.00	1.00	22.00	100.00	10.00
37710019	●	10.00	1.50	22.00	100.00	10.00
37710020	●	10.00	2.00	22.00	100.00	10.00
37710021	●	10.00	3.00	22.00	100.00	10.00
37710022	●	12.00	0.50	26.00	110.00	12.00
37710023	●	12.00	1.00	26.00	110.00	12.00
37710024	●	12.00	1.50	26.00	110.00	12.00
37710025	●	12.00	2.00	26.00	110.00	12.00
37710026	●	12.00	3.00	26.00	110.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ Good ◎ Best

List 4445

EXOCARB® WXL-CR-EHS, High Helix

SPEED FEED 1438 | CARBIDE | WXL | 4 FLUTE | 50° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.0008"



EDP Number		Diameter	Corner Radius	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L (Inch)	d (Inch)
44450001	●	1/8	0.010	0.375	2.500	0.250
44450002	●	3/16	0.010	0.500	2.500	0.250
44450003	●	1/4	0.010	0.625	2.500	0.250
44450004	●	5/16	0.020	0.750	2.750	0.313
44450005	●	3/8	0.020	1.000	3.000	0.375
44450006	●	1/2	0.020	1.125	4.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

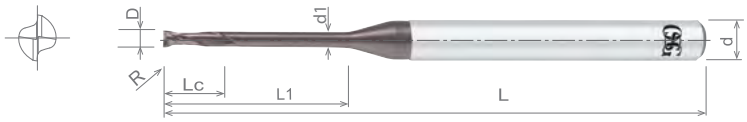
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ Good ◎ Best

List 4592

EXOCARB® WXS-CPR, Long Neck, Rib Processing

SPEED FEED 1439 | CARBIDE | WXS | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE



Cutting Diameter Tolerance	
0.4mm ≤ D ≤ 0.5mm	+0 / -0.010mm
0.6mm ≤ D ≤ 3mm	+0 / -0.015mm

Radius Tolerance	
0.05 ≤ R ≤ 0.5	+/- 0.005mm

EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3100403	●	0.40	0.05	0.30	2.00	0.37	50.00	4.00
3100404	●	0.40	0.05	0.30	3.00	0.37	50.00	4.00
3100405	●	0.40	0.05	0.30	4.00	0.37	50.00	4.00
3100406	●	0.40	0.10	0.30	2.00	0.37	50.00	4.00
3100407	●	0.40	0.10	0.30	3.00	0.37	50.00	4.00
3100408	●	0.40	0.10	0.30	4.00	0.37	50.00	4.00
3100501	●	0.50	0.05	0.40	1.00	0.46	50.00	4.00
3100502	●	0.50	0.05	0.40	2.00	0.46	50.00	4.00
3100503	●	0.50	0.05	0.40	3.00	0.46	50.00	4.00
3100504	●	0.50	0.05	0.40	4.00	0.46	50.00	4.00
3100505	●	0.50	0.05	0.40	5.00	0.46	50.00	4.00
3100506	●	0.50	0.05	0.40	6.00	0.46	50.00	4.00
3100508	●	0.50	0.10	0.40	2.00	0.46	50.00	4.00
3100509	●	0.50	0.10	0.40	3.00	0.46	50.00	4.00
3100510	●	0.50	0.10	0.40	4.00	0.46	50.00	4.00
3100511	●	0.50	0.10	0.40	5.00	0.46	50.00	4.00
3100512	●	0.50	0.10	0.40	6.00	0.46	50.00	4.00
3100601	●	0.60	0.10	0.48	2.00	0.56	50.00	4.00
3100602	●	0.60	0.10	0.48	4.00	0.56	50.00	4.00
3100603	●	0.60	0.10	0.48	6.00	0.56	50.00	4.00
3100803	●	0.80	0.20	0.65	4.00	0.76	50.00	4.00
3100804	●	0.80	0.20	0.65	6.00	0.76	50.00	4.00
3100805	●	0.80	0.20	0.65	8.00	0.76	50.00	4.00
3101001	●	1.00	0.05	0.80	4.00	0.95	50.00	4.00
3101002	●	1.00	0.05	0.80	6.00	0.95	50.00	4.00
3101003	●	1.00	0.05	0.80	8.00	0.95	50.00	4.00
3101004	●	1.00	0.05	0.80	10.00	0.95	50.00	4.00
3101005	●	1.00	0.05	0.80	12.00	0.95	50.00	4.00
3101006	●	1.00	0.10	0.80	4.00	0.95	50.00	4.00
3101007	●	1.00	0.10	0.80	6.00	0.95	50.00	4.00
3101008	●	1.00	0.10	0.80	8.00	0.95	50.00	4.00
3101009	●	1.00	0.10	0.80	10.00	0.95	50.00	4.00
3101010	●	1.00	0.10	0.80	12.00	0.95	50.00	4.00
3101011	●	1.00	0.20	0.80	4.00	0.95	50.00	4.00
3101012	●	1.00	0.20	0.80	6.00	0.95	50.00	4.00
3101013	●	1.00	0.20	0.80	8.00	0.95	50.00	4.00
3101014	●	1.00	0.20	0.80	10.00	0.95	50.00	4.00
3101015	●	1.00	0.20	0.80	12.00	0.95	50.00	4.00
3101016	●	1.00	0.20	0.80	16.00	0.95	50.00	4.00
3101017	●	1.00	0.20	0.80	20.00	0.95	50.00	4.00
3101018	●	1.00	0.30	0.80	4.00	0.95	50.00	4.00
3101019	●	1.00	0.30	0.80	6.00	0.95	50.00	4.00
3101020	●	1.00	0.30	0.80	8.00	0.95	50.00	4.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

CONTINUED ›

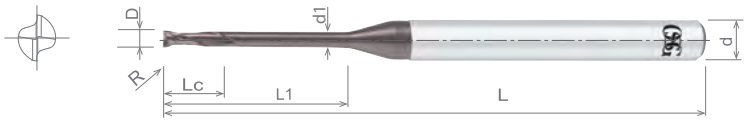
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎

○ Good ◎ Best

List 4592 (Continued)

SPEED FEED 1439 | CARBIDE | WXS | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

EXOCARB® WXS-CPR, Long Neck, Rib Processing



Cutting Diameter Tolerance	
0.4mm ≤ D ≤ 0.5mm	+0 / -0.010mm
0.6mm ≤ D ≤ 3mm	+0 / -0.015mm

Radius Tolerance	
0.05 ≤ R ≤ 0.5	+/- 0.005mm

EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (mm)	R (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
3101021	●	1.00	0.30	0.80	10.00	0.95	50.00	4.00
3101022	●	1.00	0.30	0.80	12.00	0.95	50.00	4.00
3101201	●	1.20	0.20	1.00	6.00	1.15	50.00	4.00
3101202	●	1.20	0.20	1.00	8.00	1.15	50.00	4.00
3101203	●	1.20	0.20	1.00	10.00	1.15	50.00	4.00
3101501	●	1.50	0.20	1.20	6.00	1.45	50.00	4.00
3101502	●	1.50	0.20	1.20	8.00	1.45	50.00	4.00
3101503	●	1.50	0.20	1.20	10.00	1.45	50.00	4.00
3101504	●	1.50	0.20	1.20	12.00	1.45	50.00	4.00
3101505	●	1.50	0.20	1.20	16.00	1.45	50.00	4.00
3101506	●	1.50	0.30	1.20	6.00	1.45	50.00	4.00
3101507	●	1.50	0.30	1.20	8.00	1.45	50.00	4.00
3101508	●	1.50	0.30	1.20	10.00	1.45	50.00	4.00
3101509	●	1.50	0.30	1.20	12.00	1.45	50.00	4.00
3101510	●	1.50	0.30	1.20	16.00	1.45	50.00	4.00
3102001	●	2.00	0.10	1.60	8.00	1.95	50.00	4.00
3102002	●	2.00	0.10	1.60	10.00	1.95	50.00	4.00
3102003	●	2.00	0.10	1.60	12.00	1.95	50.00	4.00
3102004	●	2.00	0.10	1.60	16.00	1.95	60.00	4.00
3102005	●	2.00	0.10	1.60	20.00	1.95	60.00	4.00
3102006	●	2.00	0.10	1.60	25.00	1.95	70.00	4.00
3102007	●	2.00	0.20	1.60	8.00	1.95	50.00	4.00
3102008	●	2.00	0.20	1.60	10.00	1.95	50.00	4.00
3102009	●	2.00	0.20	1.60	12.00	1.95	50.00	4.00
3102010	●	2.00	0.20	1.60	16.00	1.95	60.00	4.00
3102011	●	2.00	0.20	1.60	20.00	1.95	60.00	4.00
3102012	●	2.00	0.20	1.60	25.00	1.95	70.00	4.00
3102013	●	2.00	0.30	1.60	8.00	1.95	50.00	4.00
3102014	●	2.00	0.30	1.60	10.00	1.95	50.00	4.00
3102015	●	2.00	0.30	1.60	12.00	1.95	50.00	4.00
3102016	●	2.00	0.30	1.60	16.00	1.95	60.00	4.00
3102017	●	2.00	0.30	1.60	20.00	1.95	60.00	4.00
3102018	●	2.00	0.30	1.60	25.00	1.95	70.00	4.00
3102019	●	2.00	0.50	1.60	8.00	1.95	50.00	4.00
3102020	●	2.00	0.50	1.60	10.00	1.95	50.00	4.00
3102021	●	2.00	0.50	1.60	12.00	1.95	50.00	4.00
3102022	●	2.00	0.50	1.60	16.00	1.95	60.00	4.00
3102023	●	2.00	0.50	1.60	20.00	1.95	60.00	4.00
3102024	●	2.00	0.50	1.60	25.00	1.95	70.00	4.00
3102501	●	2.50	0.20	2.20	10.00	2.40	50.00	4.00
3102502	●	2.50	0.20	2.20	20.00	2.40	60.00	4.00
3102503	●	2.50	0.20	2.20	30.00	2.40	70.00	4.00
3102504	●	2.50	0.50	2.20	10.00	2.40	50.00	4.00
3102505	●	2.50	0.50	2.20	20.00	2.40	60.00	4.00
3102506	●	2.50	0.50	2.20	30.00	2.40	70.00	4.00
3103001	●	3.00	0.20	2.50	8.00	2.85	60.00	6.00
3103002	●	3.00	0.20	2.50	12.00	2.85	60.00	6.00
3103003	●	3.00	0.20	2.50	16.00	2.85	60.00	6.00
3103004	●	3.00	0.20	2.50	20.00	2.85	70.00	6.00
3103005	●	3.00	0.20	2.50	25.00	2.85	70.00	6.00
3103006	●	3.00	0.20	2.50	30.00	2.85	70.00	6.00
3103007	●	3.00	0.20	2.50	35.00	2.85	80.00	6.00
3103008	●	3.00	0.30	2.50	12.00	2.85	60.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

List 4592 (Continued)

EXOCARB® WXS-CPR, Long Neck, Rib Processing

SPEED FEED 1439 | CARBIDE | WXS | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3103009	●	3.00	0.30	2.50	16.00	2.85	60.00	6.00
3103010	●	3.00	0.30	2.50	20.00	2.85	70.00	6.00
3103011	●	3.00	0.30	2.50	25.00	2.85	70.00	6.00
3103012	●	3.00	0.30	2.50	30.00	2.85	70.00	6.00
3103013	●	3.00	0.30	2.50	35.00	2.85	80.00	6.00
3103014	●	3.00	0.50	2.50	12.00	2.85	60.00	6.00
3103015	●	3.00	0.50	2.50	16.00	2.85	60.00	6.00
3103016	●	3.00	0.50	2.50	20.00	2.85	70.00	6.00
3103017	●	3.00	0.50	2.50	25.00	2.85	70.00	6.00
3103018	●	3.00	0.50	2.50	30.00	2.85	70.00	6.00
3103019	●	3.00	0.50	2.50	35.00	2.85	80.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎

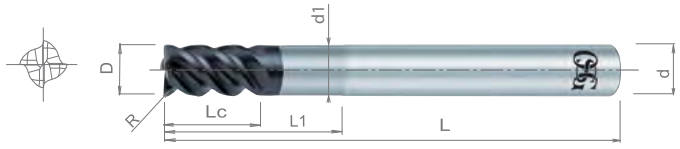
○ Good ◎ Best

List 4471

EXOCARB® WXS-PKE, Reduced Neck

SPEED FEED 1440 | CARBIDE | WXS | 4 FLUTE | 45° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1/2"	+0 / -0.0008"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
447100111	●	1/16	0.010	0.063	0.250	0.058	2.250	0.125
447100311	●	3/32	0.010	0.094	0.375	0.089	2.250	0.125
447100511	●	1/8	0.010	0.125	0.500	0.120	2.250	0.125
447100611	●	1/8	0.015	0.125	0.500	0.120	2.250	0.125
447100711	●	1/8	0.020	0.125	0.500	0.120	2.250	0.125
447101011	●	3/16	0.020	0.188	0.500	0.181	2.250	0.188
447101111	●	3/16	0.030	0.188	0.500	0.181	2.250	0.188
447101411	●	1/4	0.010	0.250	0.750	0.242	2.500	0.250
447101511	●	1/4	0.020	0.250	0.750	0.242	2.500	0.250
447101611	●	1/4	0.030	0.250	0.750	0.242	2.500	0.250
447102011	●	3/8	0.020	0.375	1.000	0.367	3.000	0.375
447102111	●	3/8	0.030	0.375	1.000	0.367	3.000	0.375
447102211	●	3/8	0.060	0.375	1.000	0.367	3.000	0.375
447102611	●	1/2	0.030	0.500	1.500	0.488	3.250	0.500
447102711	●	1/2	0.060	0.500	1.500	0.488	3.250	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎

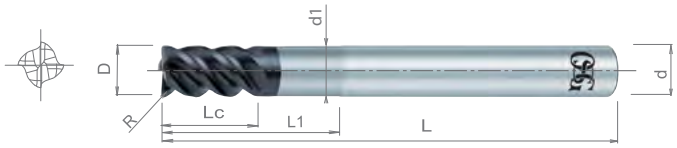
○ Good ◎ Best

List 4571

EXOCARB® WXS-PKE, Reduced Neck

SPEED FEED 1441 | CARBIDE | WXS | 4 FLUTE | 45° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
3mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
457103011	●	3.00	0.20	5.00	9.00	2.85	60.00	6.00
457103111	●	3.00	0.20	5.00	15.00	2.85	70.00	6.00
457103211	●	3.00	0.50	5.00	9.00	2.85	60.00	6.00
457103311	●	3.00	0.50	5.00	15.00	2.85	70.00	6.00
457104011	●	4.00	0.20	6.00	12.00	3.80	70.00	6.00
457104111	●	4.00	0.20	6.00	20.00	3.80	80.00	6.00
457104211	●	4.00	0.50	6.00	12.00	3.80	70.00	6.00
457104311	●	4.00	0.50	6.00	20.00	3.80	80.00	6.00
457105011	●	5.00	0.20	8.00	15.00	4.80	80.00	6.00
457105111	●	5.00	0.20	8.00	25.00	4.80	90.00	6.00
457105211	●	5.00	0.50	8.00	15.00	4.80	80.00	6.00
457105311	●	5.00	0.50	8.00	25.00	4.80	90.00	6.00
457106011	●	6.00	0.50	9.00	18.00	5.80	90.00	6.00
457106311	●	6.00	0.50	9.00	30.00	5.80	100.00	6.00
457106111	●	6.00	1.00	9.00	18.00	5.80	90.00	6.00
457106211	●	6.00	1.00	9.00	30.00	5.80	100.00	6.00
457108011	●	8.00	0.50	12.00	24.00	7.70	100.00	8.00
457108111	●	8.00	0.50	12.00	40.00	7.70	110.00	8.00
457108211	●	8.00	1.00	12.00	24.00	7.70	100.00	8.00
457108311	●	8.00	1.00	12.00	40.00	7.70	110.00	8.00
457110011	●	10.00	0.50	15.00	30.00	9.70	100.00	10.00
457110111	●	10.00	0.50	15.00	50.00	9.70	120.00	10.00
457110211	●	10.00	1.00	15.00	30.00	9.70	100.00	10.00
457110311	●	10.00	1.00	15.00	50.00	9.70	120.00	10.00
457110411	●	10.00	2.00	15.00	30.00	9.70	100.00	10.00
457110511	●	10.00	2.00	15.00	50.00	9.70	120.00	10.00
457112011	●	12.00	1.00	18.00	36.00	11.70	110.00	12.00
457112111	●	12.00	1.00	18.00	60.00	11.70	130.00	12.00
457112211	●	12.00	2.00	18.00	36.00	11.70	110.00	12.00
457112311	●	12.00	2.00	18.00	60.00	11.70	130.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎

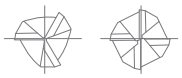
○ Good ◎ Best

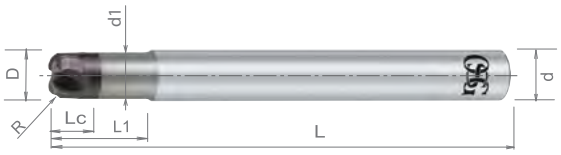
List 4470

SPEED FEED 1442 | CARBIDE | WXS | 0° | SHANK h6 | STUB | PACKED 1 PIECE

EXOCARB® WXS-CRE, High Feed

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 3/16"	+0 / -0.0008"
1/4" ≤ D ≤ 1/2"	+0 / -0.0012"





EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
44700111	●	1/8	0.031	0.063	0.375	0.120	2.250	0.250	3
44700211	●	3/16	0.063	0.094	0.563	0.180	2.250	0.250	3
44700311	●	1/4	0.063	0.100	1.000	0.230	3.000	0.250	4
44700411	●	5/16	0.094	0.130	1.250	0.290	3.000	0.313	4
44700511	●	3/8	0.094	0.150	1.500	0.340	4.000	0.375	4
44700611	●	1/2	0.125	0.200	2.000	0.460	5.000	0.500	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	◎

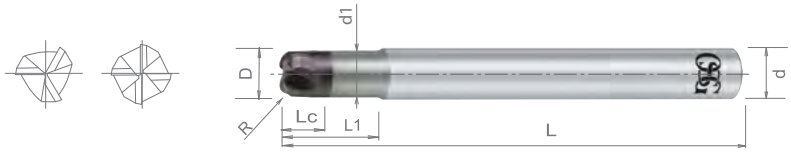
○ Good ◎ Best

List 4570

EXOCARB® WXS-CRE, High Feed

SPEED FEED 1443 | CARBIDE | WXS | 0° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
2mm ≤ D ≤ 5mm	+0 / -0.020mm
6mm ≤ D ≤ 13mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
457002011	●	2.00	0.50	0.80	5.00	1.80	60.00	6.00	3
457003011	●	3.00	0.75	1.30	9.00	2.70	60.00	6.00	4
457004011	●	4.00	1.00	1.60	10.00	3.60	70.00	6.00	4
457005011	●	5.00	1.20	2.00	12.50	4.50	80.00	6.00	4
457006011	●	6.00	1.50	2.50	12.00	5.40	90.00	6.00	4
457007011	●	7.00	1.50	3.00	-	-	90.00	6.00	4
457008011	●	8.00	2.00	3.50	16.00	7.20	100.00	8.00	4
457009011	●	9.00	2.00	4.00	-	-	100.00	8.00	4
457010011	●	10.00	2.00	4.50	20.00	9.00	100.00	10.00	4
457011011	●	11.00	2.00	5.00	-	-	100.00	10.00	4
457012011	●	12.00	3.00	5.00	24.00	11.00	110.00	12.00	4
457013011	●	13.00	3.00	6.00	-	-	110.00	12.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	◎

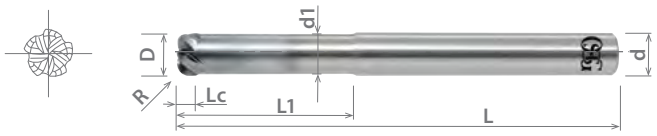
○ Good ◎ Best

List 4472

EXOCARB® WXS-CRE, High Feed

SPEED FEED 1444 | CARBIDE | WXS | 5 FLUTE | 28° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 3/16"	+0 / -0.0008"
1/4" ≤ D ≤ 1/2"	+0 / -0.0012"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
447200013	●	1/8	0.031	0.062	0.375	0.113	2.250	0.250
447200113	●	3/16	0.063	0.094	0.562	0.168	2.250	0.250
447200213	●	1/4	0.063	0.098	1.000	0.226	3.000	0.250
447200313	●	5/16	0.094	0.129	1.250	0.280	3.000	0.312
447200413	●	3/8	0.094	0.149	1.500	0.336	4.000	0.375
447200513	●	1/2	0.125	0.200	2.000	0.460	5.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	◎	○		◎			○	○	◎	◎	◎	◎

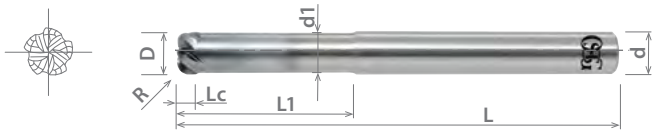
○ Good ◎ Best

List 4572

EXOCARB® WXS-CRE, High Feed

SPEED FEED 1445 | CARBIDE | WXS | 28° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
2mm ≤ D ≤ 4mm	+0 / -0.020mm
6mm ≤ D ≤ 12mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
48106421	●	2.00	0.50	0.80	8.00	2.00	50.00	6.00	4
48106433	●	3.00	0.75	1.20	12.00	2.70	55.00	6.00	5
48106445	●	4.00	1.00	1.60	12.00	3.60	55.00	6.00	5
48106467	●	6.00	1.50	2.50	12.00	5.40	90.00	6.00	5
48106489	●	8.00	2.00	3.50	16.00	7.20	100.00	8.00	5
48106509	●	10.00	2.00	4.00	20.00	9.00	100.00	10.00	5
48106533	●	12.00	3.00	5.00	24.00	11.00	110.00	12.00	5

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	○		◎			○	○	◎	◎	◎	◎

○ Good ◎ Best

List 4670

EXOCARB® AM-CRE

SPEED FEED 1446 | CARBIDE | DURO REY | 60° | SHANK h4 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1/2"	+/- 0.0004"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
46700023	●	1/4	0.031	0.375	3.000	0.250	6
46700123	●	1/4	0.063	0.375	3.000	0.250	6
46700223	●	5/16	0.047	0.469	3.000	0.313	6
46700323	●	5/16	0.094	0.469	3.500	0.313	6
46700423	●	3/8	0.047	0.563	3.500	0.375	6
46700523	●	3/8	0.094	0.563	3.500	0.375	6
46700623	●	1/2	0.063	0.750	4.000	0.500	8
46700723	●	1/2	0.125	0.750	4.000	0.500	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					○	○	○				◎	◎		◎	◎	○

○ Good ◎ Best

List 4770

EXOCARB® AM-CRE

SPEED FEED 1446 | CARBIDE | DUROREY | 60° | SHANK h4 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 20mm	+/- 0.010mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
3183010	●	6.00	1.00	9.00	60.00	6.00	6
3183015	●	6.00	1.50	9.00	60.00	6.00	6
3183018	●	8.00	1.00	12.00	70.00	8.00	6
3183020	●	8.00	2.00	12.00	70.00	8.00	6
3183110	●	10.00	1.00	15.00	80.00	10.00	6
3183120	●	10.00	2.00	15.00	80.00	10.00	6
3183210	●	12.00	1.00	18.00	90.00	12.00	8
3183220	●	12.00	2.00	18.00	90.00	12.00	8
3183226	●	16.00	1.00	24.00	105.00	16.00	8
3183230	●	16.00	3.00	24.00	105.00	16.00	8
3183310	●	20.00	1.00	30.00	110.00	20.00	8
3183330	●	20.00	3.00	30.00	110.00	20.00	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					○	○	○				◎	◎		◎	◎	○

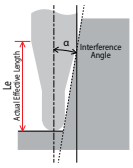
○ Good ◎ Best

List 4970

SPEED FEED 1447-1448 | CARBIDE | DURO REY | 6 FLUTE | 45° | HF | SHRINK FIT | REG | PACKED 1 PIECE

EXOCARB® AM-HFC, High Feed Radius Type





Cutting Diameter Tolerance	
4mm ≤ D ≤ 12mm	+/- 0.010mm

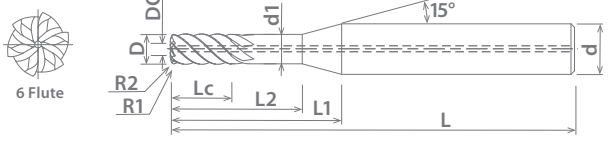
Radius Tolerance	
0.4 ≤ R ≤ 1.2	+/- 0.030mm

EDP Number		Dia.	Effective Dia.	Corner Radius	Effective Dia.	Bottom Edge Radius	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Dia.	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Dia.	Type
		D (mm)	DCF (mm)	R (mm)	rt (mm)	R2 (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
3188204	●	4.00	2.00	0.40	0.50	2.50	8.00	15.90	12.00	3.80	3.73	12.53	12.98	13.43	13.91	15.00	50.00	6.00	1
3188205	●	5.00	2.50	0.50	0.60	3.00	10.00	17.00	15.00	4.80	1.76	15.64	16.18	16.74	-	-	60.00	6.00	1
3188206	●	6.00	3.00	0.60	0.80	3.50	12.00	-	18.00	5.80	-	-	-	-	-	-	60.00	6.00	2
3188208	●	8.00	4.00	0.80	1.00	5.00	16.00	-	24.00	7.70	-	-	-	-	-	-	70.00	8.00	2
3188210	●	10.00	5.00	1.00	1.20	6.00	20.00	-	30.00	9.70	-	-	-	-	-	-	80.00	10.00	2
3188212	●	12.00	6.00	1.20	1.50	7.00	24.00	-	36.00	11.70	-	-	-	-	-	-	90.00	12.00	2

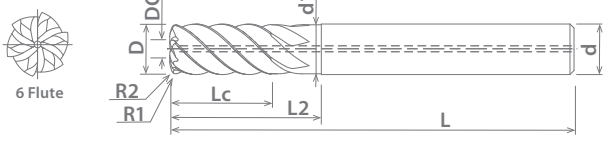
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

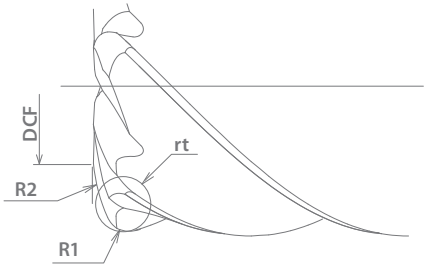
Type1



Type2



Details of Corner Radius



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					◎	◎	◎				◎	◎		○	◎	◎

○ Good ◎ Best

List 9144

EXOCARB® MAX HARD-EMS

SPEED FEED	CARBIDE	WXS	6 FLUTE	45°			SHANK h6	REG	PACKED 1 PIECE
1373									

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
91440611	●	6.00	0.50	13.00	50.00	6.00
91440811	●	8.00	0.50	19.00	60.00	8.00
91441011	●	10.00	0.50	22.00	70.00	10.00
91441111	●	10.00	1.00	22.00	70.00	10.00
91441211	●	12.00	0.50	26.00	75.00	12.00
91441311	●	12.00	1.00	26.00	75.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎

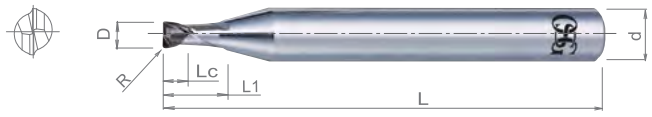
○ Good ◎ Best

List 9181

EXOCARB® MAX CBN-SXR

SPEED FEED 1449 | CBN | BR | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.5mm ≤ D ≤ 1mm	+0 / -0.010mm
1.5mm ≤ D ≤ 3mm	+0 / -0.015mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8526210	●	0.50	0.05	0.30	1.50	45.00	4.00
8526211	●	0.50	0.10	0.30	1.50	45.00	4.00
8526220	●	1.00	0.05	0.60	2.50	45.00	4.00
8526221	●	1.00	0.10	0.60	2.50	45.00	4.00
8526222	●	1.00	0.20	0.60	2.50	45.00	4.00
8526223	●	1.00	0.30	0.60	2.50	45.00	4.00
8526231	●	1.50	0.10	0.90	3.80	50.00	6.00
8526232	●	1.50	0.20	0.90	3.80	50.00	6.00
8526233	●	1.50	0.30	0.90	3.80	50.00	6.00
8526241	●	2.00	0.10	1.20	5.00	50.00	6.00
8526242	●	2.00	0.20	1.20	5.00	50.00	6.00
8526243	●	2.00	0.30	1.20	5.00	50.00	6.00
8526245	●	2.00	0.50	1.20	5.00	50.00	6.00
8526261	●	3.00	0.10	1.80	6.00	50.00	6.00
8526262	●	3.00	0.20	1.80	6.00	50.00	6.00
8526263	●	3.00	0.30	1.80	6.00	50.00	6.00
8526265	●	3.00	0.50	1.80	6.00	50.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340											○	◎	◎

○ Good ◎ Best

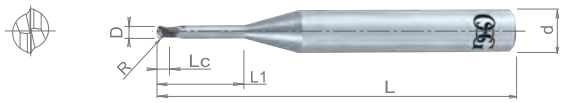
List 9182

EXOCARB® MAX CBN-LN-SXR, Long Neck

SPEED FEED 1450 | CBN | BR | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.5mm ≤ D ≤ 1mm	+0 / -0.010mm
1.5mm ≤ D ≤ 3mm	+0 / -0.015mm

Radius Tolerance	
0.05 ≤ R ≤ 0.5	+/- 0.005mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8526410	●	0.50	0.05	0.30	2.50	45.00	4.00
8526411	●	0.50	0.10	0.30	2.50	45.00	4.00
8526420	●	1.00	0.05	0.60	5.00	45.00	4.00
8526421	●	1.00	0.10	0.60	5.00	45.00	4.00
8526422	●	1.00	0.20	0.60	5.00	45.00	4.00
8526423	●	1.00	0.30	0.60	5.00	45.00	4.00
8526431	●	1.50	0.10	0.90	7.50	50.00	6.00
8526432	●	1.50	0.20	0.90	7.50	50.00	6.00
8526433	●	1.50	0.30	0.90	7.50	50.00	6.00
8526441	●	2.00	0.10	1.20	10.00	50.00	6.00
8526442	●	2.00	0.20	1.20	10.00	50.00	6.00
8526443	●	2.00	0.30	1.20	10.00	50.00	6.00
8526445	●	2.00	0.50	1.20	10.00	50.00	6.00
8526461	●	3.00	0.10	1.80	12.00	50.00	6.00
8526462	●	3.00	0.20	1.80	12.00	50.00	6.00
8526463	●	3.00	0.30	1.80	12.00	50.00	6.00
8526465	●	3.00	0.50	1.80	12.00	50.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
														○	◎	◎

○ Good ◎ Best

EXOCARB® AERO UVX SILENT ROUGHER

Unequal Index, Variable Helix, eXotic Materials

List 3815

EXOCARB® AERO SI-WC-RESF, Low Helix

SPEED FEED	CARBIDE	WXL	ROUGH	4 FLUTE	17.5-22.5			SHANK h6	REG	PACKED 1 PIECE
1451										

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 3/8"	+0 / -0.002"
1/2" ≤ D ≤ 1"	+0 / -0.0025"



EDP Number		Diameter	Corner Chamfer	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	C (Inch)	Lc (Inch)	L (Inch)	d (Inch)
38150111	●	1/4	0.020	0.500	2.500	0.250
38150911	●	5/16	0.020	0.625	3.000	0.313
38151711	●	3/8	0.020	0.750	3.000	0.375
38152511	●	1/2	0.020	1.000	3.500	0.500
38153311	●	5/8	0.030	1.250	4.000	0.625
38154111	●	3/4	0.030	1.500	4.250	0.750
38154911	●	1	0.030	2.000	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○	○	○	○	◎	○			○	○			

○ Good ◎ Best

List 3915

EXOCARB® AERO SI-WC-RESF, Low Helix

SPEED FEED	CARBIDE		ROUGH		17.5-22.5			SHANK	STUB	REG	PACKED
1451		WXL		4 FLUTE				h6			1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.050mm
14mm ≤ D ≤ 25mm	+0 / -0.060mm



EDP Number		Diameter	Corner Chamfer	Length of Cut	Overall Length	Shank Diameter
		D (mm)	C (mm)	Lc (mm)	L (mm)	d (mm)
3017406	●	6.00	0.50	13.00	60.00	6.00
3017408	●	8.00	0.50	19.00	80.00	8.00
3017410	●	10.00	0.50	22.00	80.00	10.00
3017412	●	12.00	0.50	26.00	80.00	12.00
39150811	●	14.00	0.60	26.00	85.00	14.00
39151211	●	16.00	0.60	32.00	100.00	16.00
39151611	●	18.00	0.60	32.00	100.00	18.00
39152011	●	20.00	0.60	38.00	105.00	20.00
39152411	●	25.00	0.60	45.00	120.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	○	○	○	○	○	◎	○			○	○			

○ Good ◎ Best

EXOCARB® AERO UVX SILENT ROUGHER

Unequal Index, Variable Helix, eXotic Materials

List 3820

EXOCARB® AERO SI-WC-RESF, High Helix

SPEED FEED 1451 | CARBIDE | WXL | ROUGH | 4 FLUTE | 40-42° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 3/8"	+0 / -0.002"
1/2" ≤ D ≤ 1"	+0 / -0.0025"



EDP Number		Diameter D (Fractional Size)	Corner Chamfer C (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
38200211	●	1/4	0.020	0.500	2.500	0.250
38201011	●	5/16	0.020	0.625	3.000	0.313
38201811	●	3/8	0.020	0.750	3.000	0.375
38202611	●	1/2	0.020	1.000	3.500	0.500
38203411	●	5/8	0.030	1.250	4.000	0.625
38204211	●	3/4	0.030	1.500	4.250	0.750
38205011	●	1	0.030	2.000	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	◎	◎	◎	○	○		○	◎	◎	○		

○ Good ◎ Best

List 3920

EXOCARB® AERO SI-WC-RESF, High Helix

SPEED FEED	CARBIDE	WXL	ROUGH	4 FLUTE	40-42°			SHANK h6	STUB	REG	PACKED
1451											1 PIECE

Cutting Diameter Tolerance	
6mm ≤ D ≤ 12mm	+0 / -0.050mm
14mm ≤ D ≤ 25mm	+0 / -0.060mm



EDP Number		Diameter D (mm)	Corner Chamfer C (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3017456	●	6.00	0.50	13.00	60.00	6.00
3017458	●	8.00	0.50	19.00	80.00	8.00
3017460	●	10.00	0.50	22.00	80.00	10.00
3017462	●	12.00	0.50	26.00	80.00	12.00
39200911	●	14.00	0.60	26.00	85.00	14.00
39201311	●	16.00	0.60	32.00	100.00	16.00
39201711	●	18.00	0.60	32.00	100.00	18.00
39202111	●	20.00	0.60	38.00	105.00	20.00
39202511	●	25.00	0.60	45.00	120.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	◎	◎	◎	○	○		○	◎	◎	○		

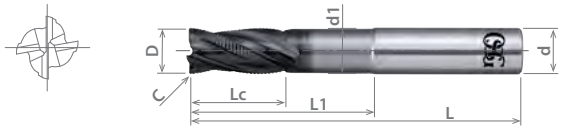
○ Good ◎ Best

List 3825

EXOCARB® AERO SI-WC-LN-RESF, Long Neck, Low Helix

SPEED FEED	CARBIDE	WXL	ROUGH	4 FLUTE	17.5-22.5			SHANK h6	REG	PACKED 1 PIECE
1451										

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 3/8"	+0 / -0.002"
1/2" ≤ D ≤ 1"	+0 / -0.0025"



EDP Number		Diameter D (Fractional Size)	Corner Chamfer C (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
38250511	●	1/4	0.020	0.500	1.250	0.238	2.500	0.250
38251311	●	5/16	0.020	0.625	1.375	0.301	3.000	0.313
38252111	●	3/8	0.020	0.750	1.500	0.363	3.000	0.375
38252911	●	1/2	0.020	1.000	1.750	0.488	3.500	0.500
38253711	●	5/8	0.030	1.250	2.000	0.605	4.000	0.625
38254511	●	3/4	0.030	1.500	2.250	0.726	4.250	0.750
38255311	●	1	0.030	2.000	2.750	0.969	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	○	○	○	○	○	◎	○			○	○			

○ Good ◎ Best

List 3830

EXOCARB® AERO SI-WC-LN-RESF, Long Neck, High Helix

SPEED FEED	CARBIDE	WXL	ROUGH	4 FLUTE	40-42°			SHANK h6	REG	PACKED 1 PIECE
1451										

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 3/8"	+0 / -0.002"
1/2" ≤ D ≤ 1"	+0 / -0.0025"



EDP Number		Diameter	Corner Chamfer	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	C (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
38300611	●	1/4	0.020	0.500	1.250	0.238	2.500	0.250
38301411	●	5/16	0.020	0.625	1.375	0.301	3.000	0.313
38302211	●	3/8	0.020	0.750	1.500	0.363	3.000	0.375
38303011	●	1/2	0.020	1.000	1.750	0.488	3.500	0.500
38303811	●	5/8	0.030	1.250	2.000	0.605	4.000	0.625
38304611	●	3/4	0.030	1.500	2.250	0.726	4.250	0.750
38305411	●	1	0.030	2.000	2.750	0.969	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	◎	◎	◎	○	○		○	◎	◎	○		

○ Good ◎ Best

EXOCARB® AERO ROUGHER

Carbide Rougher for Heavy Millling in Exotic Materials

List 2015

EXOCARB® AERO ROUGHER

SPEED FEED	CARBIDE	TiAlN	ROUGH	4 FLUTE	40°			SHANK h6	STUB	REG	PACKED
1452											1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0015"



EDP Number		Diameter	Corner Radius	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L (Inch)	d (Inch)
20150111	●	1/4	0.030	0.375	2.000	0.250
20150211	●	1/4	0.030	0.750	2.500	0.250
20150311	●	3/8	0.030	0.500	2.000	0.375
20150411	●	3/8	0.030	0.875	2.500	0.375
20150511	●	1/2	0.030	0.625	2.500	0.500
20150611	●	1/2	0.030	1.250	3.000	0.500
20150811	●	1/2	0.060	1.250	3.000	0.500
20151011	●	1/2	0.125	1.250	3.000	0.500
20151111	●	5/8	0.030	0.750	3.000	0.625
20151211	●	5/8	0.030	1.250	3.500	0.625
20151411	●	5/8	0.060	1.250	3.500	0.625
20151511	●	5/8	0.125	1.250	3.500	0.625
20151911	●	3/4	0.060	0.875	3.500	0.750
20152111	●	3/4	0.125	1.500	4.000	0.750
20152211	●	3/4	0.190	1.500	4.000	0.750
20152711	●	1	0.060	1.500	4.000	1.000
20152911	●	1	0.125	1.500	4.000	1.000
20153211	●	1	0.190	2.250	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	○			◎	◎	◎	○		

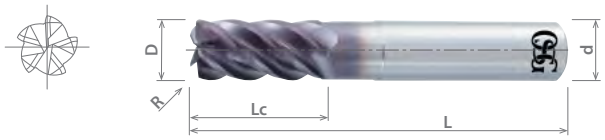
○ Good ◎ Best

List 2106

EXOCARB® AERO UVX-TI-CR-5FL

SPEED FEED	CARBIDE	EXO®	5 FLUTE	41-43°	SHANK	STUB	REG	LONG	PACKED
1374					h6				1 PIECE

Cutting Diameter Tolerance	
1/2" ≤ D ≤ 1-1/4"	+0 / -0.002"



EDP Number		Dia. D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)
21062111	●	1/2	0.030	0.625	2.500	0.500
21062211	●	1/2	0.060	0.625	2.500	0.500
21062311	●	1/2	0.090	0.625	2.500	0.500
21062411	●	1/2	0.120	0.625	2.500	0.500
21062511	●	1/2	0.030	1.000	3.000	0.500
21062611	●	1/2	0.060	1.000	3.000	0.500
21062711	●	1/2	0.090	1.000	3.000	0.500
21062811	●	1/2	0.120	1.000	3.000	0.500
21062911	●	1/2	0.015	1.250	3.500	0.500
21063011	●	1/2	0.030	1.250	3.500	0.500
21063111	●	1/2	0.060	1.250	3.500	0.500
21063211	●	1/2	0.090	1.250	3.500	0.500
21063311	●	1/2	0.120	1.250	3.500	0.500
21063411	●	1/2	0.015	1.625	3.500	0.500
21063511	●	1/2	0.030	1.625	3.500	0.500
21063611	●	1/2	0.060	1.625	3.500	0.500
21063711	●	1/2	0.090	1.625	3.500	0.500
21063811	●	1/2	0.120	1.625	3.500	0.500
21063911	●	5/8	0.030	1.250	3.500	0.625
21064011	●	5/8	0.060	1.250	3.500	0.625
21064111	●	5/8	0.090	1.250	3.500	0.625
21064211	●	5/8	0.120	1.250	3.500	0.625
21064311	●	5/8	0.030	1.875	4.000	0.625
21064411	●	5/8	0.060	1.875	4.000	0.625
21064511	●	5/8	0.090	1.875	4.000	0.625
21064611	●	5/8	0.120	1.875	4.000	0.625
21064711	●	3/4	0.030	1.500	4.000	0.750
21064811	●	3/4	0.060	1.500	4.000	0.750
21064911	●	3/4	0.090	1.500	4.000	0.750
21065011	●	3/4	0.120	1.500	4.000	0.750
21065111	●	3/4	0.150	1.500	4.000	0.750

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Dia. D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)
21065211	●	3/4	0.030	2.250	5.000	0.750
21065311	●	3/4	0.060	2.250	5.000	0.750
21065411	●	3/4	0.090	2.250	5.000	0.750
21065511	●	3/4	0.120	2.250	5.000	0.750
21065611	●	3/4	0.150	2.250	5.000	0.750
21065711	●	1	0.030	1.500	4.000	1.000
21065811	●	1	0.060	1.500	4.000	1.000
21065911	●	1	0.090	1.500	4.000	1.000
21066011	●	1	0.120	1.500	4.000	1.000
21066111	●	1	0.150	1.500	4.000	1.000
21066211	●	1	0.030	3.000	6.000	1.000
21066311	●	1	0.060	3.000	6.000	1.000
21066411	●	1	0.090	3.000	6.000	1.000
21066511	●	1	0.120	3.000	6.000	1.000
21066611	●	1	0.150	3.000	6.000	1.000
21066711	●	1-1/4	0.030	1.500	4.000	1.250
21066811	●	1-1/4	0.060	1.500	4.000	1.250
21066911	●	1-1/4	0.090	1.500	4.000	1.250
21067011	●	1-1/4	0.120	1.500	4.000	1.250
21067111	●	1-1/4	0.150	1.500	4.000	1.250
21067211	●	1-1/4	0.030	3.000	6.000	1.250
21067311	●	1-1/4	0.060	3.000	6.000	1.250
21067411	●	1-1/4	0.090	3.000	6.000	1.250
21067511	●	1-1/4	0.120	3.000	6.000	1.250
21067611	●	1-1/4	0.150	3.000	6.000	1.250
21067711	●	1-1/4	0.030	4.000	7.000	1.250
21067811	●	1-1/4	0.060	4.000	7.000	1.250
21067911	●	1-1/4	0.090	4.000	7.000	1.250
21068011	●	1-1/4	0.120	4.000	7.000	1.250
21068111	●	1-1/4	0.150	4.000	7.000	1.250

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
					○	○	○					◎				

○ Good ◎ Best

List 2108

SPEED FEED 1374 | CARBIDE | EXO | 5 FLUTE | 41-43° | SHANK h6 | REG | PACKED 1 PIECE

EXOCARB® AERO UVX-TI-LN-5FL, Reduced Neck

Cutting Diameter Tolerance	
1/2" ≤ D ≤ 1-1/4"	+0 / -0.002"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
21080011	●	1/2	0.030	1.000	1.500	0.480	3.500	0.500
21080111	●	1/2	0.060	1.000	1.500	0.480	3.500	0.500
21080211	●	1/2	0.090	1.000	1.500	0.480	3.500	0.500
21080311	●	1/2	0.120	1.000	1.500	0.480	3.500	0.500
21080411	●	5/8	0.030	1.250	1.875	0.605	4.000	0.625
21080511	●	5/8	0.060	1.250	1.875	0.605	4.000	0.625
21080611	●	5/8	0.090	1.250	1.875	0.605	4.000	0.625
21080711	●	5/8	0.120	1.250	1.875	0.605	4.000	0.625
21080811	●	3/4	0.030	1.500	2.250	0.730	4.750	0.750
21080911	●	3/4	0.060	1.500	2.250	0.730	4.750	0.750
21081011	●	3/4	0.090	1.500	2.250	0.730	4.750	0.750
21081111	●	3/4	0.120	1.500	2.250	0.730	4.750	0.750
21081211	●	3/4	0.150	1.500	2.250	0.730	4.750	0.750
21081311	●	1	0.030	2.000	3.000	0.980	5.500	1.000
21081411	●	1	0.060	2.000	3.000	0.980	5.500	1.000
21081511	●	1	0.090	2.000	3.000	0.980	5.500	1.000
21081611	●	1	0.120	2.000	3.000	0.980	5.500	1.000
21081711	●	1	0.150	2.000	3.000	0.980	5.500	1.000
21081811	●	1-1/4	0.030	2.500	3.750	1.230	6.000	1.250
21081911	●	1-1/4	0.060	2.500	3.750	1.230	6.000	1.250
21082011	●	1-1/4	0.090	2.500	3.750	1.230	6.000	1.250
21082111	●	1-1/4	0.120	2.500	3.750	1.230	6.000	1.250
21082211	●	1-1/4	0.150	2.500	3.750	1.230	6.000	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					○	○	○					◎				

○ Good ◎ Best

List 2110

EXOCARB® AERO UVX-TI-LN-CR-5FL, Reduced Neck

SPEED FEED 1375 | CARBIDE | EXO | 5 FLUTE | 41-43° | SHANK h6 | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
12mm ≤ D ≤ 20mm	+0 / -0.050mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8555321	●	12.00	1.00	24.00	36.00	11.50	90.00	12.00
8555322	●	12.00	1.50	24.00	36.00	11.50	90.00	12.00
8555323	●	12.00	2.00	24.00	36.00	11.50	90.00	12.00
8555324	●	12.00	2.50	24.00	36.00	11.50	90.00	12.00
8555325	●	12.00	3.00	24.00	36.00	11.50	90.00	12.00
8555326	●	12.00	4.00	24.00	36.00	11.50	90.00	12.00
8555361	●	16.00	1.00	32.00	48.00	15.50	100.00	16.00
8555362	●	16.00	1.50	32.00	48.00	15.50	100.00	16.00
8555363	●	16.00	2.00	32.00	48.00	15.50	100.00	16.00
8555364	●	16.00	2.50	32.00	48.00	15.50	100.00	16.00
8555365	●	16.00	3.00	32.00	48.00	15.50	100.00	16.00
8555366	●	16.00	4.00	32.00	48.00	15.50	100.00	16.00
8555401	●	20.00	1.00	40.00	60.00	19.50	120.00	20.00
8555402	●	20.00	1.50	40.00	60.00	19.50	120.00	20.00
8555403	●	20.00	2.00	40.00	60.00	19.50	120.00	20.00
8555404	●	20.00	2.50	40.00	60.00	19.50	120.00	20.00
8555405	●	20.00	3.00	40.00	60.00	19.50	120.00	20.00
8555406	●	20.00	4.00	40.00	60.00	19.50	120.00	20.00
8555407	●	20.00	5.00	40.00	60.00	19.50	120.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
					○	○	○					◎				

○ Good ◎ Best

EXOCARB® AERO HFC-Ti

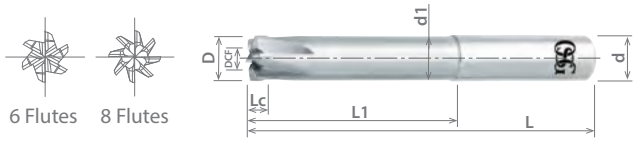
High Feed Radius End Mill for Titanium Alloy

List 2080

EXOCARB® AERO HFC-TI, High Feed Radius Type

SPEED FEED	CARBIDE					SHANK		PACKED
1453		BR	0°	HF		h6	STUB	1 PIECE

Cutting Diameter Tolerance	
5/8" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Effective Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter	Number of Flutes
		D (Fractional Size)	DCF (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)	
20806250	●	5/8	0.304	0.197	2.760	0.586	4.724	0.625	6
20807500	●	3/4	0.365	0.197	2.760	0.711	4.724	0.750	8
20801000	●	1	0.486	0.197	2.760	0.961	4.724	1.000	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340									◎				

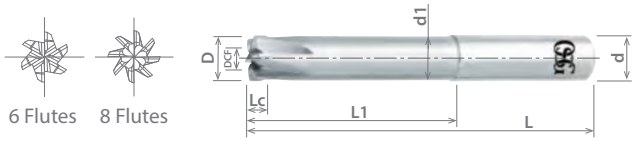
○ Good ◎ Best

List 2081

EXOCARB® AERO HFC-TI, High Feed Radius Type

SPEED FEED	CARBIDE					SHANK		PACKED
1453		BR	0°	HF		h6	STUB	1 PIECE

Cutting Diameter Tolerance	
16mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter D (mm)	Effective Diameter DCF (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
8555716	●	16.00	7.77	5.00	70.00	15.00	120.00	16.00	6
8555720	●	20.00	9.72	5.00	70.00	19.00	120.00	20.00	8
8555725	●	25.00	12.15	5.00	70.00	24.00	120.00	25.00	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340									◎				

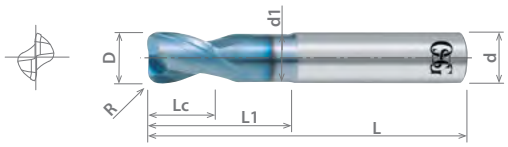
○ Good ◎ Best

List 2863

EXOCARB® AERO-EDS

SPEED FEED	CARBIDE	DLC	2 FLUTE	25°			SHANK	STUB	PACKED
1454							h6		1 PIECE

Cutting Diameter Tolerance	
1/2" ≤ D ≤ 1"	+0 / -0.0012"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
28630000	●	1/2	0.030	0.750	2.205	0.461	4.000	0.500
28630100	●	1/2	0.060	0.750	2.205	0.461	4.000	0.500
28630200	●	1/2	0.090	0.750	2.205	0.461	4.000	0.500
28630400	●	1/2	0.120	0.750	2.205	0.461	4.000	0.500
28630600	●	5/8	0.030	1.000	2.205	0.559	4.000	0.625
28630700	●	5/8	0.060	1.000	2.205	0.559	4.000	0.625
28630800	●	5/8	0.090	1.000	2.205	0.559	4.000	0.625
28630900	●	5/8	0.120	1.000	2.205	0.559	4.000	0.625
28631000	●	5/8	0.190	1.000	2.205	0.559	4.000	0.625
28631200	●	3/4	0.030	1.125	2.205	0.669	4.000	0.750
28631300	●	3/4	0.060	1.125	2.205	0.669	4.000	0.750
28631400	●	3/4	0.090	1.125	2.205	0.669	4.000	0.750
28631500	●	3/4	0.120	1.125	2.205	0.669	4.000	0.750
28631600	●	3/4	0.190	1.125	2.205	0.669	4.000	0.750
28631800	●	7/8	0.030	1.313	2.205	0.787	4.000	0.875
28631900	●	7/8	0.060	1.313	2.205	0.787	4.000	0.875
28632000	●	7/8	0.090	1.313	2.205	0.787	4.000	0.875
28632100	●	7/8	0.120	1.313	2.205	0.787	4.000	0.875
28632200	●	7/8	0.190	1.313	2.205	0.787	4.000	0.875
28632400	●	1	0.030	1.500	2.205	0.921	4.000	1.000
28632500	●	1	0.060	1.500	2.205	0.921	4.000	1.000
28632600	●	1	0.090	1.500	2.205	0.921	4.000	1.000
28632700	●	1	0.120	1.500	2.205	0.921	4.000	1.000
28632800	●	1	0.190	1.500	2.205	0.921	4.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

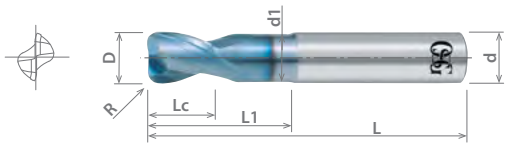
○ Good ◎ Best

List 2963

EXOCARB® AERO-EDS

SPEED FEED 1454 | CARBIDE | DLC | 2 FLUTE | 25° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
12mm ≤ D ≤ 25mm	+0 / -0.030mm



EDP Number		Diameter D (mm)	Corner Radius R (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter d1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)
8528822	●	12.00	1.00	14.00	40.00	11.00	90.00	12.00
8528823	●	12.00	1.60	14.00	40.00	11.00	90.00	12.00
8528826	●	12.00	3.00	14.00	40.00	11.00	90.00	12.00
8528862	●	16.00	1.00	18.00	45.00	14.40	100.00	16.00
8528863	●	16.00	1.60	18.00	45.00	14.40	100.00	16.00
8528866	●	16.00	3.00	18.00	45.00	14.40	100.00	16.00
8528902	●	20.00	1.00	22.00	56.00	18.00	110.00	20.00
8528903	●	20.00	1.60	22.00	56.00	18.00	110.00	20.00
8528906	●	20.00	3.00	22.00	56.00	18.00	110.00	20.00
8528952	●	25.00	1.00	27.00	56.00	23.00	110.00	25.00
8528953	●	25.00	1.60	27.00	56.00	23.00	110.00	25.00
8528956	●	25.00	3.00	27.00	56.00	23.00	110.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

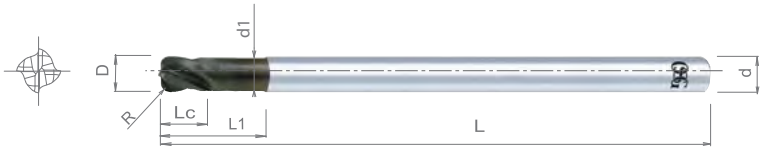
○ Good ◎ Best

List 7072

SPEED FEED 1383 | CARBIDE | DIA | 12µm | 4 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

EXOCARB® DIAMOND LS-CR, Long Shank

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	R (Inch)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
70720116	●	1/8	0.015	0.125	0.625	0.119	3.000	0.125
70720216	●	1/8	0.031	0.125	0.625	0.119	3.000	0.125
70720316	●	3/16	0.062	0.188	0.938	0.178	3.000	0.188
70720416	●	1/4	0.015	0.250	0.750	0.238	4.000	0.250
70720516	●	1/4	0.030	0.250	0.750	0.238	4.000	0.250
70720616	●	1/4	0.062	0.250	0.750	0.238	4.000	0.250
70720716	●	3/8	0.015	0.375	1.125	0.356	4.000	0.375
70720816	●	1/2	0.015	0.500	1.500	0.475	6.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

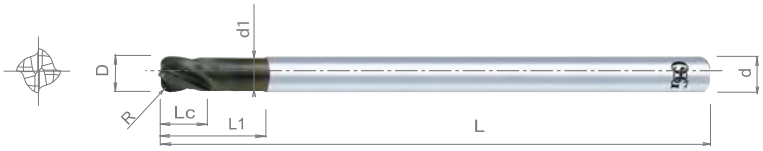
○ Good ◎ Best

List 7132

EXOCARB® DIAMOND LS-CR, Long Shank

SPEED FEED	CARBIDE	DIA	12µm	4 FLUTE	30°			SHANK	STUB	PACKED
1383								h6		1 PIECE

Cutting Diameter Tolerance	
12mm ≤ D ≤ 25mm	+0 / -0.020mm



EDP Number		Diameter	Corner Radius	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (mm)	R (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
71320116	●	3.00	0.50	3.00	15.00	2.85	75.00	3.00
71320216	●	4.00	0.50	4.00	20.00	3.80	75.00	4.00
71320316	●	6.00	0.50	6.00	30.00	5.70	100.00	6.00
71320416	●	6.00	1.00	6.00	30.00	5.70	100.00	6.00
71320516	●	8.00	0.50	8.00	30.00	7.60	100.00	8.00
71320616	●	8.00	1.00	8.00	32.00	7.60	100.00	8.00
71320716	●	10.00	0.50	10.00	40.00	9.50	125.00	10.00
71320816	●	10.00	1.00	10.00	40.00	9.50	125.00	10.00
71320916	●	12.00	0.50	12.00	48.00	11.40	150.00	12.00
71321016	●	12.00	1.00	12.00	48.00	11.40	150.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

○ Good ◎ Best

EXOCARB® DG-CR-EML

Long Length of Cut DG Coated 4-Fluted Corner Radius End Mills for Graphite

List 7470

EXOCARB® DG-CR-EML

NEW | SPEED FEED 1455 | CARBIDE | DG | 4 FLUTE | 30° | SHANK h4 | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3/64" ≤ D ≤ 3/16"	+/- 0.00028"
1/4" ≤ D ≤ 1/2"	+/- 0.00039"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
74700125	○	3/64	0.010	0.234	2.500	0.125
74700225	○	1/16	0.010	0.313	2.500	0.125
74700325	○	3/32	0.015	0.469	2.500	0.125
74700425	○	3/32	0.020	0.469	2.500	0.125
74700525	○	1/8	0.015	0.625	3.000	0.125
74700625	○	1/8	0.020	0.625	3.000	0.125
74700725	○	1/8	0.030	0.625	3.000	0.125
74700825	○	3/16	0.030	0.938	3.000	0.188
74700925	○	3/16	0.060	0.938	3.000	0.188
74701025	○	1/4	0.015	1.250	4.000	0.250
74701125	○	1/4	0.020	1.250	4.000	0.250
74701225	○	1/4	0.030	1.250	4.000	0.250
74701325	○	1/4	0.060	1.250	4.000	0.250
74701425	○	3/8	0.015	1.875	6.000	0.375
74701525	○	3/8	0.030	1.875	6.000	0.375
74701625	○	3/8	0.060	1.875	6.000	0.375
74701725	○	1/2	0.015	2.250	6.000	0.500
74701825	○	1/2	0.030	2.250	6.000	0.500
74701925	○	1/2	0.060	2.250	6.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340												◎	

○ Good ◎ Best

List 7471

EXOCARB® DG-LN-CR-EML

NEW | SPEED FEED 1456 | CARBIDE | DG | 4 FLUTE | 30° | SHANK h4 | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 3/16"	+/- 0.00028"
D = 1/4"	+/- 0.00039"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
74710125	○	1/32	0.005	0.156	0.250	2.500	0.125
74710225	○	3/64	0.010	0.234	0.500	2.500	0.125
74710325	○	1/16	0.010	0.313	0.625	2.500	0.125
74710425	○	3/32	0.015	0.469	1.000	2.500	0.125
74710525	○	3/32	0.020	0.469	1.000	2.500	0.125
74710625	○	1/8	0.015	0.625	1.250	3.000	0.125
74710725	○	1/8	0.020	0.625	1.250	3.000	0.125
74710825	○	1/8	0.030	0.625	1.250	3.000	0.125
74710925	○	3/16	0.030	0.938	1.500	3.000	0.188
74711025	○	3/16	0.060	0.938	1.500	3.000	0.188
74711125	○	1/4	0.015	1.250	2.000	4.000	0.250
74711225	○	1/4	0.020	1.250	2.000	4.000	0.250
74711325	○	1/4	0.030	1.250	2.000	4.000	0.250
74711425	○	1/4	0.060	1.250	2.000	4.000	0.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340												◎	

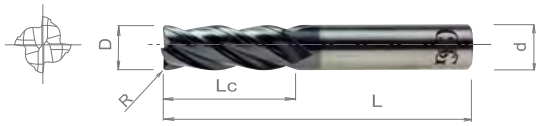
○ Good ◎ Best

List VG434

HY-PRO® CARB VGX CR

SPEED FEED 1386 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
VG434-1250	●	1/8	0.010	0.375	1.500	0.125	-
VG434-1251	●	1/8	0.015	0.375	1.500	0.125	-
VG434-1875	●	3/16	0.015	0.438	2.000	0.188	-
VG434-1876	●	3/16	0.030	0.438	2.000	0.188	-
VG434-2500	●	1/4	0.015	0.438	2.500	0.250	-
VG434-2501	●	1/4	0.030	0.438	2.500	0.250	-
VG434-2502	●	1/4	0.015	0.750	2.500	0.250	-
VG434-2503	●	1/4	0.030	0.750	2.500	0.250	-
VG434-2504	●	1/4	0.060	0.750	2.500	0.250	-
VG434-3125	●	5/16	0.015	0.813	2.500	0.313	-
VG434-3126	●	5/16	0.030	0.813	2.500	0.313	-
VG434-3750	●	3/8	0.030	0.500	2.500	0.375	-
VG434-3754	●	3/8	0.030	0.500	2.500	0.375	●
VG434-3758	●	3/8	0.015	0.875	2.500	0.375	●
VG434-3759	●	3/8	0.015	0.875	2.500	0.375	-
VG434-3751	●	3/8	0.030	0.875	2.500	0.375	-
VG434-3755	●	3/8	0.030	0.875	2.500	0.375	●
VG434-3752	●	3/8	0.045	0.875	2.500	0.375	-
VG434-3756	●	3/8	0.045	0.875	2.500	0.375	●
VG434-3753	●	3/8	0.060	0.875	2.500	0.375	-
VG434-3757	●	3/8	0.060	0.875	2.500	0.375	●
VG434-4375	●	7/16	0.015	1.000	2.750	0.438	-
VG434-4377	●	7/16	0.015	1.000	2.750	0.438	●
VG434-4376	●	7/16	0.030	1.000	2.750	0.438	-
VG434-4378	●	7/16	0.030	1.000	2.750	0.438	●
VG434-5020	●	1/2	0.015	0.625	2.500	0.500	●
VG434-5021	●	1/2	0.015	0.625	2.500	0.500	-
VG434-5000	●	1/2	0.030	0.625	2.500	0.500	●
VG434-5009	●	1/2	0.030	0.625	2.500	0.500	-
VG434-5001	●	1/2	0.030	1.000	3.000	0.500	●
VG434-5010	●	1/2	0.030	1.000	3.000	0.500	-
VG434-5002	●	1/2	0.060	1.000	3.000	0.500	●
VG434-5011	●	1/2	0.060	1.000	3.000	0.500	-
VG434-5003	●	1/2	0.015	1.250	3.500	0.500	●
VG434-5012	●	1/2	0.015	1.250	3.500	0.500	-
VG434-5004	●	1/2	0.030	1.250	3.500	0.500	●
VG434-5013	●	1/2	0.030	1.250	3.500	0.500	-
VG434-5005	●	1/2	0.045	1.250	3.500	0.500	●
VG434-5014	●	1/2	0.045	1.250	3.500	0.500	-
VG434-5006	●	1/2	0.060	1.250	3.500	0.500	●
VG434-5015	●	1/2	0.060	1.250	3.500	0.500	-
VG434-5007	●	1/2	0.090	1.250	3.500	0.500	●
VG434-5016	●	1/2	0.090	1.250	3.500	0.500	-
VG434-5008	●	1/2	0.125	1.250	3.500	0.500	●
VG434-5017	●	1/2	0.125	1.250	3.500	0.500	-
VG434-5018	●	1/2	0.020	1.500	4.000	0.500	●
VG434-5019	●	1/2	0.020	1.500	4.000	0.500	-
VG434-6250	●	5/8	0.030	1.250	3.500	0.625	●
VG434-6254	●	5/8	0.030	1.250	3.500	0.625	-
VG434-6251	●	5/8	0.060	1.250	3.500	0.625	●
VG434-6255	●	5/8	0.060	1.250	3.500	0.625	-
VG434-6252	●	5/8	0.090	1.250	3.500	0.625	●
VG434-6256	●	5/8	0.090	1.250	3.500	0.625	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

List VG434 (Continued)

HY-PRO® CARB VGX CR

SPEED FEED 1386 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | REG | PACKED 1 PIECE

EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
VG434-6253	●	5/8	0.125	1.250	3.500	0.625	●
VG434-6257	●	5/8	0.125	1.250	3.500	0.625	-
VG434-7500	●	3/4	0.030	1.500	4.000	0.750	●
VG434-7504	●	3/4	0.030	1.500	4.000	0.750	-
VG434-7501	●	3/4	0.060	1.500	4.000	0.750	●
VG434-7505	●	3/4	0.060	1.500	4.000	0.750	-
VG434-7502	●	3/4	0.090	1.500	4.000	0.750	●
VG434-7506	●	3/4	0.090	1.500	4.000	0.750	-
VG434-7503	●	3/4	0.125	1.500	4.000	0.750	●
VG434-7507	●	3/4	0.125	1.500	4.000	0.750	-
VG434-7508	●	3/4	0.020	1.625	4.000	0.750	●
VG434-7510	●	3/4	0.020	1.625	4.000	0.750	-
VG434-7509	●	3/4	0.060	2.250	5.000	0.750	●
VG434-7511	●	3/4	0.060	2.250	5.000	0.750	-
VG434-1000	●	1	0.030	1.500	4.000	1.000	●
VG434-1004	●	1	0.030	1.500	4.000	1.000	-
VG434-1001	●	1	0.060	1.500	4.000	1.000	●
VG434-1005	●	1	0.060	1.500	4.000	1.000	-
VG434-1002	●	1	0.090	1.500	4.000	1.000	●
VG434-1006	●	1	0.090	1.500	4.000	1.000	-
VG434-1003	●	1	0.125	1.500	4.000	1.000	●
VG434-1007	●	1	0.125	1.500	4.000	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	

○ Good ◎ Best

List VG436

HY-PRO® CARB VGX CF

SPEED FEED 1386 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Corner Chamfer C (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
VG436-1252	●	1/8	0.010	0.125	1.500	0.125	-
VG436-1250	●	1/8	0.010	0.250	1.500	0.125	-
VG436-1251	●	1/8	0.010	0.500	1.500	0.125	-
VG436-1875	●	3/16	0.010	0.313	2.000	0.188	-
VG436-1876	●	3/16	0.010	0.625	2.250	0.188	-
VG436-2500	●	1/4	0.016	0.375	2.000	0.250	-
VG436-2501	●	1/4	0.016	0.750	2.500	0.250	-
VG436-3125	●	5/16	0.016	0.500	2.000	0.313	-
VG436-3126	●	5/16	0.016	0.750	2.500	0.313	-
VG436-3750	●	3/8	0.020	0.500	2.000	0.375	●
VG436-3751	●	3/8	0.020	0.875	2.500	0.375	●
VG436-4375	●	7/16	0.020	0.625	2.500	0.438	●
VG436-4376	●	7/16	0.020	0.875	2.750	0.438	●
VG436-5000	●	1/2	0.020	0.625	2.500	0.500	●
VG436-5001	●	1/2	0.020	1.000	3.000	0.500	●
VG436-5002	●	1/2	0.020	1.250	3.500	0.500	●
VG436-5003	●	1/2	0.020	1.500	4.000	0.500	●
VG436-6250	●	5/8	0.020	0.750	3.000	0.625	●
VG436-6251	●	5/8	0.020	1.250	3.500	0.625	●
VG436-6252	●	5/8	0.020	1.625	4.125	0.625	●
VG436-7500	●	3/4	0.020	0.875	3.500	0.750	●
VG436-7501	●	3/4	0.020	1.500	4.000	0.750	●
VG436-7502	●	3/4	0.020	1.625	4.000	0.750	●
VG436-1000	●	1	0.020	1.500	4.000	1.000	●
VG436-1001	●	1	0.020	2.000	5.000	1.000	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	

○ Good ◎ Best

List VG446

HY-PRO® CARB VGX LN-CR/CF, Reduced Neck

SPEED FEED 1387 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1"	+0 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Corner Chamfer C (Inch)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Neck Diameter d1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
VG446-2500	●	1/4	0.015	-	0.375	1.250	0.235	4.000	0.250	-
VG446-2501	●	1/4	0.030	-	0.375	1.250	0.235	4.000	0.250	-
VG446-2502	●	1/4	-	0.016	0.375	1.250	0.235	4.000	0.250	-
VG446-3750	●	3/8	0.030	-	0.500	1.875	0.353	4.000	0.375	●
VG446-3751	●	3/8	0.060	-	0.500	1.875	0.353	4.000	0.375	●
VG446-3752	●	3/8	-	0.020	0.500	1.875	0.353	4.000	0.375	●
VG446-5000	●	1/2	0.030	-	0.625	2.250	0.470	4.000	0.500	●
VG446-5001	●	1/2	0.060	-	0.625	2.250	0.470	4.000	0.500	●
VG446-5002	●	1/2	0.120	-	0.625	2.250	0.470	4.000	0.500	●
VG446-5003	●	1/2	-	0.020	0.625	2.250	0.470	4.000	0.500	●
VG446-6250	●	5/8	0.060	-	0.750	2.250	0.588	4.125	0.625	●
VG446-6251	●	5/8	0.120	-	0.750	2.250	0.588	4.125	0.625	●
VG446-6252	●	5/8	-	0.020	0.750	2.250	0.588	4.125	0.625	●
VG446-6253	●	5/8	-	0.020	0.750	3.125	0.588	5.000	0.625	●
VG446-7501	●	3/4	0.030	-	1.000	3.250	0.705	5.250	0.750	●
VG446-7502	●	3/4	0.060	-	1.000	3.250	0.705	5.250	0.750	●
VG446-7503	●	3/4	0.120	-	1.000	3.250	0.705	5.250	0.750	●
VG446-7500	●	3/4	-	0.020	1.000	2.250	0.705	4.250	0.750	●
VG446-7504	●	3/4	-	0.020	1.000	3.250	0.705	5.250	0.750	●
VG446-1001	●	1	0.030	-	1.125	3.250	0.940	5.500	1.000	●
VG446-1002	●	1	0.060	-	1.125	3.250	0.940	5.500	1.000	●
VG446-1003	●	1	0.120	-	1.125	3.250	0.940	5.500	1.000	●
VG446-1000	●	1	-	0.020	1.125	2.250	0.940	4.500	1.000	●
VG446-1004	●	1	-	0.020	1.125	3.250	0.940	5.500	1.000	●
VG446-1005	●	1	-	0.020	1.125	4.250	0.940	6.500	1.000	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	

○ Good ◎ Best

HY-PRO® CARB

Performance Sub-Micrograin Carbide End Mills

List HP432

HY-PRO® CARB CR

SPEED FEED 1457-1460 | CARBIDE | TiAlN | 2 FLUTE | 35° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0015"
3mm ≤ D ≤ 12mm	+0 / -0.038mm



EDP Number		Diameter		Corner Radius		Length of Cut		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	R (Inch)	R (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP432-1181	●	-	3.00	-	0.20	-	8.00	-	60.00	-	6.00
HP432-1182	●	-	3.00	-	0.50	-	8.00	-	60.00	-	6.00
HP432-1251	●	1/8	-	0.015	-	0.500	-	1.500	-	0.125	-
HP432-1575	●	-	4.00	-	0.20	-	11.00	-	70.00	-	6.00
HP432-1576	●	-	4.00	-	0.50	-	11.00	-	70.00	-	6.00
HP432-1577	●	-	4.00	-	1.00	-	11.00	-	70.00	-	6.00
HP432-1872	●	3/16	-	0.020	-	0.625	-	2.000	-	0.188	-
HP432-1960	●	-	5.00	-	0.20	-	13.00	-	80.00	-	6.00
HP432-1961	●	-	5.00	-	0.50	-	13.00	-	80.00	-	6.00
HP432-1962	●	-	5.00	-	1.00	-	13.00	-	80.00	-	6.00
HP432-2360	●	-	6.00	-	0.20	-	13.00	-	80.00	-	6.00
HP432-2361	●	-	6.00	-	0.50	-	13.00	-	80.00	-	6.00
HP432-2362	●	-	6.00	-	1.00	-	13.00	-	80.00	-	6.00
HP432-2363	●	-	6.00	-	1.50	-	13.00	-	80.00	-	6.00
HP432-2364	●	-	6.00	-	2.00	-	13.00	-	80.00	-	6.00
HP432-2502	●	1/4	-	0.020	-	0.750	-	2.500	-	0.250	-
HP432-2503	●	1/4	-	0.030	-	0.750	-	2.500	-	0.250	-
HP432-3122	●	5/16	-	0.020	-	0.813	-	2.500	-	0.313	-
HP432-3123	●	5/16	-	0.030	-	0.813	-	2.500	-	0.313	-
HP432-3150	●	-	8.00	-	0.50	-	19.00	-	100.00	-	8.00
HP432-3151	●	-	8.00	-	1.00	-	19.00	-	100.00	-	8.00
HP432-3152	●	-	8.00	-	1.50	-	19.00	-	100.00	-	8.00
HP432-3153	●	-	8.00	-	2.00	-	19.00	-	100.00	-	8.00
HP432-3752	●	3/8	-	0.020	-	1.000	-	2.500	-	0.375	-
HP432-3753	●	3/8	-	0.030	-	1.000	-	2.500	-	0.375	-
HP432-3930	●	-	10.00	-	0.50	-	22.00	-	100.00	-	10.00
HP432-3931	●	-	10.00	-	1.00	-	22.00	-	100.00	-	10.00
HP432-3932	●	-	10.00	-	1.50	-	22.00	-	100.00	-	10.00
HP432-3933	●	-	10.00	-	2.00	-	22.00	-	100.00	-	10.00
HP432-3934	●	-	10.00	-	3.00	-	22.00	-	100.00	-	10.00
HP432-4720	●	-	12.00	-	0.50	-	26.00	-	110.00	-	12.00
HP432-4721	●	-	12.00	-	1.00	-	26.00	-	110.00	-	12.00
HP432-4722	●	-	12.00	-	1.50	-	26.00	-	110.00	-	12.00
HP432-4723	●	-	12.00	-	2.00	-	26.00	-	110.00	-	12.00
HP432-4724	●	-	12.00	-	3.00	-	26.00	-	110.00	-	12.00
HP432-5002	●	1/2	-	0.020	-	1.000	-	3.000	-	0.500	-
HP432-5003	●	1/2	-	0.030	-	1.000	-	3.000	-	0.500	-
HP432-5006	●	1/2	-	0.060	-	1.000	-	3.000	-	0.500	-
HP432-6253	●	5/8	-	0.030	-	1.250	-	3.500	-	0.625	-
HP432-6256	●	5/8	-	0.060	-	1.250	-	3.500	-	0.625	-
HP432-6259	●	5/8	-	0.090	-	1.250	-	3.500	-	0.625	-
HP432-7506	●	3/4	-	0.060	-	1.500	-	4.000	-	0.750	-
HP432-7509	●	3/4	-	0.090	-	1.500	-	4.000	-	0.750	-
HP432-7512	●	3/4	-	0.125	-	1.500	-	4.000	-	0.750	-
HP432-1006	●	1	-	0.060	-	1.500	-	4.000	-	1.000	-
HP432-1009	●	1	-	0.090	-	1.500	-	4.000	-	1.000	-
HP432-1012	●	1	-	0.125	-	1.500	-	4.000	-	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○	○	○			○	○	○	○	○	

○ Good ◎ Best

List HP434

HY-PRO® CARB CR

SPEED FEED 1458-1460 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.0015"
3mm ≤ D ≤ 12mm	+0 / -0.038mm



EDP Number		Diameter		Corner Radius		Length of Cut		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	R (Inch)	R (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP434-1181	●	-	3.00	-	0.20	-	8.00	-	60.00	-	6.00
HP434-1182	●	-	3.00	-	0.50	-	8.00	-	60.00	-	6.00
HP434-1251	●	1/8	-	0.015	-	0.500	-	1.500	-	0.125	-
HP434-1575	●	-	4.00	-	0.20	-	11.00	-	70.00	-	6.00
HP434-1576	●	-	4.00	-	0.50	-	11.00	-	70.00	-	6.00
HP434-1577	●	-	4.00	-	1.00	-	11.00	-	70.00	-	6.00
HP434-1872	●	3/16	-	0.020	-	0.625	-	2.000	-	0.188	-
HP434-1960	●	-	5.00	-	0.20	-	13.00	-	80.00	-	6.00
HP434-1961	●	-	5.00	-	0.50	-	13.00	-	80.00	-	6.00
HP434-1962	●	-	5.00	-	1.00	-	13.00	-	80.00	-	6.00
HP434-2360	●	-	6.00	-	0.20	-	13.00	-	80.00	-	6.00
HP434-2361	●	-	6.00	-	0.50	-	13.00	-	80.00	-	6.00
HP434-2362	●	-	6.00	-	1.00	-	13.00	-	80.00	-	6.00
HP434-2363	●	-	6.00	-	1.50	-	13.00	-	80.00	-	6.00
HP434-2364	●	-	6.00	-	2.00	-	13.00	-	80.00	-	6.00
HP434-2502	●	1/4	-	0.020	-	0.750	-	2.500	-	0.250	-
HP434-2503	●	1/4	-	0.030	-	0.750	-	2.500	-	0.250	-
HP434-3122	●	5/16	-	0.020	-	0.813	-	2.500	-	0.313	-
HP434-3123	●	5/16	-	0.030	-	0.813	-	2.500	-	0.313	-
HP434-3150	●	-	8.00	-	0.50	-	19.00	-	100.00	-	8.00
HP434-3151	●	-	8.00	-	1.00	-	19.00	-	100.00	-	8.00
HP434-3152	●	-	8.00	-	1.50	-	19.00	-	100.00	-	8.00
HP434-3153	●	-	8.00	-	2.00	-	19.00	-	100.00	-	8.00
HP434-3752	●	3/8	-	0.020	-	1.000	-	2.500	-	0.375	-
HP434-3753	●	3/8	-	0.030	-	1.000	-	2.500	-	0.375	-
HP434-3930	●	-	10.00	-	0.50	-	22.00	-	100.00	-	10.00
HP434-3931	●	-	10.00	-	1.00	-	22.00	-	100.00	-	10.00
HP434-3932	●	-	10.00	-	1.50	-	22.00	-	100.00	-	10.00
HP434-3933	●	-	10.00	-	2.00	-	22.00	-	100.00	-	10.00
HP434-3934	●	-	10.00	-	3.00	-	22.00	-	100.00	-	10.00
HP434-4720	●	-	12.00	-	0.50	-	26.00	-	110.00	-	12.00
HP434-4721	●	-	12.00	-	1.00	-	26.00	-	110.00	-	12.00
HP434-4722	●	-	12.00	-	1.50	-	26.00	-	110.00	-	12.00
HP434-4723	●	-	12.00	-	2.00	-	26.00	-	110.00	-	12.00
HP434-4724	●	-	12.00	-	3.00	-	26.00	-	110.00	-	12.00
HP434-5002	●	1/2	-	0.020	-	1.000	-	3.000	-	0.500	-
HP434-5003	●	1/2	-	0.030	-	1.000	-	3.000	-	0.500	-
HP434-5006	●	1/2	-	0.060	-	1.000	-	3.000	-	0.500	-
HP434-6253	●	5/8	-	0.030	-	1.250	-	3.500	-	0.625	-
HP434-6256	●	5/8	-	0.060	-	1.250	-	3.500	-	0.625	-
HP434-6259	●	5/8	-	0.090	-	1.250	-	3.500	-	0.625	-
HP434-7506	●	3/4	-	0.060	-	1.500	-	4.000	-	0.750	-
HP434-7509	●	3/4	-	0.090	-	1.500	-	4.000	-	0.750	-
HP434-7512	●	3/4	-	0.125	-	1.500	-	4.000	-	0.750	-
HP434-1006	●	1	-	0.060	-	1.500	-	4.000	-	1.000	-
HP434-1009	●	1	-	0.090	-	1.500	-	4.000	-	1.000	-
HP434-1012	●	1	-	0.125	-	1.500	-	4.000	-	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○	○	○			○	○	○	○	○	

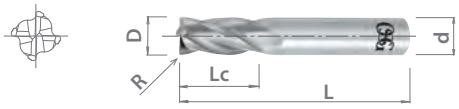
○ Good ◎ Best

List 496

OSG STANDARD CARBIDE CR

SPEED FEED 1402-1405	CARBIDE	4 FLUTE	30°	STUB	REG	LONG	PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Surface Treatment
496-1251	●	1/8	0.015	0.500	1.500	0.125	BRIGHT
496-125111	●	1/8	0.015	0.500	1.500	0.125	TiAlN
496-1872	●	3/16	0.020	0.625	2.000	0.188	BRIGHT
496-187211	●	3/16	0.020	0.625	2.000	0.188	TiAlN
496-1873	●	3/16	0.030	0.625	2.000	0.188	BRIGHT
496-187311	●	3/16	0.030	0.625	2.000	0.188	TiAlN
496-2502	●	1/4	0.020	0.750	2.500	0.250	BRIGHT
496-250211	●	1/4	0.020	0.750	2.500	0.250	TiAlN
496-2503	●	1/4	0.030	0.750	2.500	0.250	BRIGHT
496-250311	●	1/4	0.030	0.750	2.500	0.250	TiAlN
496-2504	●	1/4	0.045	0.750	2.500	0.250	BRIGHT
496-3122	●	5/16	0.020	0.813	2.500	0.313	BRIGHT
496-312211	●	5/16	0.020	0.813	2.500	0.313	TiAlN
496-3123	●	5/16	0.030	0.813	2.500	0.313	BRIGHT
496-312311	●	5/16	0.030	0.813	2.500	0.313	TiAlN
496-3124	●	5/16	0.045	0.813	2.500	0.313	BRIGHT
496-3752	●	3/8	0.020	1.000	2.500	0.375	BRIGHT
496-3753	●	3/8	0.030	1.000	2.500	0.375	BRIGHT
496-375311	●	3/8	0.030	1.000	2.500	0.375	TiAlN
496-3754	●	3/8	0.045	1.000	2.500	0.375	BRIGHT
496-375411	●	3/8	0.045	1.000	2.500	0.375	TiAlN
496-5002	●	1/2	0.020	1.000	3.000	0.500	BRIGHT
496-500211	●	1/2	0.020	1.000	3.000	0.500	TiAlN
496-5003	●	1/2	0.030	1.000	3.000	0.500	BRIGHT
496-500311	●	1/2	0.030	1.000	3.000	0.500	TiAlN
496-5004	●	1/2	0.045	1.000	3.000	0.500	BRIGHT
496-5006	●	1/2	0.060	1.000	3.000	0.500	BRIGHT
496-500611	●	1/2	0.060	1.000	3.000	0.500	TiAlN
496-6252	●	5/8	0.020	1.250	3.500	0.625	BRIGHT
496-6253	●	5/8	0.030	1.250	3.500	0.625	BRIGHT
496-6254	●	5/8	0.045	1.250	3.500	0.625	BRIGHT
496-6256	●	5/8	0.060	1.250	3.500	0.625	BRIGHT
496-6259	●	5/8	0.090	1.250	3.500	0.625	BRIGHT
496-7502	●	3/4	0.020	1.500	4.000	0.750	BRIGHT
496-7503	●	3/4	0.030	1.500	4.000	0.750	BRIGHT
496-750311	●	3/4	0.030	1.500	4.000	0.750	TiAlN
496-7504	●	3/4	0.045	1.500	4.000	0.750	BRIGHT
496-7506	●	3/4	0.060	1.500	4.000	0.750	BRIGHT
496-7509	●	3/4	0.090	1.500	4.000	0.750	BRIGHT
496-7500	●	3/4	0.125	1.500	4.000	0.750	BRIGHT
496-1002	●	1	0.020	1.500	4.000	1.000	BRIGHT
496-1003	●	1	0.030	1.500	4.000	1.000	BRIGHT
496-1004	●	1	0.045	1.500	4.000	1.000	BRIGHT
496-1006	●	1	0.060	1.500	4.000	1.000	BRIGHT
496-1009	●	1	0.090	1.500	4.000	1.000	BRIGHT
496-1000	●	1	0.125	1.500	4.000	1.000	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	○

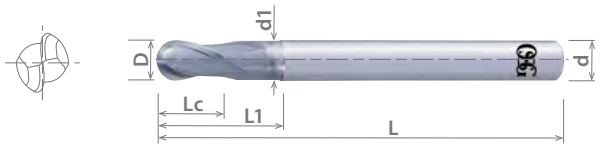
○ Good ◎ Best

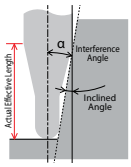
List 8410

A BRAND AE-BD-H

SPEED FEED 1461-1462 | CARBIDE | DUROREY | 2 FLUTE | 25° | SHANK h4 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1/2"	+/- 0.00028"



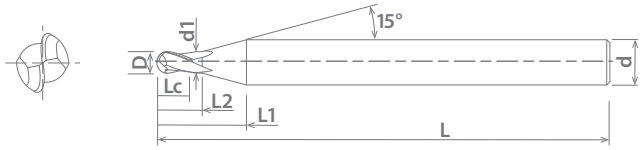


EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (Inch)	Lc (Inch)	L1 (Inch)	L2 (Inch)	d1 (Inch)	α (°)	0.5° (Inch)	1.0° (Inch)	1.5° (Inch)	2.0° (Inch)	3.0° (Inch)	L (Inch)	d (Inch)	
84100023	●	1/32	0.024	0.512	0.094	0.029	12.39	0.105	0.108	0.112	0.115	0.124	1.500	0.250	1
84100123	●	1/16	0.051	0.520	0.157	0.060	10.39	0.172	0.178	0.183	0.189	0.202	1.500	0.250	1
84100223	●	3/32	0.075	0.504	0.189	0.092	8.89	0.208	0.218	0.228	0.237	0.255	1.500	0.250	1
84100323	●	1/8	0.098	0.508	0.252	0.123	7.03	0.274	0.286	0.297	0.308	0.329	2.000	0.250	1
84100423	●	3/16	0.150	0.425	0.283	0.185	4.19	0.305	0.317	0.328	0.339	0.360	2.500	0.250	1
84100523	●	1/4	0.374	0.504	-	0.246	-	-	-	-	-	-	3.000	0.250	2
84100623	●	5/16	0.469	0.630	-	0.308	-	-	-	-	-	-	3.500	0.313	2
84100723	●	3/8	0.563	0.756	-	0.371	-	-	-	-	-	-	3.500	0.375	2
84100823	●	1/2	0.752	1.000	-	0.496	-	-	-	-	-	-	4.000	0.500	2

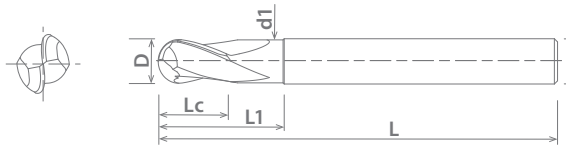
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

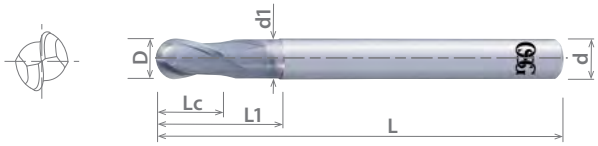
○ Good ◎ Best

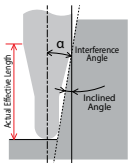
List 8510

A BRAND AE-BD-H

SPEED FEED 1461-1462 | CARBIDE | DUROREY | 2 FLUTE | 25° | SHANK h4 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.2mm ≤ D ≤ 12mm	+/- 0.005mm



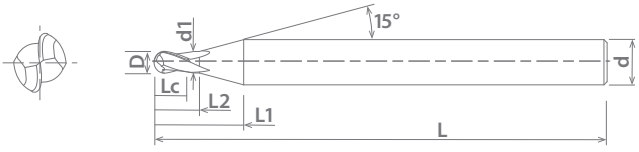


EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
85100023	●	0.20	0.16	7.31	0.40	0.19	14.78	0.21	0.23	0.24	0.25	0.28	40.00	4.00	1
85100123	●	0.80	0.60	7.66	1.60	0.75	12.50	1.70	1.74	1.79	1.84	1.93	40.00	4.00	1
3042001	●	1.00	0.80	7.70	2.00	0.95	11.71	2.14	2.20	2.26	2.33	2.48	50.00	4.00	1
85100223	●	1.40	1.10	7.74	2.80	1.35	10.50	2.95	3.02	3.07	3.13	3.27	50.00	4.00	1
3042002	●	1.50	1.20	7.90	3.00	1.45	10.03	3.17	3.25	3.34	3.44	3.66	50.00	4.00	1
3042003	●	2.00	1.60	12.00	4.00	1.95	10.64	4.19	4.30	4.42	4.55	4.85	50.00	6.00	1
85100323	●	2.50	2.00	8.08	5.00	2.35	6.46	5.21	5.31	5.43	5.54	5.82	50.00	4.00	1
3042004	●	3.00	2.40	11.90	6.00	2.85	8.15	6.44	6.61	6.79	7.00	7.45	60.00	6.00	1
3042005	●	4.00	3.40	8.00	-	3.85	-	-	-	-	-	-	60.00	4.00	2
3042006	●	4.00	3.40	12.10	8.00	3.85	5.65	8.49	8.71	8.96	9.22	9.81	70.00	6.00	1
3042008	●	5.00	4.20	12.20	10.00	4.80	2.92	10.63	10.90	11.22	11.55	-	80.00	6.00	1
3042010	●	6.00	9.00	-	-	5.80	-	-	-	-	-	-	90.00	6.00	2
3042012	●	8.00	12.00	-	-	7.70	-	-	-	-	-	-	100.00	8.00	2
3042014	●	10.00	15.00	-	-	9.70	-	-	-	-	-	-	100.00	10.00	2
3042016	●	12.00	18.00	-	-	11.70	-	-	-	-	-	-	110.00	12.00	2

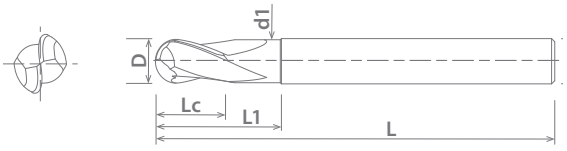
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

○ Good ◎ Best

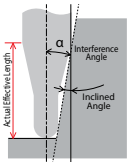
List 8590

A BRAND AE-LNBD-H, Long Neck, Rib Processing

SPEED FEED 1463-1466 | CARBIDE | DUROREY | 2 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.1mm ≤ D ≤ 0.5mm	+/- 0.003mm
0.6mm ≤ D ≤ 6mm	+/- 0.005mm



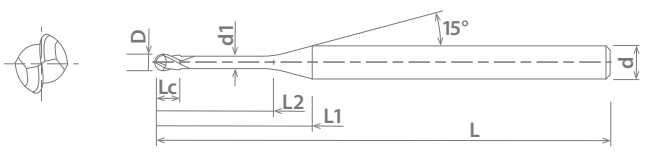


EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
3056101	●	0.10	0.08	7.60	0.30	0.10	14.52	0.30	0.31	0.32	0.33	0.36	45.00	4.00	1
3056102	●	0.10	0.08	7.80	0.50	0.10	14.16	0.51	0.53	0.54	0.56	0.60	45.00	4.00	1
3056104	●	0.20	0.16	7.60	0.50	0.19	14.18	0.53	0.54	0.56	0.58	0.62	45.00	4.00	1
3056105	●	0.20	0.16	7.90	0.75	0.19	13.74	0.79	0.81	0.84	0.86	0.93	45.00	4.00	1
3056106	●	0.20	0.16	8.10	1.00	0.19	13.33	1.04	1.08	1.11	1.15	1.24	45.00	4.00	1
3056109	●	0.20	0.16	8.60	1.50	0.19	12.58	1.56	1.61	1.67	1.73	1.86	45.00	4.00	1
3056110	●	0.20	0.16	8.90	1.75	0.19	12.23	1.82	1.88	1.94	2.01	2.17	45.00	4.00	1
3056111	●	0.20	0.16	9.10	2.00	0.19	11.90	2.08	2.15	2.22	2.30	2.48	45.00	4.00	1
3056115	●	0.30	0.24	7.50	0.60	0.29	14.06	0.63	0.65	0.66	0.68	0.73	45.00	4.00	1
3056117	●	0.30	0.24	7.90	1.00	0.29	13.36	1.04	1.07	1.11	1.14	1.23	45.00	4.00	1
3056118	●	0.30	0.24	8.20	1.25	0.29	12.96	1.30	1.34	1.39	1.43	1.54	45.00	4.00	1
3056119	●	0.30	0.24	8.40	1.50	0.29	12.59	1.56	1.61	1.66	1.72	1.85	45.00	4.00	1
3056122	●	0.30	0.24	8.90	2.00	0.29	11.89	2.08	2.14	2.22	2.29	2.47	45.00	4.00	1
3056124	●	0.30	0.24	9.40	2.50	0.29	11.27	2.59	2.68	2.77	2.87	3.09	45.00	4.00	1
3056125	●	0.30	0.24	9.90	3.00	0.29	10.71	3.11	3.21	3.32	3.44	3.71	45.00	4.00	1
3056127	●	0.30	0.24	10.90	4.00	0.29	9.74	4.14	4.28	4.43	4.59	4.96	45.00	4.00	1
3056129	●	0.30	0.24	11.90	5.00	0.29	8.93	5.18	5.35	5.54	5.74	6.20	45.00	4.00	1
3056132	●	0.40	0.30	7.60	0.80	0.38	13.71	0.85	0.88	0.90	0.93	0.99	45.00	4.00	1
3056133	●	0.40	0.30	7.80	1.00	0.38	13.37	1.06	1.09	1.12	1.16	1.24	45.00	4.00	1
3056135	●	0.40	0.30	8.30	1.50	0.38	12.57	1.58	1.63	1.68	1.73	1.86	45.00	4.00	1
3056136	●	0.40	0.30	8.80	2.00	0.38	11.86	2.09	2.16	2.23	2.31	2.48	45.00	4.00	1
3056138	●	0.40	0.30	9.30	2.50	0.38	11.22	2.61	2.70	2.79	2.88	3.10	45.00	4.00	1
3056139	●	0.40	0.30	9.80	3.00	0.38	10.65	3.13	3.23	3.34	3.46	3.72	45.00	4.00	1
3056140	●	0.40	0.30	10.30	3.50	0.38	10.14	3.64	3.76	3.89	4.03	4.35	45.00	4.00	1
3056141	●	0.40	0.30	10.80	4.00	0.38	9.67	4.16	4.30	4.45	4.61	4.97	45.00	4.00	1
3056143	●	0.40	0.30	11.80	5.00	0.38	8.85	5.20	5.37	5.56	5.76	6.21	45.00	4.00	1
3056145	●	0.40	0.30	12.80	6.00	0.38	8.15	6.23	6.44	6.66	6.91	7.45	45.00	4.00	1
3056147	●	0.50	0.40	7.60	1.00	0.48	13.40	1.06	1.09	1.12	1.15	1.23	45.00	4.00	1
3056148	●	0.50	0.40	8.10	1.50	0.48	12.58	1.58	1.62	1.67	1.73	1.85	45.00	4.00	1
3056149	●	0.50	0.40	8.60	2.00	0.48	11.85	2.09	2.16	2.23	2.30	2.47	45.00	4.00	1
3056150	●	0.50	0.40	9.10	2.50	0.48	11.20	2.61	2.69	2.78	2.88	3.09	45.00	4.00	1
3056151	●	0.50	0.40	9.60	3.00	0.48	10.62	3.13	3.23	3.33	3.45	3.71	45.00	4.00	1
3056152	●	0.50	0.40	10.10	3.50	0.48	10.09	3.64	3.76	3.89	4.03	4.33	45.00	4.00	1
3056153	●	0.50	0.40	10.60	4.00	0.48	9.61	4.16	4.30	4.44	4.60	4.95	45.00	4.00	1
3056154	●	0.50	0.40	11.10	4.50	0.48	9.18	4.68	4.83	5.00	5.18	5.58	45.00	4.00	1
3056155	●	0.50	0.40	11.60	5.00	0.48	8.78	5.19	5.37	5.55	5.75	6.20	45.00	4.00	1

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



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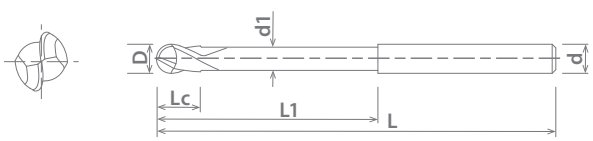


CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
			○	○									○	○	◎	◎

○ Good ◎ Best

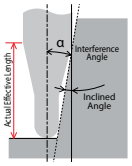
List 8590 (Continued)

SPEED FEED 1463-1466 | CARBIDE | DUROREY | 2 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE

A BRAND AE-LNBD-H, Long Neck, Rib Processing

Cutting Diameter Tolerance	
0.1mm ≤ D ≤ 0.5mm	+/- 0.003mm
0.6mm ≤ D ≤ 6mm	+/- 0.005mm





EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
3056157	●	0.50	0.40	12.60	6.00	0.48	8.08	6.23	6.44	6.66	6.90	7.44	45.00	4.00	1
3056159	●	0.50	0.40	14.60	8.00	0.48	6.97	8.29	8.58	8.88	9.20	9.93	45.00	4.00	1
3056161	●	0.50	0.40	16.60	10.00	0.48	6.12	10.36	10.71	11.09	11.50	12.41	45.00	4.00	1
3056164	●	0.60	0.50	7.60	1.20	0.55	12.99	1.32	1.36	1.40	1.44	1.53	45.00	4.00	1
3056166	●	0.60	0.50	8.40	2.00	0.55	11.76	2.15	2.21	2.28	2.36	2.53	45.00	4.00	1
3056168	●	0.60	0.50	8.90	2.50	0.55	11.10	2.67	2.75	2.84	2.93	3.15	45.00	4.00	1
3056169	●	0.60	0.50	9.40	3.00	0.55	10.51	2.67	2.75	2.84	2.93	3.15	45.00	4.00	1
3056171	●	0.60	0.50	9.90	3.50	0.55	9.98	3.70	3.82	3.95	4.08	4.39	45.00	4.00	1
3056172	●	0.60	0.50	10.40	4.00	0.55	9.50	4.22	4.35	4.50	4.66	5.01	45.00	4.00	1
3056175	●	0.60	0.50	11.40	5.00	0.55	8.67	5.25	5.42	5.61	5.81	6.26	45.00	4.00	1
3056176	●	0.60	0.50	11.90	5.50	0.55	8.30	5.77	5.96	6.16	6.38	6.88	45.00	4.00	1
3056177	●	0.60	0.50	12.40	6.00	0.55	7.96	6.28	6.49	6.72	6.96	7.50	45.00	4.00	1
3056178	●	0.60	0.50	12.90	6.50	0.55	7.65	6.80	7.03	7.27	7.53	8.12	45.00	4.00	1
3056181	●	0.60	0.50	14.40	8.00	0.55	6.85	8.35	8.63	8.93	9.26	9.99	45.00	4.00	1
3056185	●	0.60	0.50	16.40	10.00	0.55	6.01	10.42	10.77	11.15	11.56	12.47	45.00	4.00	1
3056187	●	0.60	0.50	18.40	12.00	0.55	5.36	12.49	12.91	13.37	13.86	14.96	50.00	4.00	1
3056190	●	0.80	0.60	8.10	2.00	0.75	11.74	2.15	2.21	2.27	2.34	2.50	45.00	4.00	1
3056193	●	0.80	0.60	9.10	3.00	0.75	10.42	3.18	3.28	3.38	3.49	3.75	45.00	4.00	1
3056194	●	0.80	0.60	10.10	4.00	0.75	9.37	4.21	4.35	4.49	4.64	4.99	45.00	4.00	1
3056195	●	0.80	0.60	11.10	5.00	0.75	8.51	5.25	5.42	5.60	5.79	6.23	45.00	4.00	1
3056196	●	0.80	0.60	12.10	6.00	0.75	7.80	6.28	6.49	6.71	6.94	7.48	45.00	4.00	1
3056197	●	0.80	0.60	13.10	7.00	0.75	7.19	7.31	7.55	7.81	8.09	8.72	45.00	4.00	1
3056198	●	0.80	0.60	14.10	8.00	0.75	6.67	8.35	8.62	8.92	9.24	9.96	45.00	4.00	1
3056200	●	0.80	0.60	16.10	10.00	0.75	5.83	10.41	10.76	11.14	11.54	12.45	45.00	4.00	1
3056203	●	1.00	0.80	7.70	2.00	0.95	11.71	2.14	2.20	2.26	2.33	2.48	45.00	4.00	1
3056206	●	1.00	0.80	8.70	3.00	0.95	10.33	3.18	3.27	3.37	3.48	3.72	45.00	4.00	1
3056208	●	1.00	0.80	9.70	4.00	0.95	9.23	4.21	4.34	4.48	4.63	4.97	45.00	4.00	1
3056210	●	1.00	0.80	10.70	5.00	0.95	8.35	5.24	5.41	5.59	5.78	6.21	45.00	4.00	1
3056212	●	1.00	0.80	11.70	6.00	0.95	7.62	6.28	6.48	6.69	6.93	7.45	45.00	4.00	1
3056214	●	1.00	0.80	12.70	7.00	0.95	7.00	7.31	7.55	7.80	8.08	8.69	45.00	4.00	1
3056216	●	1.00	0.80	13.70	8.00	0.95	6.48	8.34	8.62	8.91	9.23	9.94	45.00	4.00	1
3056218	●	1.00	0.80	14.70	9.00	0.95	6.03	9.38	9.69	10.02	10.38	11.18	45.00	4.00	1
3056219	●	1.00	0.80	15.70	10.00	0.95	5.64	10.41	10.76	11.13	11.53	12.42	45.00	4.00	1
3056221	●	1.00	0.80	17.70	12.00	0.95	4.99	12.48	12.90	13.34	13.83	14.91	45.00	4.00	1
3056223	●	1.00	0.80	19.70	14.00	0.95	4.47	14.55	15.04	15.56	16.13	17.40	50.00	4.00	1
3056224	●	1.00	0.80	21.70	16.00	0.95	4.05	16.61	17.18	17.78	18.43	19.88	50.00	4.00	1
3056225	●	1.00	0.80	23.70	18.00	0.95	3.70	18.68	19.31	19.99	20.73	22.37	55.00	4.00	1
3056226	●	1.00	0.80	25.70	20.00	0.95	3.41	20.75	21.45	22.21	23.03	24.86	55.00	4.00	1
3056227	●	1.00	0.80	27.70	22.00	0.95	3.16	22.82	23.59	24.43	25.33	27.34	60.00	4.00	1
3056231	●	1.20	1.00	7.70	2.40	1.15	11.04	2.55	2.62	2.69	2.77	2.95	45.00	4.00	1
3056234	●	1.20	1.00	9.30	4.00	1.15	9.08	4.21	4.33	4.47	4.61	4.94	45.00	4.00	1
3056236	●	1.20	1.00	11.30	6.00	1.15	7.42	6.27	6.47	6.68	6.91	7.43	45.00	4.00	1
3056237	●	1.20	1.00	13.30	8.00	1.15	6.27	8.34	8.61	8.90	9.21	9.91	45.00	4.00	1
3056238	●	1.20	1.00	15.30	10.00	1.15	5.43	10.41	10.75	11.12	11.51	12.40	45.00	4.00	1
3056243	●	1.20	1.00	25.30	20.00	1.15	3.24	20.74	21.45	22.20	23.01	24.83	55.00	4.00	1
3056257	●	1.50	1.20	18.80	14.00	1.45	3.97	14.54	15.02	15.53	16.09	17.34	50.00	4.00	1
3056258	●	1.50	1.20	20.80	16.00	1.45	3.58	16.60	17.16	17.75	18.39	19.82	50.00	4.00	1
3056246	●	1.50	1.20	7.80	3.00	1.45	10.03	2.65	2.72	2.79	2.87	3.04	55.00	4.00	1
3056248	●	1.50	1.20	8.80	4.00	1.45	8.81	4.20	4.32	4.45	4.59	4.91	55.00	4.00	1
3056251	●	1.50	1.20	10.80	6.00	1.45	7.09	6.27	6.46	6.67	6.89	7.39	55.00	4.00	1
3056253	●	1.50	1.20	12.80	8.00	1.45	5.93	8.34	8.60	8.88	9.19	9.88	55.00	4.00	1
3056255	●	1.50	1.20	14.80	10.00	1.45	5.09	10.40	10.74	11.10	11.49	12.36	55.00	4.00	1
3056256	●	1.50	1.20	16.80	12.00	1.45	4.46	12.47	12.88	13.32	13.79	14.85	55.00	4.00	1

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

List 8590 (Continued)

A BRAND AE-LNBD-H, Long Neck, Rib Processing

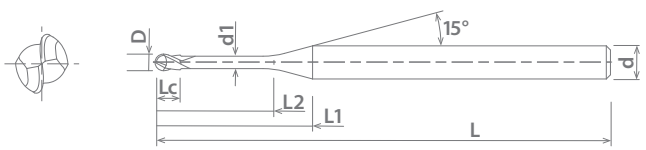
SPEED FEED 1463-1466 | CARBIDE | DUROREY | 2 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE

EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
3056259	●	1.50	1.20	22.80	18.00	1.45	3.25	18.67	19.30	19.97	20.69	22.31	55.00	4.00	1
3056260	●	1.50	1.20	24.80	20.00	1.45	2.98	20.74	21.44	22.18	22.99	-	55.00	4.00	1
3056261	●	1.50	1.20	26.80	22.00	1.45	2.75	22.81	23.58	24.40	25.29	-	60.00	4.00	1
3056263	●	1.50	1.20	34.80	30.00	1.45	2.11	31.08	32.13	33.27	34.49	-	70.00	4.00	1
3056265	●	1.60	1.30	12.60	8.00	1.55	5.81	8.33	8.60	8.88	9.18	9.87	45.00	4.00	1
3056266	●	1.60	1.30	16.60	12.00	1.55	4.35	12.47	12.88	13.31	13.78	14.84	45.00	4.00	1
3056267	●	1.60	1.30	20.60	16.00	1.55	3.47	16.60	17.15	17.75	18.38	19.81	50.00	4.00	1
3056268	●	1.60	1.30	24.60	20.00	1.55	2.89	20.74	21.43	22.18	22.98	-	55.00	4.00	1
3056272	●	2.00	1.60	7.80	4.00	1.95	8.25	4.19	4.30	4.42	4.55	4.85	45.00	4.00	1
3056275	●	2.00	1.60	9.80	6.00	1.95	6.43	6.26	6.44	6.64	6.85	7.33	45.00	4.00	1
3056277	●	2.00	1.60	11.80	8.00	1.95	5.26	8.33	8.58	8.86	9.15	9.82	45.00	4.00	1
3056279	●	2.00	1.60	13.80	10.00	1.95	4.45	10.39	10.72	11.07	11.45	12.31	45.00	4.00	1
3056281	●	2.00	1.60	15.80	12.00	1.95	3.86	12.46	12.86	13.29	13.75	14.79	45.00	4.00	1
3056284	●	2.00	1.60	17.80	14.00	1.95	3.40	14.53	15.00	15.51	16.05	17.28	50.00	4.00	1
3056285	●	2.00	1.60	19.80	16.00	1.95	3.04	16.60	17.14	17.72	18.35	19.76	50.00	4.00	1
3056288	●	2.00	1.60	23.80	20.00	1.95	2.51	20.73	21.42	22.16	22.95	-	55.00	4.00	1
3056290	●	2.00	1.60	25.80	22.00	1.95	2.31	22.80	23.56	24.37	25.25	-	60.00	4.00	1
3056291	●	2.00	1.60	28.80	25.00	1.95	2.06	25.90	26.77	27.70	28.70	-	65.00	4.00	1
3056293	●	2.00	1.60	33.80	30.00	1.95	1.75	31.07	32.12	33.24	-	-	70.00	4.00	1
3056294	●	2.00	1.60	38.80	35.00	1.95	1.52	36.24	37.46	38.78	-	-	70.00	4.00	1
3056295	●	2.00	1.60	43.80	40.00	1.95	1.34	41.40	42.81	-	-	-	80.00	4.00	1
3056298	●	2.50	2.00	13.10	10.00	2.35	3.62	10.58	10.90	11.25	11.63	12.48	45.00	4.00	1
3056299	●	2.50	2.00	18.10	15.00	2.35	2.55	15.75	16.25	16.80	17.38	-	50.00	4.00	1
3056300	●	2.50	2.00	23.10	20.00	2.35	1.97	20.92	21.60	22.34	-	-	55.00	4.00	1
3056303	●	2.50	2.00	38.10	35.00	2.35	1.17	36.42	37.65	-	-	-	70.00	4.00	1
3056304	●	3.00	2.40	11.90	6.00	2.85	8.15	6.44	6.61	6.79	7.00	7.45	50.00	6.00	1
3056305	●	3.00	2.40	13.90	8.00	2.85	6.87	8.50	8.75	9.01	9.29	9.93	50.00	6.00	1
3056306	●	3.00	2.40	15.90	10.00	2.85	5.93	10.57	10.89	11.23	11.59	12.42	50.00	6.00	1
3056307	●	3.00	2.40	17.90	12.00	2.85	5.22	12.64	13.03	13.44	13.89	14.91	55.00	6.00	1
3056309	●	3.00	2.40	19.90	14.00	2.85	4.66	14.71	15.17	15.66	16.19	17.39	55.00	6.00	1
3056310	●	3.00	2.40	20.90	15.00	2.85	4.42	15.74	16.24	16.77	17.34	18.63	55.00	6.00	1
3056311	●	3.00	2.40	21.90	16.00	2.85	4.20	16.77	17.31	17.88	18.49	19.88	55.00	6.00	1
3056312	●	3.00	2.40	25.90	20.00	2.85	3.52	20.91	21.58	22.31	23.09	24.85	60.00	6.00	1
3056313	●	3.00	2.40	30.90	25.00	2.85	2.92	26.08	26.93	27.85	28.84	-	65.00	6.00	1
3056314	●	3.00	2.40	35.90	30.00	2.85	2.50	31.24	32.28	33.39	34.59	-	70.00	6.00	1
3056318	●	3.50	2.80	19.90	15.00	3.35	3.92	15.73	16.22	16.74	17.31	18.58	55.00	6.00	1
3056327	●	4.00	3.20	12.00	8.00	3.85	5.65	8.49	8.71	8.96	9.22	9.81	60.00	6.00	1
3056328	●	4.00	3.20	14.00	10.00	3.85	4.73	10.55	10.85	11.17	11.52	12.30	60.00	6.00	1
3056329	●	4.00	3.20	16.00	12.00	3.85	4.07	12.62	12.99	13.39	13.82	14.79	60.00	6.00	1
3056333	●	4.00	3.20	20.00	16.00	3.85	3.17	16.76	17.27	17.82	18.42	19.76	60.00	6.00	1
3056334	●	4.00	3.20	24.00	20.00	3.85	2.60	20.89	21.55	22.26	23.02	-	65.00	6.00	1

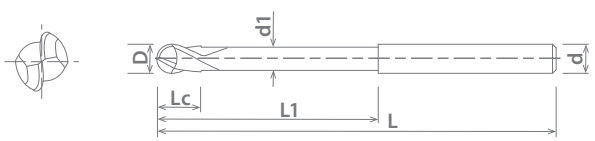
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

○ Good ◎ Best

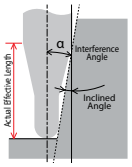
List 8590 (Continued)

A BRAND AE-LNBD-H, Long Neck, Rib Processing

SPEED FEED 1463-1466 | CARBIDE | DURAREY | 2 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
0.1mm ≤ D ≤ 0.5mm	+/- 0.003mm
0.6mm ≤ D ≤ 6mm	+/- 0.005mm



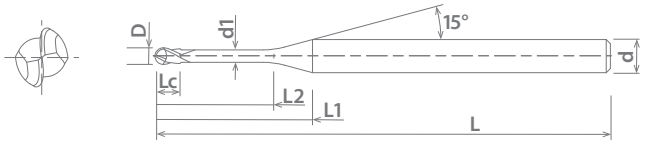


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Non-Taper Neck Length L2 (mm)	Neck Diameter d1 (mm)	Interference Angle α (°)	Effective Neck Length by Incline Angle 0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
3056335	●	4.00	3.20	29.00	25.00	3.85	2.12	26.06	26.90	27.80	28.77	-	70.00	6.00	1
3056336	●	4.00	3.20	34.00	30.00	3.85	1.79	31.23	32.25	33.34	-	-	80.00	6.00	1
3056337	●	4.00	3.20	39.00	35.00	3.85	1.55	36.40	37.60	38.88	-	-	80.00	6.00	1
3056338	●	4.00	3.20	44.00	40.00	3.85	1.37	41.56	42.94	-	-	-	90.00	6.00	1
3056339	●	4.00	3.20	49.00	45.00	3.85	1.22	46.73	48.29	-	-	-	90.00	6.00	1
3056341	●	5.00	4.00	12.10	10.00	4.85	2.95	10.54	10.82	11.12	11.45	-	60.00	6.00	1
3056342	●	5.00	4.00	17.10	15.00	4.85	1.95	15.71	16.17	16.66	-	-	60.00	6.00	1
3056344	●	5.00	4.00	27.10	25.00	4.85	1.17	26.04	26.86	16.66	-	-	60.00	6.00	1
3056345	●	5.00	4.00	32.10	30.00	4.85	0.97	31.21	-	16.66	-	-	80.00	6.00	1
3056347	●	5.00	4.00	42.10	40.00	4.85	0.73	41.55	-	16.66	-	-	90.00	6.00	1
3056351	●	6.00	4.80	-	12.00	5.85	-	-	-	16.66	-	-	60.00	6.00	2
3056353	●	6.00	4.80	-	20.00	5.85	-	-	-	16.66	-	-	70.00	6.00	2
3056355	●	6.00	4.80	-	30.00	5.85	-	-	-	16.66	-	-	80.00	6.00	2
3056356	●	6.00	4.80	-	35.00	5.85	-	-	-	16.66	-	-	80.00	6.00	2
3056358	●	6.00	4.80	-	45.00	5.85	-	-	-	16.66	-	-	100.00	6.00	2
3056359	●	6.00	4.80	-	50.00	5.85	-	-	-	16.66	-	-	120.00	6.00	2

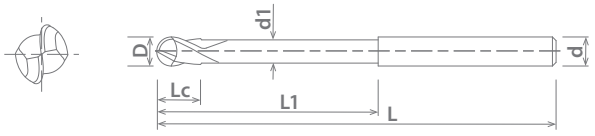
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

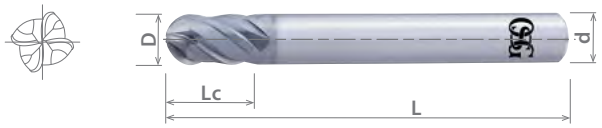
○ Good ◎ Best

List 8430

A BRAND AE-BM-H

SPEED FEED 1467-1470 | CARBIDE | DUROREY | 4 FLUTE | 40° | SHANK h4 | STUB | REG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 3/16"	+/- 0.00028"
5/16" ≤ D ≤ 1/2"	+/- 0.00039"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
84300023	●	1/8	0.250	2.000	0.125
84300123	●	3/16	0.375	2.500	0.188
84300223	●	1/4	0.500	3.500	0.250
84300323	●	5/16	0.625	4.000	0.313
84300423	●	3/8	0.750	4.000	0.375
84300523	●	1/2	0.875	4.375	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

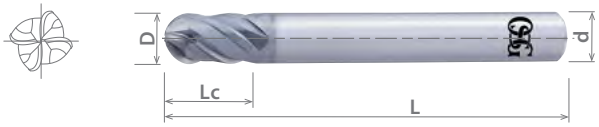
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

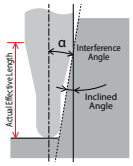
○ Good ◎ Best

List 8530

A BRAND AE-BM-H

SPEED FEED 1467-1470 | CARBIDE | DUROREY | 4 FLUTE | 40° | SHANK h4 | STUB | REG | PACKED 1 PIECE





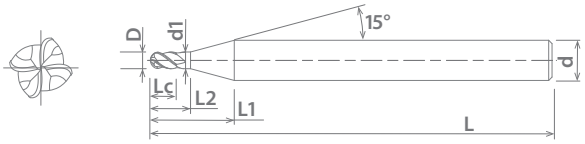
Cutting Diameter Tolerance	
1mm ≤ D ≤ 3mm	+/- 0.005mm
4mm ≤ D ≤ 6mm	+/- 0.007mm
8mm ≤ D ≤ 12mm	+/- 0.010mm

EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
85300023	●	1.00	2.00	8.00	2.00	0.95	11.85	2.13	2.19	2.25	2.32	2.46	50.00	4.00	1
85300123	●	1.50	3.00	8.00	3.00	1.45	10.15	2.64	2.71	2.78	2.85	3.02	50.00	4.00	1
8549602	●	2.00	2.00	12.00	4.00	1.95	10.64	4.19	4.30	4.42	4.55	4.85	50.00	6.00	1
85300223	●	2.50	5.00	12.00	5.00	2.45	9.57	5.32	5.40	5.52	5.64	5.81	50.00	6.00	1
8549603	●	3.00	3.00	12.00	6.00	2.85	8.15	6.44	6.61	6.79	7.00	7.45	50.00	6.00	1
8549604	●	4.00	4.00	12.10	8.00	3.85	5.65	8.49	8.71	8.96	9.22	9.81	60.00	6.00	1
8549605	●	5.00	5.00	12.20	10.00	4.85	2.95	10.54	10.82	11.12	11.45	-	60.00	6.00	1
8549606	●	6.00	9.00	-	-	-	-	-	-	-	-	-	60.00	6.00	2
8549608	●	8.00	12.00	-	-	-	-	-	-	-	-	-	70.00	8.00	2
8549610	●	10.00	15.00	-	-	-	-	-	-	-	-	-	80.00	10.00	2
8549612	●	12.00	18.00	-	-	-	-	-	-	-	-	-	90.00	12.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
			○	○									○	○	◎	◎

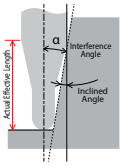
○ Good ◎ Best

List 8990

A BRAND AE-LNBD-N, Long Neck, Rib Processing

NEW | SPEED FEED 1471-1472 | CARBIDE | DLC-IGUSS | 2 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE





Note: If there is no value in the relative Effective Neck Length by Incline Angle column, it indicates no interference.

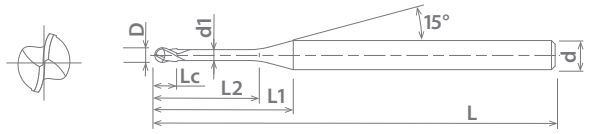
Radius	Tolerance
0.1mm ≤ D ≤ 0.4mm	+/- 0.002mm
0.5mm ≤ D ≤ 3mm	+/- 0.003mm
4mm ≤ D ≤ 6mm	+/- 0.004mm

EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
3056370	▲	0.10	0.08	7.60	0.30	0.09	14.52	0.30	0.31	0.32	0.33	0.36	45.00	4.00	1
3056371	▲	0.10	0.08	7.80	0.50	0.09	14.07	0.53	0.56	0.59	0.62	0.67	45.00	4.00	1
3056372	▲	0.15	0.12	7.50	0.30	0.14	14.55	0.30	0.31	0.32	0.33	0.35	45.00	4.00	1
3056373	▲	0.15	0.12	7.70	0.50	0.14	14.12	0.52	0.55	0.58	0.60	0.65	45.00	4.00	1
3056374	▲	0.15	0.12	8.20	1.00	0.14	13.29	1.05	1.10	1.14	1.18	1.27	45.00	4.00	1
3056375	▲	0.20	0.16	7.40	0.30	0.19	14.59	0.30	0.31	0.32	0.33	0.34	45.00	4.00	1
3056376	▲	0.20	0.16	7.60	0.50	0.19	14.12	0.53	0.56	0.58	0.61	0.66	45.00	4.00	1
3056377	▲	0.20	0.16	8.10	1.00	0.19	13.28	1.06	1.11	1.15	1.19	1.28	45.00	4.00	1
3056378	▲	0.20	0.16	8.60	1.50	0.19	12.53	1.58	1.65	1.70	1.76	1.90	45.00	4.00	1
3056379	●	0.30	0.24	7.50	0.60	0.29	14.02	0.63	0.65	0.68	0.70	0.75	45.00	4.00	1
3056380	▲	0.30	0.24	7.90	1.00	0.29	13.33	1.05	1.09	1.13	1.17	1.25	45.00	4.00	1
3056381	▲	0.30	0.24	8.40	1.50	0.29	12.56	1.57	1.63	1.68	1.74	1.87	45.00	4.00	1
3056382	●	0.30	0.24	8.90	2.00	0.29	11.87	2.09	2.16	2.24	2.32	2.49	45.00	4.00	1
3056383	▲	0.40	0.30	7.70	1.00	0.38	13.38	1.04	1.08	1.11	1.15	1.23	45.00	4.00	1
3056384	●	0.40	0.30	8.70	2.00	0.38	11.87	2.08	2.15	2.22	2.30	2.47	45.00	4.00	1
3056385	▲	0.40	0.30	9.70	3.00	0.38	10.66	3.12	3.22	3.33	3.45	3.47	45.00	4.00	1
3056386	▲	0.40	0.30	10.70	4.00	0.38	9.68	4.15	4.29	4.44	4.60	4.95	45.00	4.00	1
3056387	●	0.50	0.40	7.60	1.00	0.48	13.43	1.03	1.07	1.10	1.13	1.20	45.00	4.00	1
3056388	●	0.50	0.40	8.60	2.00	0.48	11.87	2.07	2.14	2.21	2.28	2.45	45.00	4.00	1
3056389	●	0.50	0.40	9.60	3.00	0.48	10.63	3.11	3.21	3.32	3.43	3.69	45.00	4.00	1
3056390	▲	0.50	0.40	10.60	4.00	0.48	9.63	4.14	4.28	4.42	4.58	4.93	45.00	4.00	1
3056391	▲	0.50	0.40	11.60	5.00	0.48	8.79	5.18	5.35	5.53	5.73	6.18	45.00	4.00	1
3056392	▲	0.60	0.50	7.30	1.00	0.55	13.50	1.02	1.05	1.07	1.10	1.17	45.00	4.00	1
3056393	▲	0.60	0.50	8.30	2.00	0.55	11.89	2.06	2.12	2.18	2.25	2.41	45.00	4.00	1
3056394	●	0.60	0.50	9.30	3.00	0.55	10.62	3.09	3.19	3.29	3.40	3.66	45.00	4.00	1
3056395	▲	0.60	0.50	10.30	4.00	0.55	9.59	4.12	4.26	4.40	4.55	4.90	45.00	4.00	1
3056396	▲	0.60	0.50	11.30	5.00	0.55	8.74	5.16	5.33	5.51	5.70	6.14	45.00	4.00	1
3056397	▲	0.60	0.50	12.30	6.00	0.55	8.02	6.19	6.40	6.62	6.85	7.39	45.00	4.00	1
3056398	●	0.80	0.60	8.00	2.00	0.75	11.87	2.05	2.11	2.17	2.24	2.39	45.00	4.00	1
3056399	▲	0.80	0.60	9.10	3.00	0.75	10.53	3.09	3.18	3.28	3.39	3.63	45.00	4.00	1
3056400	●	0.80	0.60	10.00	4.00	0.75	9.46	4.12	4.25	4.39	4.54	4.88	45.00	4.00	1
3056401	●	0.80	0.60	12.00	6.00	0.75	7.86	6.19	6.39	6.61	6.84	7.36	45.00	4.00	1
3056402	●	0.80	0.60	14.00	8.00	0.75	6.72	8.25	8.53	8.82	9.14	9.85	45.00	4.00	1
3056403	●	1.00	0.80	7.60	2.00	0.95	11.85	2.05	2.10	2.16	2.22	2.37	45.00	4.00	1
3056404	●	1.00	0.80	8.60	3.00	0.95	10.44	3.08	3.17	3.27	3.37	3.61	45.00	4.00	1
3056405	●	1.00	0.80	9.60	4.00	0.95	9.32	4.12	4.24	4.38	4.52	4.85	45.00	4.00	1

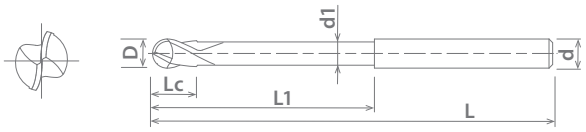
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



Type2



CONTINUED

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

○ Good ◎ Best

A Brand *AE-LNBD-N*

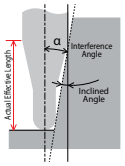
Advanced Performance Long Neck, Ball Nose End Mills for Non-Ferrous Materials

List 8990 (Cont.)

A NEW SPEED FEED 1471-1472 CARBIDE DLC-IGUSS 2 FLUTE 30° SHANK h4 STUB PACKED 1 PIECE

A BRAND AE-LNBD-N, Long Neck, Rib Processing





Note: If there is no value in the relative Effective Neck Length by Incline Angle column, it indicates no interference.

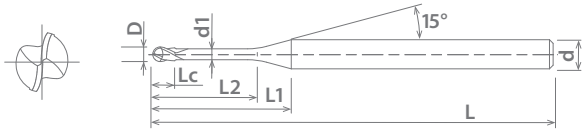
Radius	Tolerance
0.1mm ≤ D ≤ 0.4mm	+/- 0.002mm
0.5mm ≤ D ≤ 3mm	+/- 0.003mm
4mm ≤ D ≤ 6mm	+/- 0.004mm

EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
3056406	●	1.00	0.80	10.60	5.00	0.95	8.42	5.15	5.31	5.49	5.67	6.10	45.00	4.00	1
3056407	●	1.00	0.80	11.60	6.00	0.95	7.68	6.18	6.38	6.59	6.82	7.34	45.00	4.00	1
3056408	●	1.00	0.80	13.60	8.00	0.95	6.52	8.25	8.52	8.81	9.12	9.83	45.00	4.00	1
3056409	●	1.00	0.80	15.60	10.00	0.95	5.67	10.32	10.66	11.03	11.42	12.31	45.00	4.00	1
3056410	●	1.00	0.80	17.60	12.00	0.95	5.01	12.39	12.80	13.24	13.72	14.80	45.00	4.00	1
3056411	●	1.50	1.20	8.80	4.00	1.45	8.80	4.18	4.33	4.46	4.60	4.92	45.00	4.00	1
3056412	●	1.50	1.20	10.80	6.00	1.45	7.09	6.27	6.47	6.68	6.90	7.40	45.00	4.00	1
3056413	●	1.50	1.20	16.80	12.00	1.45	4.46	12.48	12.89	13.33	13.80	14.86	55.00	4.00	1
3056414	▲	1.50	1.20	22.80	18.00	1.45	3.25	18.68	19.31	19.98	20.70	22.32	55.00	4.00	1
3056415	●	2.00	1.60	8.20	4.00	1.95	7.88	4.22	4.44	4.65	4.86	5.26	50.00	4.00	1
3056416	●	2.00	1.60	10.20	6.00	1.95	6.20	6.35	6.67	6.96	7.23	7.75	50.00	4.00	1
3056417	●	2.00	1.60	12.20	8.00	1.95	5.10	8.47	8.87	9.22	9.54	10.24	50.00	4.00	1
3056418	●	2.00	1.60	14.20	10.00	1.95	4.34	10.58	11.05	11.45	11.84	12.73	50.00	4.00	1
3056419	●	2.00	1.60	16.20	12.00	1.95	3.77	12.68	13.21	13.67	14.14	15.21	50.00	4.00	1
3056420	●	2.00	1.60	18.20	14.00	1.95	3.33	14.78	15.36	15.88	16.44	17.70	50.00	4.00	1
3056421	●	2.00	1.60	20.20	16.00	1.95	2.99	16.87	17.50	18.10	18.74	-	50.00	4.00	1
3056422	●	2.00	1.60	24.20	20.00	1.95	2.47	21.04	21.78	22.53	23.34	-	60.00	4.00	1
3056423	▲	2.00	1.60	29.20	25.00	1.95	2.04	26.24	27.13	28.07	29.09	-	60.00	4.00	1
3056424	●	3.00	2.40	15.80	10.00	2.85	5.95	10.44	10.83	11.18	11.55	12.37	55.00	6.00	1
3056425	●	3.00	2.40	17.80	12.00	2.85	5.23	12.53	12.98	13.40	13.85	14.85	55.00	6.00	1
3056426	●	3.00	2.40	19.80	14.00	2.85	4.67	14.62	15.12	15.62	16.15	17.34	55.00	6.00	1
3056427	●	3.00	2.40	21.80	16.00	2.85	4.21	16.70	17.26	17.83	18.45	19.83	55.00	6.00	1
3056428	●	3.00	2.40	25.80	20.00	2.85	3.53	20.85	21.54	22.27	23.05	24.80	55.00	6.00	1
3056429	●	3.00	2.40	30.80	25.00	2.85	2.93	26.03	26.89	27.81	28.80	-	65.00	6.00	1
3056430	●	3.00	2.40	35.80	30.00	2.85	2.50	31.20	32.24	33.35	34.54	-	65.00	6.00	1
3056431	▲	4.00	3.20	14.00	10.00	3.85	4.75	10.42	10.79	11.13	11.47	12.25	60.00	6.00	1
3056432	●	4.00	3.20	19.00	15.00	3.85	3.37	15.64	16.16	16.67	17.22	18.47	60.00	6.00	1
3056433	●	4.00	3.20	24.00	20.00	3.85	2.61	20.84	21.51	22.21	22.97	-	65.00	6.00	1
3056434	●	4.00	3.20	29.00	25.00	3.85	2.13	26.02	26.85	27.75	28.72	-	65.00	6.00	1
3056435	●	4.00	3.20	34.00	30.00	3.85	1.79	31.18	32.20	33.30	-	-	80.00	6.00	1
3056436	●	4.00	3.20	44.00	40.00	3.85	1.37	41.52	42.90	-	-	-	80.00	6.00	1
3056437	▲	6.00	4.80	10.00	-	5.85	-	-	-	-	-	-	70.00	6.00	2
3056438	●	6.00	4.80	15.00	-	5.85	-	-	-	-	-	-	70.00	6.00	2
3056439	●	6.00	4.80	20.00	-	5.85	-	-	-	-	-	-	70.00	6.00	2
3056440	▲	6.00	4.80	30.00	-	5.85	-	-	-	-	-	-	90.00	6.00	2
3056441	●	6.00	4.80	50.00	-	5.85	-	-	-	-	-	-	90.00	6.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

AEM

Type1



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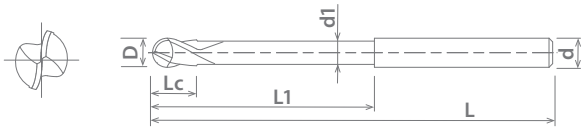


P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
									◎	◎						

○ Good ◎ Best

List 9510

EXOPRO® PHX-DBT, Deep Feed

SPEED FEED 1473-1474 | CARBIDE | EXO® | 3 FLUTE | 45° | SHANK h6 | STUB | PACKED 1 PIECE

Radius Tolerance	
1mm ≤ D ≤ 20mm	+/- 0.010mm

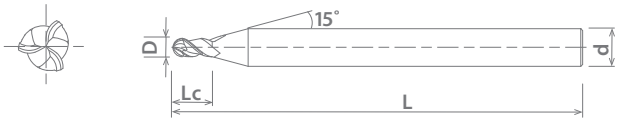


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Type
3090202	●	1.00	1.50	60.00	6.00	1
3090204	●	2.00	3.00	60.00	6.00	1
3090206	●	3.00	4.50	70.00	6.00	1
3090208	●	4.00	6.00	70.00	6.00	1
3090210	●	5.00	7.50	70.00	6.00	1
3090212	●	6.00	9.00	80.00	6.00	2
3090312	●	6.00	9.00	110.00	6.00	2
3090216	●	8.00	12.00	90.00	8.00	2
3090316	●	8.00	12.00	120.00	8.00	2
3090220	●	10.00	15.00	100.00	10.00	2
3090320	●	10.00	15.00	130.00	10.00	2
3090222	●	12.00	18.00	100.00	12.00	2
3090322	●	12.00	18.00	140.00	12.00	2
3090226	●	16.00	24.00	150.00	16.00	2
3090230	●	20.00	30.00	150.00	20.00	2
3090330	●	20.00	30.00	200.00	20.00	2

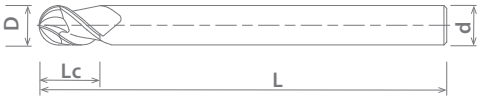
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

Type 1



Type 2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○

○ Good ◎ Best

List 9590

EXOPRO® PHX-LN-DBT, Long Neck

SPEED FEED	CARBIDE	WXS	3 FLUTE	45°			SHANK	STUB	PACKED
1473-1474							h6		1 PIECE

Radius Tolerance	
0.6mm ≤ D ≤ 6mm	+/- 0.007mm

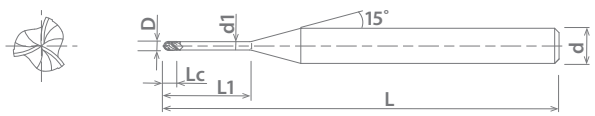


EDP Number		Diameter	Length of Cut	Neck Diameter	Neck Length	Effective Neck Length by Incline Angle						Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	d1 (mm)	L1 (mm)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	2.5° (mm)	3.0° (mm)	L (mm)	d (mm)	
3194901	●	0.60	0.45	0.55	1.00	1.02	1.05	1.08	1.11	1.14	1.17	50.00	4.00	1
3194902	●	0.60	0.45	0.55	2.00	2.06	2.12	2.18	2.26	2.33	2.42	50.00	4.00	1
3194903	●	0.60	0.45	0.55	3.00	3.09	3.19	3.29	3.41	3.53	3.66	50.00	4.00	1
3194904	●	0.60	0.45	0.55	4.00	4.12	4.26	4.40	4.56	4.72	4.90	50.00	4.00	1
3194906	●	0.60	0.45	0.55	6.00	6.19	6.40	6.62	6.86	7.11	7.39	50.00	4.00	1
3195004	●	1.00	0.75	0.95	4.00	4.26	4.50	4.74	4.96	5.18	5.39	50.00	4.00	1
3195006	●	1.00	0.75	0.95	6.00	6.39	6.72	7.03	7.32	7.95	7.88	50.00	4.00	1
3195008	●	1.00	0.75	0.95	8.00	8.50	8.92	9.28	9.62	9.98	10.36	50.00	4.00	1
3195010	●	1.00	0.75	0.95	10.00	10.61	11.09	11.51	11.92	12.37	12.85	50.00	4.00	1
3195012	●	1.00	0.75	0.95	12.00	12.71	13.25	13.71	14.12	14.49	14.83	50.00	4.00	1
3195014	●	1.00	0.75	0.95	14.00	14.81	15.40	15.90	16.34	16.73	17.82	50.00	4.00	1
3195016	●	1.00	0.75	0.95	16.00	16.90	17.54	18.07	18.54	19.53	20.31	50.00	4.00	1
3195106	●	1.50	1.12	1.45	6.00	6.37	6.70	7.00	7.28	7.54	7.82	50.00	4.00	1
3195108	●	1.50	1.12	1.45	8.00	8.49	8.89	9.25	9.58	9.93	10.30	50.00	4.00	1
3195110	●	1.50	1.12	1.45	10.00	10.60	11.07	11.48	11.88	12.32	12.79	50.00	4.00	1
3195112	●	1.50	1.12	1.45	12.00	12.70	13.23	13.69	14.09	14.46	14.80	50.00	4.00	1
3195116	●	1.50	1.12	1.45	16.00	16.89	17.52	18.05	18.51	18.93	19.31	50.00	4.00	1
3195206	●	2.00	1.50	1.95	6.00	6.35	6.65	6.94	7.21	7.46	7.73	50.00	4.00	1
3195208	●	2.00	1.50	1.95	8.00	8.46	8.85	9.20	9.52	9.85	10.21	50.00	4.00	1
3195210	●	2.00	1.50	1.95	10.00	10.57	11.03	11.43	11.82	12.24	12.70	50.00	4.00	1
3195212	●	2.00	1.50	1.95	12.00	12.67	13.19	13.64	14.12	14.63	15.19	50.00	4.00	1
3195214	●	2.00	1.50	1.95	14.00	14.77	15.34	15.86	16.42	17.02	17.67	50.00	4.00	1
3195216	●	2.00	1.50	1.95	16.00	16.86	17.48	18.08	-	18.72	19.41	50.00	4.00	1
3195218	●	2.00	1.50	1.95	18.00	18.94	19.62	20.29	-	21.02	21.80	60.00	4.00	1
3195220	●	2.00	1.50	1.95	20.00	21.03	21.76	22.51	-	23.18	-	60.00	4.00	1
3195222	●	2.00	1.50	1.95	22.00	23.13	23.89	24.50	-	25.03	-	60.00	4.00	1
3195312	●	3.00	2.25	2.85	12.00	12.61	13.10	13.57	-	14.08	-	60.00	4.00	1
3195316	●	3.00	2.25	2.85	16.00	16.77	17.38	17.01	-	-	-	60.00	4.00	1
3195320	●	3.00	2.25	2.85	20.00	20.92	21.65	-	-	-	-	60.00	4.00	1
3195325	●	3.00	2.25	2.85	25.00	26.10	-	-	-	-	-	60.00	4.00	1
3195416	●	4.00	3.00	3.85	16.00	-	-	-	-	-	-	60.00	4.00	2
3195420	●	4.00	3.00	3.85	20.00	-	-	-	-	-	-	60.00	4.00	2
3195425	●	4.00	3.00	3.85	25.00	-	-	-	-	-	-	60.00	4.00	2
3195520	●	6.00	4.50	5.85	20.00	-	-	-	-	-	-	70.00	6.00	2
3195530	●	6.00	4.50	5.85	30.00	-	-	-	-	-	-	70.00	6.00	2

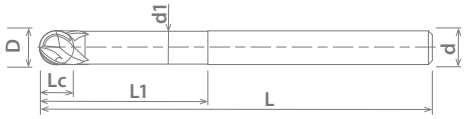
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

Type 1



Type 2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○

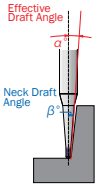
○ Good ◎ Best

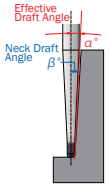
List 9581

EXOPRO® PHX-PC-DBT, Pencil Neck, Deep Feed

SPEED FEED	CARBIDE						SHANK		PACKED
1473-1474		WXS	3 FLUTE	45°			h6	STUB	1 PIECE







Radius Tolerance	
0.6mm ≤ D ≤ 6mm	+/- 0.010mm

Note: The tool may deflect and interfere with the draft area depending on the milling condition.

Note: For convenience, the Neck Draft Angle (β°) is shown the same as the Effective Draft Angle (α°), but actually it is different. (It does not interfere with the Effective Draft Angle (α°)

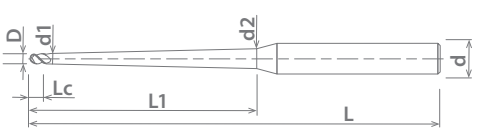
EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Diameter Min d1 Min (mm)	Neck Diameter Max d1 Max (mm)	Neck Length L1 (mm)	Effective Draft Angle α (°)	Neck Draft Angle β (°)	Overall Length L (mm)	Shank Diameter d (mm)	Type
3095125	●	1.00	1.50	0.95	1.20	16.00	0.38	0.50	60.00	6.00	1
3095141	●	1.00	1.50	0.95	1.10	6.00	0.56	1.00	60.00	6.00	1
3095142	●	1.00	1.50	0.95	1.17	8.00	0.68	1.00	60.00	6.00	1
3095143	●	1.00	1.50	0.95	1.24	10.00	0.75	1.00	60.00	6.00	1
3095144	●	1.00	1.50	0.95	1.31	12.00	0.79	1.00	60.00	6.00	1
3095145	●	1.00	1.50	0.95	1.45	16.00	0.85	1.00	60.00	6.00	1
3095146	●	1.00	1.50	0.95	1.59	20.00	0.88	1.00	60.00	6.00	1
3095155	●	1.00	1.50	0.95	1.65	15.00	1.30	1.50	60.00	6.00	1
3095147	●	1.00	1.50	0.95	1.77	25.00	0.91	1.00	70.00	6.00	1
3095157	●	1.00	1.50	0.95	2.18	25.00	1.39	1.50	70.00	6.00	1
3095191	●	1.00	1.50	0.95	5.43	30.00	4.30	4.50	70.00	6.00	1
3095211	●	1.50	2.25	1.45	1.58	6.00	0.45	1.00	60.00	6.00	1
3095212	●	1.50	2.25	1.45	1.68	9.00	0.65	1.00	60.00	6.00	1
3095213	●	1.50	2.25	1.45	1.79	12.00	0.74	1.00	60.00	6.00	1
3095214	●	1.50	2.25	1.45	1.89	15.00	0.80	1.00	60.00	6.00	1
3095215	●	1.50	2.25	1.45	2.10	21.00	0.86	1.00	60.00	6.00	1
3095216	●	1.50	2.25	1.45	2.41	30.00	0.90	1.00	70.00	6.00	1
3095223	●	2.00	3.00	1.95	2.24	20.00	0.38	0.50	60.00	6.00	1
3095241	●	2.00	3.00	1.95	2.19	10.00	0.62	1.00	60.00	6.00	1
3095242	●	2.00	3.00	1.95	2.36	15.00	0.76	1.00	60.00	6.00	1
3095243	●	2.00	3.00	1.95	2.54	20.00	0.82	1.00	60.00	6.00	1
3095244	●	2.00	3.00	1.95	2.71	25.00	0.86	1.00	70.00	6.00	1
3095245	●	2.00	3.00	1.95	2.89	30.00	0.89	1.00	80.00	6.00	1
3095246	●	2.00	3.00	1.95	3.24	40.00	0.92	1.00	80.00	6.00	1
3095251	●	2.00	3.00	1.95	3.88	40.00	1.39	1.50	80.00	6.00	1
3095273	●	2.00	3.00	1.95	5.75	41.20	2.85	3.00	80.00	6.00	2
3095281	●	2.00	3.00	1.95	5.67	30.00	3.95	3.80	80.00	6.00	2
3095247	●	2.00	3.00	1.95	3.59	50.00	0.93	1.00	100.00	6.00	1
3095262	●	2.00	3.00	1.95	5.81	60.30	1.94	2.00	100.00	6.00	2
3095321	●	3.00	4.50	2.90	3.17	20.00	0.27	0.50	80.00	6.00	1
3095341	●	3.00	4.50	2.90	3.44	20.00	0.69	1.00	80.00	6.00	1
3095342	●	3.00	4.50	2.90	3.61	25.00	0.76	1.00	80.00	6.00	1
3095343	●	3.00	4.50	2.90	3.79	30.00	0.80	1.00	80.00	6.00	1
3095344	●	3.00	4.50	2.90	4.13	40.00	0.85	1.00	80.00	6.00	1
3095374	●	3.00	4.50	2.90	5.60	32.10	2.81	3.00	80.00	6.00	2
3095345	●	3.00	4.50	2.90	4.48	50.00	0.88	1.00	100.00	6.00	1
3095346	●	3.00	4.50	2.90	4.83	60.00	0.90	1.00	100.00	6.00	1
3095356	●	3.00	4.50	2.90	5.74	60.80	1.45	1.50	100.00	6.00	2
3095365	●	3.00	4.50	2.90	5.70	46.50	1.92	2.00	100.00	6.00	2
3095421	●	4.00	6.00	3.90	4.23	25.00	0.29	0.50	80.00	6.00	1
3095441	●	4.00	6.00	3.90	4.73	30.00	0.76	1.00	80.00	6.00	1
3095442	●	4.00	6.00	3.90	5.08	40.00	0.82	1.00	80.00	6.00	1

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

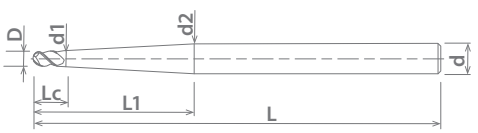
EP

Type 1





Type 2



CONTINUED ❯

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○

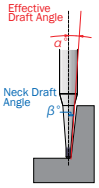
○ Good ◎ Best

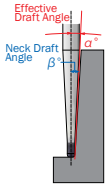
List 9581 (Continued)

EXOPRO® PHX-PC-DBT, Pencil Neck, Deep Feed

SPEED FEED	CARBIDE	WXS	3 FLUTE	45°			SHANK	STUB	PACKED
1473-1474							h6		1 PIECE







Radius	Tolerance
0.6mm ≤ D ≤ 6mm	+/- 0.010mm

Note: The tool may deflect and interfere with the draft area depending on the milling condition.

Note: For convenience, the Neck Draft Angle (β°) is shown the same as the Effective Draft Angle (α°), but actually it is different. (It does not interfere with the Effective Draft Angle (α°)

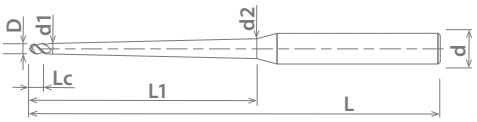
EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Diameter Min d1 Min (mm)	Neck Diameter Max d1 Max (mm)	Neck Length L1 (mm)	Effective Draft Angle α (°)	Neck Draft Angle β (°)	Overall Length L (mm)	Shank Diameter d (mm)	Type
3095453	●	4.00	6.00	3.90	5.70	42.20	1.43	1.50	80.00	6.00	2
3095443	●	4.00	6.00	3.90	5.43	50.00	0.86	1.00	100.00	6.00	1
3095444	●	4.00	6.00	3.90	5.76	61.30	0.97	1.00	100.00	6.00	2
3095472	●	4.00	6.00	3.90	7.50	42.20	2.85	3.00	100.00	8.00	2
3095445	●	4.00	6.00	3.90	6.48	80.00	0.92	1.00	120.00	8.00	1
3095454	●	4.00	6.00	3.90	7.69	80.40	1.47	1.50	120.00	8.00	2
3095462	●	4.00	6.00	3.90	7.63	61.30	1.94	2.00	120.00	8.00	2
3095541	●	5.00	7.50	4.90	5.86	35.00	0.76	1.00	100.00	8.00	1
3095542	●	5.00	7.50	4.90	6.38	50.00	0.84	1.00	100.00	8.00	1
3095543	●	5.00	7.50	4.90	7.08	70.00	0.89	1.00	130.00	8.00	1
3095544	●	5.00	7.50	4.90	7.72	90.40	0.98	1.00	130.00	8.00	2
3095553	●	5.00	7.50	4.90	7.64	61.80	1.45	1.50	130.00	8.00	2
3095562	●	5.00	7.50	4.90	7.56	47.50	1.91	2.00	130.00	8.00	2
3095641	●	6.00	9.00	5.90	6.98	40.00	0.77	1.00	100.00	8.00	1
3095642	●	6.00	9.00	5.90	7.33	50.00	0.82	1.00	100.00	8.00	1
3095651	●	6.00	9.00	5.90	7.60	43.20	1.43	1.50	100.00	8.00	2
3095661	●	6.00	9.00	5.90	7.50	33.60	1.87	2.00	100.00	8.00	2
3095643	●	6.00	9.00	5.90	7.69	62.30	0.97	1.00	130.00	8.00	2
3095644	●	6.00	9.00	5.90	8.72	90.00	0.90	1.00	130.00	10.00	1
3095653	●	6.00	9.00	5.90	9.59	81.40	1.47	1.50	130.00	10.00	2
3095662	●	6.00	9.00	5.90	9.49	62.30	1.94	2.00	130.00	10.00	2
3095841	●	8.00	12.00	7.90	9.22	50.00	0.77	1.00	120.00	10.00	1
3095842	●	8.00	12.00	7.90	9.62	63.30	0.97	1.00	120.00	10.00	2
3095851	●	8.00	12.00	7.90	9.50	44.20	1.43	1.50	120.00	10.00	2
3095862	●	8.00	12.00	7.90	11.35	63.30	1.94	2.00	120.00	12.00	2
3095843	●	8.00	12.00	7.90	10.62	90.00	0.88	1.00	150.00	12.00	1
3095853	●	8.00	12.00	7.90	11.49	82.40	1.47	1.50	150.00	12.00	2
3095844	●	8.00	12.00	7.90	11.62	120.60	0.99	1.00	180.00	12.00	2
3096041	●	10.00	15.00	9.90	11.56	64.30	0.97	1.00	120.00	12.00	2
3096051	●	10.00	15.00	9.90	11.40	45.20	1.43	1.50	120.00	12.00	2
3096061	●	10.00	15.00	9.90	11.24	35.60	1.87	2.00	120.00	12.00	2
3096042	●	10.00	15.00	9.90	12.16	80.00	0.83	1.00	160.00	16.00	1
3096043	●	10.00	15.00	9.90	12.86	100.00	0.87	1.00	160.00	16.00	1
3096064	●	10.00	15.00	9.90	15.21	92.90	1.96	2.00	160.00	16.00	2
3096044	●	10.00	15.00	9.90	13.56	120.00	0.89	1.00	180.00	16.00	1
3096053	●	10.00	15.00	9.90	15.38	121.60	1.48	1.50	180.00	16.00	2
3096045	●	10.00	15.00	9.90	14.26	140.00	0.91	1.00	200.00	16.00	1
3096046	●	10.00	15.00	9.90	14.96	160.00	0.92	1.00	220.00	16.00	1
3096241	●	12.00	18.00	11.90	13.36	60.00	0.73	1.00	120.00	16.00	1
3096242	●	12.00	18.00	11.90	14.76	100.00	0.85	1.00	180.00	16.00	1
3096243	●	12.00	18.00	11.90	15.48	122.60	0.99	1.00	180.00	16.00	2
3096244	●	12.00	18.00	11.90	16.85	160.00	0.91	1.00	220.00	20.00	1
3096254	●	12.00	18.00	11.90	19.27	160.80	1.48	1.50	220.00	20.00	2

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

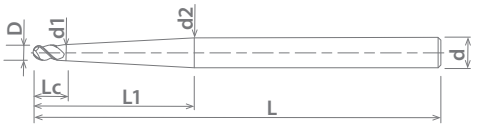
EP

Type 1





Type 2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○					◎	◎	◎	○

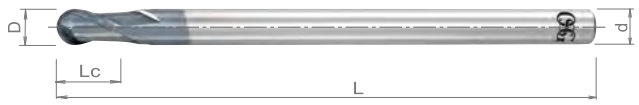
○ Good ◎ Best

List 3610

EXOCARB® WXL-EBD

SPEED FEED 1475 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Radius	Tolerance
1/32" ≤ D ≤ 3/16"	+/- 0.0002"
1/4" ≤ D ≤ 3/8"	+0.0001 / -0.0003
D = 1/2"	+/- 0.0004"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
36100111	●	1/32	0.031	2.500	0.250
36100211	●	1/16	0.063	2.500	0.250
36100311	●	3/32	0.094	2.500	0.250
36100411	●	1/8	0.125	3.000	0.250
36101011	●	5/32	0.156	2.500	0.250
36100511	●	3/16	0.188	3.000	0.250
36100611	●	1/4	0.250	3.000	0.250
36100711	●	5/16	0.313	4.000	0.313
36100811	●	3/8	0.375	4.000	0.375
36100911	●	1/2	0.500	4.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

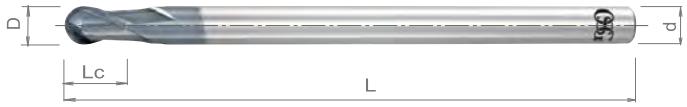
○ Good ◎ Best

List 3710

EXOCARB® WXL-EBD

SPEED FEED	CARBIDE	WXL	2 FLUTE	30°	SHANK	STUB	REG	PACKED
1476					h6			1 PIECE

Radius Tolerance	
0.1mm ≤ D ≤ 5mm	+/- 0.005mm
6mm ≤ D ≤ 12mm	+0.003 / -0.007mm
14mm ≤ D ≤ 20mm	+/- 0.010mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
3105010	●	0.10	0.20	40.00	4.00
3105020	●	0.20	0.40	40.00	4.00
3105030	●	0.30	0.60	40.00	4.00
3105040	●	0.40	0.80	40.00	4.00
3105050	●	0.50	1.10	40.00	4.00
3105060	●	0.60	1.10	40.00	4.00
3105080	●	0.80	2.00	40.00	4.00
3105100	●	1.00	1.50	50.00	4.00
3106100	●	1.00	2.50	60.00	6.00
3105120	●	1.20	3.00	50.00	4.00
3105140	●	1.40	3.50	50.00	4.00
3105150	●	1.50	2.00	50.00	4.00
3106150	●	1.50	4.00	50.00	6.00
3105160	●	1.60	4.00	50.00	4.00
3105200	●	2.00	3.00	50.00	4.00
3106200	●	2.00	5.00	50.00	6.00
3105250	●	2.50	3.00	50.00	4.00
3106250	●	2.50	6.00	60.00	6.00
3105300	●	3.00	4.50	60.00	4.00
3106301	●	3.00	8.00	60.00	6.00
3106350	●	3.50	8.00	70.00	6.00
3106400	●	4.00	6.00	70.00	6.00
3105400	●	4.00	8.00	60.00	4.00
3106500	●	5.00	8.00	80.00	6.00
3106502	●	5.00	12.00	80.00	6.00
3106600	●	6.00	10.00	90.00	6.00
3106601	●	6.00	12.00	90.00	6.00
3106610	●	7.00	14.00	90.00	6.00
3106620	●	8.00	12.00	100.00	8.00
3106621	●	8.00	14.00	100.00	8.00
3106630	●	9.00	18.00	100.00	8.00
3106640	●	10.00	15.00	100.00	10.00
3106641	●	10.00	18.00	100.00	10.00
3106650	●	11.00	22.00	100.00	10.00
3106660	●	12.00	18.00	110.00	12.00
3106661	●	12.00	22.00	110.00	12.00
3106670	●	14.00	26.00	110.00	12.00
3106680	●	16.00	30.00	140.00	16.00
3106690	●	18.00	34.00	140.00	16.00
3106700	●	20.00	38.00	160.00	20.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

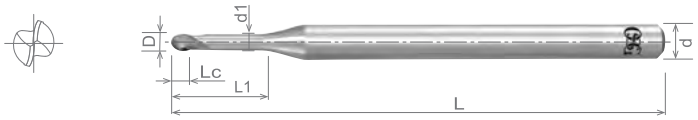
○ Good ◎ Best

List 3690

EXOCARB® WXL-LN-EBD, Long Neck, Rib Processing

SPEED FEED 1477-1480 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Radius Tolerance	
1/64" ≤ D ≤ 1/4"	+/- 0.0002



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
36900111	●	1/64	0.016	0.047	0.013	2.500	0.125
36900211	●	1/64	0.016	0.094	0.013	2.500	0.125
36900311	●	1/32	0.031	0.156	0.029	2.500	0.250
36900411	●	1/32	0.031	0.313	0.029	2.500	0.250
36900511	●	1/32	0.031	0.406	0.029	2.500	0.250
36900611	●	1/16	0.063	0.313	0.061	2.500	0.250
36900711	●	1/16	0.063	0.625	0.061	2.500	0.250
36900811	●	1/16	0.063	0.813	0.061	3.000	0.250
36900911	●	3/32	0.094	0.469	0.092	2.500	0.250
36901011	●	3/32	0.094	0.938	0.092	2.875	0.250
36901111	●	3/32	0.094	1.406	0.092	3.125	0.250
36901211	●	1/8	0.125	0.625	0.123	3.000	0.250
36901311	●	1/8	0.125	1.250	0.123	3.000	0.250
36901411	●	1/8	0.125	1.875	0.123	3.750	0.250
36901511	●	3/16	0.188	0.938	0.185	3.500	0.250
36901611	●	3/16	0.188	1.875	0.185	4.000	0.250
36901711	●	1/4	0.250	1.250	0.248	4.000	0.250
36901811	●	1/4	0.250	2.000	0.248	4.500	0.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ Good ◎ Best

List 3790

EXOCARB® WXL-LN-EBD, Long Neck, Rib Processing

SPEED FEED 1477-1480 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Radius Tolerance	
0.1mm ≤ D ≤ 6mm	+/- 0.005mm



EDP Number		Dia.	Length of Cut	Neck Length	Neck Dia.	Overall Length	Shank Dia.
		D (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
3110103	●	0.10	0.10	0.30	0.09	45.00	4.00
3110105	●	0.10	0.10	0.50	0.09	45.00	4.00
3110207	●	0.20	0.16	0.75	0.18	45.00	4.00
3110212	●	0.20	0.16	1.25	0.18	45.00	4.00
3110217	●	0.20	0.16	1.75	0.18	45.00	4.00
3110220	●	0.20	0.16	2.00	0.18	45.00	4.00
3110225	●	0.20	0.16	2.50	0.18	45.00	4.00
3110230	●	0.20	0.16	3.00	0.18	45.00	4.00
3110203	●	0.20	0.20	0.30	0.18	45.00	4.00
3110205	●	0.20	0.20	0.50	0.18	45.00	4.00
3110210	●	0.20	0.20	1.00	0.18	45.00	4.00
3110215	●	0.20	0.20	1.50	0.18	45.00	4.00
3110310	●	0.30	0.20	1.00	0.28	45.00	4.00
3110315	●	0.30	0.20	1.50	0.28	45.00	4.00
3110320	●	0.30	0.20	2.00	0.28	45.00	4.00
3110305	●	0.30	0.24	0.50	0.28	45.00	4.00
3110306	●	0.30	0.24	0.60	0.28	45.00	4.00
3110307	●	0.30	0.24	0.75	0.28	45.00	4.00
3110312	●	0.30	0.24	1.25	0.28	45.00	4.00
3110317	●	0.30	0.24	1.75	0.28	45.00	4.00
3110322	●	0.30	0.24	2.25	0.28	45.00	4.00
3110325	●	0.30	0.24	2.50	0.28	45.00	4.00
3110327	●	0.30	0.24	2.75	0.28	45.00	4.00
3110330	●	0.30	0.24	3.00	0.28	45.00	4.00
3110335	●	0.30	0.24	3.50	0.28	45.00	4.00
3110340	●	0.30	0.24	4.00	0.28	45.00	4.00
3110345	●	0.30	0.24	4.50	0.28	45.00	4.00
3110350	●	0.30	0.24	5.00	0.28	45.00	4.00
3110405	●	0.40	0.30	0.50	0.37	45.00	4.00
3110407	●	0.40	0.30	0.75	0.37	45.00	4.00
3110410	●	0.40	0.30	1.00	0.37	45.00	4.00
3110415	●	0.40	0.30	1.50	0.37	45.00	4.00
3110420	●	0.40	0.30	2.00	0.37	45.00	4.00
3110425	●	0.40	0.30	2.50	0.37	45.00	4.00
3110430	●	0.40	0.30	3.00	0.37	45.00	4.00
3110435	●	0.40	0.30	3.50	0.37	45.00	4.00
3110440	●	0.40	0.30	4.00	0.37	45.00	4.00
3110445	●	0.40	0.30	4.50	0.37	45.00	4.00
3110450	●	0.40	0.30	5.00	0.37	45.00	4.00
3110455	●	0.40	0.30	5.50	0.37	45.00	4.00
3110460	●	0.40	0.30	6.00	0.37	45.00	4.00
3110510	●	0.50	0.40	1.00	0.45	45.00	4.00
3110515	●	0.50	0.40	1.50	0.45	45.00	4.00
3110520	●	0.50	0.40	2.00	0.45	45.00	4.00
3110525	●	0.50	0.40	2.50	0.45	45.00	4.00
3110530	●	0.50	0.40	3.00	0.45	45.00	4.00
3110535	●	0.50	0.40	3.50	0.45	45.00	4.00
3110540	●	0.50	0.40	4.00	0.45	45.00	4.00
3110545	●	0.50	0.40	4.50	0.45	45.00	4.00
3110550	●	0.50	0.40	5.00	0.45	45.00	4.00
3110555	●	0.50	0.40	5.50	0.45	45.00	4.00
3110560	●	0.50	0.40	6.00	0.45	45.00	4.00
3110570	●	0.50	0.40	7.00	0.45	45.00	4.00
3110580	●	0.50	0.40	8.00	0.45	45.00	4.00
3110590	●	0.50	0.40	9.00	0.45	45.00	4.00
3110600	●	0.50	0.40	10.00	0.45	45.00	4.00
3110610	●	0.60	0.50	1.00	0.55	45.00	4.00
3110615	●	0.60	0.50	1.50	0.55	45.00	4.00
3110620	●	0.60	0.50	2.00	0.55	45.00	4.00
3110625	●	0.60	0.50	2.50	0.55	45.00	4.00

EDP Number		Dia.	Length of Cut	Neck Length	Neck Dia.	Overall Length	Shank Dia.
		D (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
3110630	●	0.60	0.50	3.00	0.55	45.00	4.00
3110635	●	0.60	0.50	3.50	0.55	45.00	4.00
3110640	●	0.60	0.50	4.00	0.55	45.00	4.00
3110645	●	0.60	0.50	4.50	0.55	45.00	4.00
3110650	●	0.60	0.50	5.00	0.55	45.00	4.00
3110655	●	0.60	0.50	5.50	0.55	45.00	4.00
3110660	●	0.60	0.50	6.00	0.55	45.00	4.00
3110665	●	0.60	0.50	6.50	0.55	45.00	4.00
3110670	●	0.60	0.50	7.00	0.55	45.00	4.00
3110675	●	0.60	0.50	7.50	0.55	45.00	4.00
3110680	●	0.60	0.50	8.00	0.55	45.00	4.00
3110685	●	0.60	0.50	8.50	0.55	45.00	4.00
3110690	●	0.60	0.50	9.00	0.55	45.00	4.00
3110695	●	0.60	0.50	9.50	0.55	45.00	4.00
3110700	●	0.60	0.50	10.00	0.55	45.00	4.00
3110711	●	0.60	0.50	11.00	0.55	45.00	4.00
3110712	●	0.60	0.50	12.00	0.55	45.00	4.00
3110830	●	0.80	0.50	3.00	0.75	45.00	4.00
3110912	●	0.80	0.50	12.00	0.75	45.00	4.00
3110820	●	0.80	0.60	2.00	0.75	45.00	4.00
3110840	●	0.80	0.60	4.00	0.75	45.00	4.00
3110850	●	0.80	0.60	5.00	0.75	45.00	4.00
3110860	●	0.80	0.60	6.00	0.75	45.00	4.00
3110870	●	0.80	0.60	7.00	0.75	45.00	4.00
3110880	●	0.80	0.60	8.00	0.75	45.00	4.00
3110890	●	0.80	0.60	9.00	0.75	45.00	4.00
3110900	●	0.80	0.60	10.00	0.75	45.00	4.00
3111025	●	1.00	0.80	2.50	0.95	45.00	4.00
3111030	●	1.00	0.80	3.00	0.95	45.00	4.00
3111040	●	1.00	0.80	4.00	0.95	45.00	4.00
3111050	●	1.00	0.80	5.00	0.95	45.00	4.00
3111060	●	1.00	0.80	6.00	0.95	45.00	4.00
3111070	●	1.00	0.80	7.00	0.95	45.00	4.00
3111080	●	1.00	0.80	8.00	0.95	45.00	4.00
3111090	●	1.00	0.80	9.00	0.95	45.00	4.00
3111100	●	1.00	0.80	10.00	0.95	45.00	4.00
3111112	●	1.00	0.80	12.00	0.95	45.00	4.00
3111114	●	1.00	0.80	14.00	0.95	50.00	4.00
3111116	●	1.00	0.80	16.00	0.95	50.00	4.00
3111118	●	1.00	0.80	18.00	0.95	55.00	4.00
3111120	●	1.00	0.80	20.00	0.95	55.00	4.00
3111240	●	1.20	1.00	4.00	1.15	45.00	4.00
3111260	●	1.20	1.00	6.00	1.15	45.00	4.00
3111280	●	1.20	1.00	8.00	1.15	45.00	4.00
3111300	●	1.20	1.00	10.00	1.15	45.00	4.00
3111312	●	1.20	1.00	12.00	1.15	45.00	4.00
3111314	●	1.20	1.00	14.00	1.15	50.00	4.00
3111316	●	1.20	1.00	16.00	1.15	50.00	4.00
3111318	●	1.20	1.00	18.00	1.15	55.00	4.00
3111320	●	1.20	1.00	20.00	1.15	60.00	4.00
3111324	●	1.20	1.00	24.00	1.15	60.00	4.00
3111480	●	1.40	1.10	8.00	1.35	45.00	4.00
3111512	●	1.40	1.10	12.00	1.35	45.00	4.00
3111516	●	1.40	1.10	16.00	1.35	50.00	4.00
3111530	●	1.50	1.20	3.00	1.45	45.00	4.00
3111540	●	1.50	1.20	4.00	1.45	45.00	4.00
3111560	●	1.50	1.20	6.00	1.45	45.00	4.00
3111580	●	1.50	1.20	8.00	1.45	45.00	4.00
3111600	●	1.50	1.20	10.00	1.45	45.00	4.00
3111612	●	1.50	1.20	12.00	1.45	45.00	4.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

List 3790 (Continued)

EXOCARB® WXL-LN-EBD, Long Neck, Rib Processing

SPEED FEED 1477-1480 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

EDP Number		Dia. D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Dia. d1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)
3111614	●	1.50	1.20	14.00	1.45	50.00	4.00
3111616	●	1.50	1.20	16.00	1.45	55.00	4.00
3111618	●	1.50	1.20	18.00	1.45	55.00	4.00
3111620	●	1.50	1.20	20.00	1.45	55.00	4.00
3111622	●	1.50	1.20	22.00	1.45	55.00	4.00
3111630	●	1.50	1.20	30.00	1.45	65.00	4.00
3111640	●	1.60	1.30	4.00	1.55	45.00	4.00
3111680	●	1.60	1.30	8.00	1.55	45.00	4.00
3111712	●	1.60	1.30	12.00	1.55	45.00	4.00
3111716	●	1.60	1.30	16.00	1.55	50.00	4.00
3111720	●	1.60	1.30	20.00	1.55	55.00	4.00
3111880	●	1.80	1.40	8.00	1.75	45.00	4.00
3111912	●	1.80	1.40	12.00	1.75	45.00	4.00
3111916	●	1.80	1.40	16.00	1.75	50.00	4.00
3111920	●	1.80	1.40	20.00	1.75	55.00	4.00
3112030	●	2.00	1.60	3.00	1.95	45.00	4.00
3112040	●	2.00	1.60	4.00	1.95	45.00	4.00
3112060	●	2.00	1.60	6.00	1.95	45.00	4.00
3112080	●	2.00	1.60	8.00	1.95	45.00	4.00
3112100	●	2.00	1.60	10.00	1.95	45.00	4.00
3112112	●	2.00	1.60	12.00	1.95	45.00	4.00
3112114	●	2.00	1.60	14.00	1.95	50.00	4.00
3112116	●	2.00	1.60	16.00	1.95	50.00	4.00
3112118	●	2.00	1.60	18.00	1.95	55.00	4.00
3112120	●	2.00	1.60	20.00	1.95	55.00	4.00
3112122	●	2.00	1.60	22.00	1.95	60.00	4.00
3112125	●	2.00	1.60	25.00	1.95	65.00	4.00
3112130	●	2.00	1.60	30.00	1.95	70.00	4.00
3112135	●	2.00	1.60	35.00	1.95	75.00	4.00
3112140	●	2.00	1.60	40.00	1.95	80.00	4.00
3112560	●	2.50	2.00	6.00	2.45	45.00	4.00
3112600	●	2.50	2.00	10.00	2.45	50.00	4.00
3112615	●	2.50	2.00	15.00	2.45	55.00	4.00
3112620	●	2.50	2.00	20.00	2.45	60.00	4.00
3112625	●	2.50	2.00	25.00	2.45	65.00	4.00
3112630	●	2.50	2.00	30.00	2.45	70.00	4.00
3112635	●	2.50	2.00	35.00	2.45	70.00	4.00
3123060	●	3.00	2.40	6.00	2.85	50.00	6.00
3123080	●	3.00	2.40	8.00	2.85	50.00	6.00
3123100	●	3.00	2.40	10.00	2.85	50.00	6.00
3123112	●	3.00	2.40	12.00	2.85	55.00	6.00
3123114	●	3.00	2.40	14.00	2.85	55.00	6.00
3123115	●	3.00	2.40	15.00	2.85	55.00	6.00
3123116	●	3.00	2.40	16.00	2.85	55.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

EDP Number		Dia. D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Dia. d1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)
3123120	●	3.00	2.40	20.00	2.85	60.00	6.00
3123125	●	3.00	2.40	25.00	2.85	65.00	6.00
3123130	●	3.00	2.40	30.00	2.85	70.00	6.00
3123135	●	3.00	2.40	35.00	2.85	80.00	6.00
3123140	●	3.00	2.40	40.00	2.85	85.00	6.00
3123600	●	3.50	2.80	10.00	3.35	60.00	6.00
3123615	●	3.50	2.80	15.00	3.35	60.00	6.00
3123620	●	3.50	2.80	20.00	3.35	65.00	6.00
3123625	●	3.50	2.80	25.00	3.35	65.00	6.00
3123630	●	3.50	2.80	30.00	3.35	70.00	6.00
3123635	●	3.50	2.80	35.00	3.35	80.00	6.00
3123640	●	3.50	2.80	40.00	3.35	90.00	6.00
3123645	●	3.50	2.80	45.00	3.35	90.00	6.00
3124080	●	4.00	3.20	8.00	3.85	60.00	6.00
3124100	●	4.00	3.20	10.00	3.85	60.00	6.00
3124112	●	4.00	3.20	12.00	3.85	60.00	6.00
3124114	●	4.00	3.20	14.00	3.85	60.00	6.00
3124115	●	4.00	3.20	15.00	3.85	60.00	6.00
3124116	●	4.00	3.20	16.00	3.85	60.00	6.00
3124120	●	4.00	3.20	20.00	3.85	65.00	6.00
3124125	●	4.00	3.20	25.00	3.85	70.00	6.00
3124130	●	4.00	3.20	30.00	3.85	80.00	6.00
3124135	●	4.00	3.20	35.00	3.85	80.00	6.00
3124140	●	4.00	3.20	40.00	3.85	90.00	6.00
3124145	●	4.00	3.20	45.00	3.85	90.00	6.00
3124150	●	4.00	3.20	50.00	3.85	100.00	6.00
3125120	●	5.00	4.00	20.00	4.85	70.00	6.00
3125125	●	5.00	4.00	25.00	4.85	70.00	6.00
3125130	●	5.00	4.00	30.00	4.85	80.00	6.00
3125135	●	5.00	4.00	35.00	4.85	80.00	6.00
3125100	●	5.00	5.00	10.00	4.85	65.00	6.00
3125115	●	5.00	5.00	15.00	4.85	70.00	6.00
3125140	●	5.00	5.00	40.00	4.85	90.00	6.00
3125145	●	5.00	5.00	45.00	4.85	100.00	6.00
3125150	●	5.00	5.00	50.00	4.85	100.00	6.00
3126130	●	6.00	4.80	30.00	5.85	80.00	6.00
3126140	●	6.00	4.80	40.00	5.85	90.00	6.00
3126150	●	6.00	4.80	50.00	5.85	120.00	6.00
3126100	●	6.00	6.00	10.00	5.85	60.00	6.00
3126120	●	6.00	6.00	20.00	5.85	70.00	6.00
3126125	●	6.00	6.00	25.00	5.85	70.00	6.00
3126135	●	6.00	6.00	35.00	5.85	80.00	6.00
3126145	●	6.00	6.00	45.00	5.85	100.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply
▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ Good ◎ Best

List 3711

EXOCARB® WXL-LS-EBD, Long Shank

SPEED FEED 1481 | CARBIDE | WXL | 2 FLUTE | 30° | SHANK h6 | STUB | REG | PACKED 1 PIECE

Radius	Tolerance
1mm ≤ D ≤ 5mm	+/- 0.005mm
6mm ≤ D ≤ 18mm	+/- 0.010mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (m)
37110000	●	1.00	2.50	70.00	3.00
37110001	●	2.00	5.00	70.00	3.00
37110002	●	3.00	8.00	80.00	3.00
37110003	●	4.00	8.00	100.00	4.00
37110004	●	5.00	10.00	100.00	4.00
37110005	●	6.00	12.00	140.00	6.00
37110006	●	7.00	14.00	140.00	6.00
37110007	●	8.00	14.00	160.00	8.00
37110008	●	10.00	18.00	180.00	10.00
37110009	●	12.00	22.00	200.00	12.00
37110010	●	14.00	26.00	200.00	12.00
37110011	●	16.00	30.00	220.00	16.00
37110012	●	18.00	34.00	220.00	16.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○

○ Good ◎ Best

List 4413

EXOCARB® WXS-EQD, Sphere Type

SPEED FEED	CARBIDE	WXS	2 FLUTE	30°			SHANK	STUB	PACKED
1482							h6		1 PIECE

Radius	Tolerance
1/16" ≤ D ≤ 3/16"	+/- 0.0004"
1/4" ≤ D ≤ 1/2"	+/- 0.0006

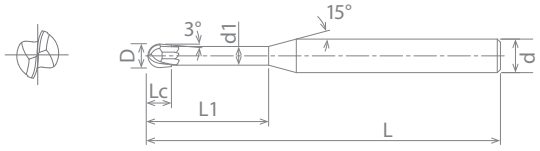


EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter Min	Neck Diameter Max	Neck Taper Angle	Overall Length	Shank Diameter	Type
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 Min (Inch)	d1 Max (Inch)	α (°)	L (Inch)	d (Inch)	
44130113	●	1/16	0.044	0.313	0.056	0.056	-	2.500	0.250	1
44130213	●	3/32	0.066	0.469	0.083	0.083	-	2.500	0.250	1
44130313	●	1/8	0.088	0.625	0.111	0.111	-	2.750	0.250	1
44130513	●	3/16	0.133	0.938	0.143	0.186	-	3.250	0.250	1
44130613	●	1/4	0.177	1.250	0.191	0.248	1.500	3.500	0.250	2
44130713	●	5/16	0.221	1.563	0.239	0.309	1.500	4.000	0.313	2
44130813	●	3/8	0.265	1.875	0.287	0.371	1.500	4.250	0.375	2
44130913	●	1/2	0.354	2.500	0.383	0.495	1.500	4.500	0.500	2

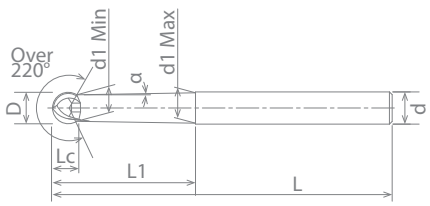
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Type 1



Type 2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	◎

○ Good ◎ Best

List 4513

EXOCARB® WXS-EQD, Sphere Type

SPEED FEED 1483 | CARBIDE | WXS | 2 FLUTE | 30° | SHANK h6 | STUB | PACKED 1 PIECE

Radius	Tolerance
1mm ≤ D ≤ 5mm	+/- 0.010mm
6mm ≤ D ≤ 12mm	+/- 0.015mm

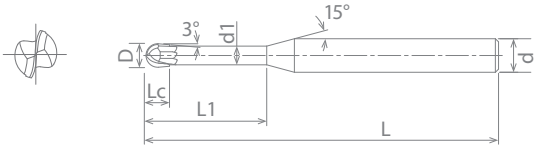


EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Neck Length L1 (mm)	Neck Diameter Min d1 Min (mm)	Neck Diameter Max d1 Max (mm)	Neck Taper Angle α (°)	Overall Length L (mm)	Shank Diameter d (mm)	Type
45130001	●	1.00	0.70	5.00	0.85	0.85	-	60.00	6.00	1
45130002	●	2.00	1.50	10.00	1.70	1.70	-	60.00	6.00	1
45130003	●	3.00	2.30	15.00	2.70	2.70	-	70.00	6.00	1
45130004	●	4.00	3.00	20.00	3.70	3.70	-	70.00	6.00	1
45130009	●	5.00	3.50	25.00	4.40	4.40	-	80.00	6.00	1
45130005	●	6.00	4.00	30.00	4.60	5.90	1.50	90.00	6.00	2
45130006	●	8.00	5.40	40.00	6.20	7.90	1.50	100.00	8.00	2
45130007	●	10.00	6.70	50.00	7.70	9.90	1.50	110.00	10.00	2
45130008	●	12.00	8.10	60.00	9.20	11.90	1.50	110.00	12.00	2

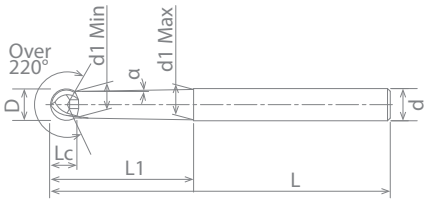
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Type 1



Type 2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	◎

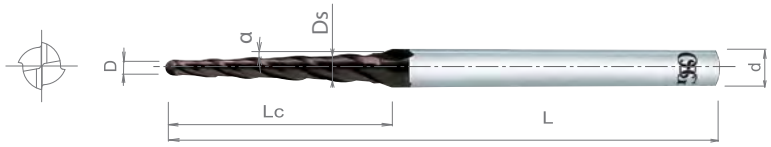
○ Good ◎ Best

List 4581

EXOCARB® WXS-RB-TPB, Tapered, Rib Processing

SPEED FEED 1484 | CARBIDE | WXS | 4 FLUTE | 25° | SHANK h6 | LONG | EXTRA LONG | PACKED 1 PIECE

Cut Incline Angle Tolerance
+/- 0°5'



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Taper Diameter Ds (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Cut Incline Angle α (°)
45810026	●	1.00	8.00	1.13	45.00	4.00	0.50
45810035	●	1.00	8.00	1.39	45.00	4.00	1.50
45810040	●	1.00	12.00	1.80	45.00	4.00	2.00
45810072	●	1.50	10.00	1.82	45.00	4.00	1.00
45810073	●	1.50	12.00	1.90	45.00	4.00	1.00
45810078	●	1.50	12.00	2.09	45.00	4.00	1.50
45810083	●	1.50	12.00	2.29	45.00	4.00	2.00
45810156	●	2.00	10.00	2.63	45.00	4.00	2.00
45810152	●	2.00	12.00	2.58	45.00	4.00	1.50
45810144	●	2.00	20.00	2.50	55.00	4.00	0.75
45810154	●	2.00	20.00	3.00	55.00	4.00	1.50
45810140	●	2.00	25.00	2.42	55.00	4.00	0.50
45810145	●	2.00	25.00	2.63	55.00	4.00	0.75
45810150	●	2.00	25.00	2.84	55.00	4.00	1.00
45810178	●	2.50	16.00	3.27	50.00	4.00	1.50
45810175	●	2.50	25.00	3.33	55.00	4.00	1.00
45810180	●	2.50	25.00	3.74	55.00	4.00	1.50

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎	○	○	○	◎					◎	◎	◎	○

○ Good ◎ Best

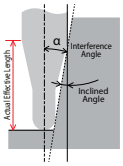
List 4630

EXOCARB® AM-EBT

SPEED FEED 1485 | CARBIDE | DURO REY | 3 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
3/32" ≤ D ≤ 1/2"	+/- 0.0012"



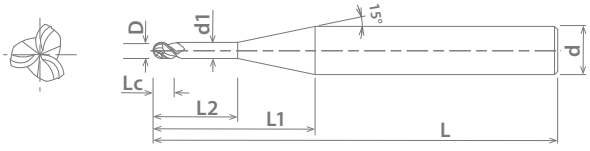


EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	L2 (Inch)	d1 (Inch)	α (°)	0.5° (Inch)	1.0° (Inch)	1.5° (Inch)	2.0° (Inch)	3.0° (Inch)	L (Inch)	d (Inch)	
46300023	●	3/32	0.094	0.496	0.188	0.091	10.33	0.192	0.197	0.203	0.209	0.222	2.000	0.250	1
46300123	●	3/32	0.094	0.685	0.375	0.091	7.38	0.386	0.398	0.411	0.424	0.455	2.000	0.250	1
46300223	●	1/8	0.125	0.492	0.250	0.118	8.50	0.256	0.263	0.27	0.278	0.296	2.000	0.250	1
46300323	●	1/8	0.125	0.740	0.500	0.118	5.40	0.515	0.531	0.547	0.566	0.607	2.000	0.250	1
46300423	●	3/16	0.188	0.504	0.375	0.181	4.77	0.384	0.395	0.406	0.417	0.444	2.500	0.250	1
46300523	●	3/16	0.188	0.878	0.750	0.181	2.50	0.772	0.796	0.821	0.849	-	2.500	0.250	1
46300623	●	1/4	0.250	-	-	-	-	-	-	-	-	-	3.000	0.250	1
46300723	●	5/16	0.313	-	-	-	-	-	-	-	-	-	3.500	0.313	2
46300823	●	3/8	0.563	-	-	-	-	-	-	-	-	-	3.500	0.375	2
46300923	●	1/2	0.750	-	-	-	-	-	-	-	-	-	4.000	0.500	2

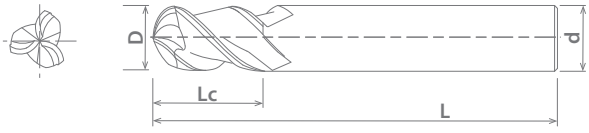
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
					○	○	○				◎	◎		◎	◎	○

○ Good ◎ Best

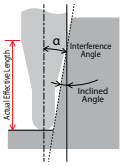
List 4730

EXOCARB® AM-EBT

SPEED FEED 1485 | CARBIDE | DURO REY | 3 FLUTE | 30° | SHANK h4 | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
2mm ≤ D ≤ 20mm	+/- 0.030mm



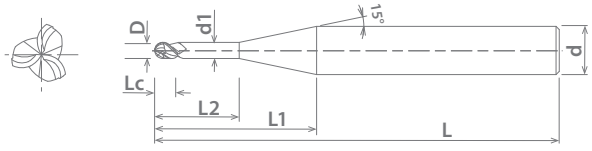


EDP Number		Diameter	Length of Cut	Neck Length	Non-Taper Neck Length	Neck Diameter	Interference Angle	Effective Neck Length by Incline Angle					Overall Length	Shank Diameter	Type
		D (mm)	Lc (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	0.5° (mm)	1.0° (mm)	1.5° (mm)	2.0° (mm)	3.0° (mm)	L (mm)	d (mm)	
3187240	●	2.00	2.00	11.90	4.00	1.95	10.64	4.19	4.33	4.42	4.55	4.85	60.00	6.00	1
3187280	●	2.00	2.00	15.90	8.00	1.95	7.79	8.33	5.58	8.86	9.15	9.82	60.00	6.00	1
3187360	●	3.00	3.00	11.80	6.00	2.85	8.15	6.44	6.61	6.79	7.00	7.45	60.00	6.00	1
3187392	●	3.00	3.00	17.80	12.00	2.85	5.22	12.64	13.03	13.44	13.89	14.91	60.00	6.00	1
3187408	●	4.00	4.00	12.00	8.00	3.85	5.65	8.49	8.71	8.96	9.22	9.81	60.00	6.00	1
3187416	●	4.00	4.00	20.00	16.00	3.85	3.17	16.76	17.27	17.82	18.42	19.76	60.00	6.00	1
3187510	●	5.00	5.00	12.10	10.00	4.85	2.95	10.54	10.82	11.12	11.45	-	60.00	6.00	1
3187520	●	5.00	5.00	22.10	20.00	4.85	1.46	20.87	21.52	-	-	-	60.00	6.00	1
3188060	●	6.00	9.00	-	-	-	-	-	-	-	-	-	60.00	6.00	2
3188080	●	8.00	12.00	-	-	-	-	-	-	-	-	-	70.00	8.00	2
3188100	●	10.00	15.00	-	-	-	-	-	-	-	-	-	80.00	10.00	2
3188120	●	12.00	18.00	-	-	-	-	-	-	-	-	-	90.00	12.00	2
3188160	●	16.00	24.00	-	-	-	-	-	-	-	-	-	105.00	16.00	2
3188200	●	20.00	30.00	-	-	-	-	-	-	-	-	-	110.00	20.00	2

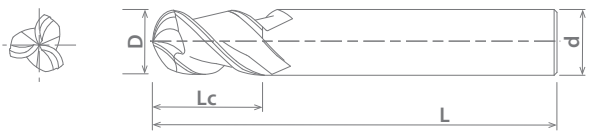
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Type1



Type2



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
					○	○	○				◎	◎		◎	◎	○

○ Good ◎ Best

EXOCARB® VU-TBR

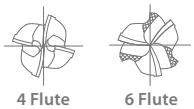
Taper Barrel End Mill for Finishing

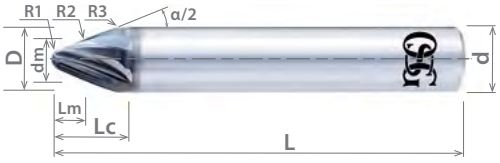
List 3785

Taper Barrel

SPEED FEED 1486-1487 | CARBIDE | WXL | 15° | SHANK h5 | STUB | PACKED 1 PIECE

Form Tolerance	
6mm ≤ D ≤ 16mm	+/- 0.010



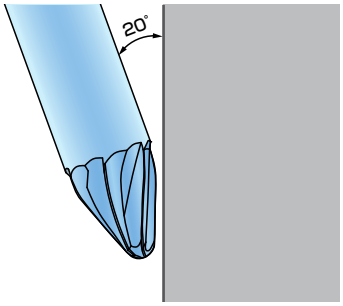


EDP Number		Tilt Angle α/2 (°)	Diameter D (mm)	Tip Radius R1 (mm)	Peripheral Edge Radius R2 (mm)	Edge Radius R3 (mm)	Length to Center of Radius Lm (mm)	Diameter at Center of Radius dm (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Number of Flutes
8549544	●	20.00	6.00	0.50	150.00	5.00	3.43	3.27	8.20	50.00	6.00	4
8549545	●	20.00	8.00	1.00	150.00	5.00	4.48	4.78	9.90	60.00	8.00	4
8549546	●	20.00	10.00	1.50	300.00	5.00	5.52	6.20	11.70	70.00	10.00	4
8549547	●	20.00	12.00	2.00	300.00	5.00	6.57	7.70	13.50	80.00	12.00	6
8549549	●	20.00	16.00	3.00	500.00	5.00	8.67	10.62	17.10	100.00	16.00	6
8549548	●	20.00	16.00	2.50	500.00	5.00	8.99	10.18	18.00	100.00	16.00	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Note: When using the peripheral edge R (R2), set the tilt angle (α/2) to 20°.



P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	◎	◎	◎									◎	◎	◎	

○ Good ◎ Best

List 9010

EXOCARB® MAX-BN-EBD

SPEED FEED	CARBIDE	WXS	2 FLUTE	30°			SHANK	STUB	PACKED
1488							h6		1 PIECE

Radius	Tolerance
1/32" ≤ D ≤ 1/4"	+/- 0.0002"
5/16" ≤ D ≤ 1/2"	+/- 0.0003



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
90100111	●	1/32	0.047	2.000	0.250
90100311	●	1/16	0.094	2.000	0.250
90100711	●	1/8	0.188	2.000	0.250
90100911	●	3/16	0.281	2.000	0.250
90101111	●	1/4	0.375	2.000	0.250
90101311	●	5/16	0.469	2.188	0.313
90101411	●	3/8	0.563	2.188	0.375
90101611	●	1/2	0.688	2.500	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Designed for faster speeds and feeds with larger depth of cut.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎

○ Good ◎ Best

List 9110

EXOCARB® MAX-BN-EBD

SPEED FEED	CARBIDE	WXS	2 FLUTE	30°			SHANK	STUB	PACKED
1488							h6		1 PIECE

Radius Tolerance	
1mm ≤ D ≤ 6mm	+/- 0.005mm
8mm ≤ D ≤ 10mm	+/- 0.007mm



EDP Number		Diameter D (mm)	Length of Cut Lc (mm)	Overall Length L (mm)	Shank Diameter d (mm)
91100111	●	1.00	1.50	50.00	6.00
91100211	●	2.00	3.00	50.00	6.00
91100311	●	3.00	4.50	50.00	6.00
91100411	●	4.00	6.00	50.00	6.00
91100611	●	6.00	9.00	50.00	6.00
91100811	●	8.00	12.00	55.00	8.00
91101011	●	10.00	15.00	55.00	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Designed for faster speeds and feeds with larger depth of cut.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎

○ Good ◎ Best

List 9011

EXOCARB® MAX-BN-LS-EBD, Long Shank

SPEED FEED	CARBIDE								
1488	WXS	2 FLUTE	30°			SHANK h6	STUB	PACKED 1 PIECE

Radius Tolerance	
1/32" ≤ D ≤ 3/8"	+/- 0.0007



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
90110111	●	1/32	0.047	3.000	0.250
90110211	●	1/16	0.094	3.000	0.250
90110311	●	1/8	0.188	3.000	0.250
90110411	●	3/16	0.281	3.000	0.250
90110511	●	1/4	0.375	3.000	0.250
90110611	●	5/16	0.469	3.188	0.313
90110711	●	3/8	0.563	3.188	0.375

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Designed for faster speeds and feeds with larger depth of cut.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎

○ Good ◎ Best

List 9111

EXOCARB® MAX-BN-LS-EBD, Long Shank

SPEED FEED	CARBIDE	WXS	2 FLUTE	30°			SHANK	STUB	PACKED
1488							h6		1 PIECE

Radius Tolerance	
1mm ≤ D ≤ 10mm	+/- 0.020mm



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L (mm)	d (mm)
91110111	●	1.00	1.50	75.00	6.00
91110211	●	2.00	3.00	75.00	6.00
91110311	●	3.00	4.50	75.00	6.00
91110411	●	4.00	6.00	75.00	6.00
91110511	●	6.00	9.00	75.00	6.00
91110611	●	8.00	12.00	80.00	8.00
91110711	●	10.00	15.00	80.00	10.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Designed for faster speeds and feeds with larger depth of cut.

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	◎			○	○	◎	◎	◎	◎

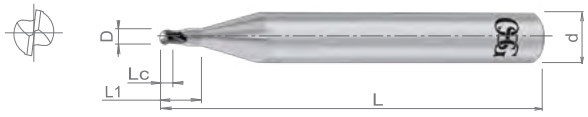
○ Good ◎ Best

List 9191

EXOCARB® MAX CBN-SXB

SPEED FEED	CBN	BR	2 FLUTE	30°			SHANK	STUB	PACKED
1489							h6		1 PIECE

Radius Tolerance	
0.4mm ≤ D ≤ 3mm	+/- 0.005mm



EDP Number		Diameter	Length of Cut	Neck Length	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L1 (mm)	L (mm)	d (mm)
8525304	●	0.40	0.30	1.20	45.00	4.00
8525305	●	0.50	0.30	1.50	45.00	4.00
8525306	●	0.60	0.40	1.80	45.00	4.00
8525307	●	0.70	0.50	2.10	45.00	4.00
8525308	●	0.80	0.50	2.40	45.00	4.00
8525309	●	0.90	0.60	2.70	45.00	4.00
8525310	●	1.00	0.60	2.50	45.00	4.00
8525210	●	1.00	0.60	2.50	50.00	6.00
8525211	●	1.10	0.70	2.80	50.00	6.00
8525212	●	1.20	0.70	3.00	50.00	6.00
8525213	●	1.30	0.80	3.30	50.00	6.00
8525214	●	1.40	0.80	3.50	50.00	6.00
8525215	●	1.50	0.90	3.80	50.00	6.00
8525216	●	1.60	1.00	4.00	50.00	6.00
8525217	●	1.70	1.00	4.30	50.00	6.00
8525218	●	1.80	1.10	4.50	50.00	6.00
8525219	●	1.90	1.10	4.80	50.00	6.00
8525220	●	2.00	1.20	5.00	50.00	6.00
8525221	●	2.10	1.30	4.20	50.00	6.00
8525222	●	2.20	1.30	4.40	50.00	6.00
8525223	●	2.30	1.40	4.60	50.00	6.00
8525224	●	2.40	1.40	4.80	50.00	6.00
8525225	●	2.50	1.50	5.00	50.00	6.00
8525226	●	2.60	1.60	5.20	50.00	6.00
8525227	●	2.70	1.60	5.40	50.00	6.00
8525228	●	2.80	1.70	5.60	50.00	6.00
8525229	●	2.90	1.70	5.80	50.00	6.00
8525230	●	3.00	1.80	6.00	50.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
														○	◎	◎

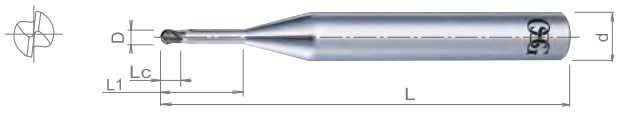
○ Good ◎ Best

List 9192

EXOCARB® MAX CBN-LN-SXB, Long Neck

SPEED FEED	CBN	BR	2 FLUTE	30°			SHANK	STUB	PACKED
1490							h6		1 PIECE

Radius Tolerance	
0.4mm ≤ D ≤ 3mm	+/- 0.050mm



EDP Number		Diameter	Length of Cut	Neck Length	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L1 (mm)	L (mm)	d (mm)
8525622	●	0.40	0.30	2.00	45.00	4.00
8525623	●	0.40	0.30	3.00	45.00	4.00
8525633	●	0.60	0.40	3.00	45.00	4.00
8525634	●	0.60	0.40	4.50	45.00	4.00
8525654	●	1.00	0.60	4.00	45.00	4.00
8525655	●	1.00	0.60	5.00	45.00	4.00
8525656	●	1.00	0.60	6.00	45.00	4.00
8525657	●	1.00	0.60	7.50	45.00	4.00
8525854	●	1.00	0.60	4.00	50.00	6.00
8525855	●	1.00	0.60	5.00	50.00	6.00
8525856	●	1.00	0.60	6.00	50.00	6.00
8525857	●	1.00	0.60	7.50	50.00	6.00
8525877	●	1.50	0.90	7.50	50.00	6.00
8525903	●	2.00	1.20	6.00	50.00	6.00
8525904	●	2.00	1.20	8.00	50.00	6.00
8525905	●	2.00	1.20	10.00	50.00	6.00
8525956	●	3.00	1.80	12.00	50.00	6.00
8525957	●	3.00	1.80	15.00	50.00	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340											○	◎	◎

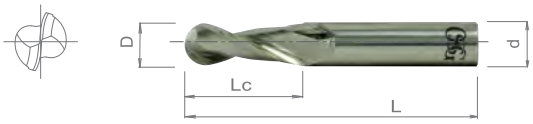
○ Good ◎ Best

List 2010

EXOCARB® AERO BLIZZARD

SPEED FEED	CARBIDE	BR	2 FLUTE	30°			SHANK	REG	PACKED
1491							h6		1 PIECE

Radius Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
20100100	●	1/8	0.375	1.500	0.125
20100200	●	3/16	0.563	2.000	0.188
20100300	●	1/4	0.750	2.500	0.250
20100400	●	5/16	0.813	2.500	0.313
20100500	●	3/8	1.000	2.500	0.375
20100600	●	7/16	1.000	2.750	0.438
20100700	●	1/2	1.250	3.000	0.500
20100800	●	5/8	1.625	3.500	0.625
20100900	●	3/4	1.625	4.000	0.750
20101000	●	1	2.000	5.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
									◎	◎						

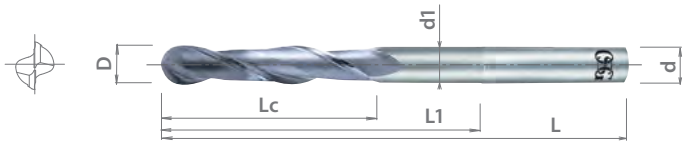
○ Good ◎ Best

List 7010

EXOCARB® DIAMOND D-RG-EDBR

SPEED FEED	CARBIDE	DIA	2 FLUTE	30°			SHANK	REG	LONG	PACKED
1383							h6			1 PIECE

Radius Tolerance	
1/32" ≤ D ≤ 1/2"	+0 / -0.0020



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter	Coating Thickness
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)	µm
70100116	●	1/32	0.094	0.250	0.028	1.750	0.125	12
70100216	●	3/64	0.188	0.500	0.040	1.750	0.125	12
70100316	●	1/16	0.188	0.500	0.056	1.750	0.125	12
70100416	●	5/64	0.250	0.500	0.070	1.750	0.125	12
70100516	●	3/32	0.375	0.500	0.088	1.750	0.125	12
70100716	●	1/8	0.500	-	-	1.750	0.125	12
70105716	●	1/8	0.500	-	-	1.750	0.125	20
70100816	●	5/32	0.563	-	-	2.000	0.156	12
70100916	●	3/16	0.750	-	-	2.000	0.188	12
70101116	●	1/4	0.750	-	-	2.500	0.250	12
70106116	●	1/4	0.750	-	-	2.500	0.250	20
70101316	●	5/16	0.813	-	-	2.500	0.313	12
70101416	●	3/8	0.875	-	-	2.500	0.375	12
70106416	●	3/8	0.875	-	-	2.500	0.375	20
70101616	●	1/2	1.000	-	-	3.000	0.500	12
70106616	●	1/2	1.000	-	-	3.000	0.500	20

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

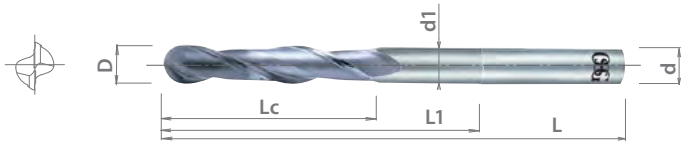
○ Good ◎ Best

List 7110

EXOCARB® DIAMOND D-RG-EBD

SPEED FEED	CARBIDE	DIA	12µm	2 FLUTE	30°			SHANK	REG	LONG	PACKED
1383								h6			1 PIECE

Radius Tolerance	
1mm ≤ D ≤ 12mm	+0 / -0.020mm



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)
71100116	●	1.00	4.00	4.95	0.95	45.00	3.00
71100216	●	2.00	10.00	11.95	1.95	45.00	3.00
71100316	●	3.00	15.00	-	-	50.00	3.00
71100416	●	4.00	15.00	-	-	55.00	4.00
71100616	●	6.00	20.00	-	-	63.00	6.00
71100816	●	8.00	20.00	-	-	63.00	8.00
71101016	●	10.00	25.00	-	-	63.00	10.00
71101216	●	12.00	30.00	-	-	75.00	12.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

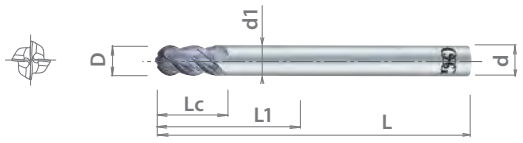
○ Good ◎ Best

List 7030

EXOCARB® DIAMOND D-GF-EBMR

SPEED FEED	CARBIDE	DIA	12µm	4 FLUTE	30°			SHANK	REG	LONG	PACKED
1383								h6			1 PIECE

Radius Tolerance	
1/32" ≤ D ≤ 1/2"	+0 / -0.0015"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
70300116	●	1/32	0.094	0.250	0.028	1.750	0.125
70300216	●	3/64	0.188	0.500	0.040	1.750	0.125
70300316	●	1/16	0.188	0.500	0.056	1.750	0.125
70300416	●	5/64	0.250	0.500	0.070	1.750	0.125
70300516	●	3/32	0.375	0.500	0.088	1.750	0.125
70300716	●	1/8	0.500	-	-	1.750	0.125
70300916	●	3/16	0.750	-	-	2.000	0.188
70301116	●	1/4	0.750	-	-	2.500	0.250
70301316	●	5/16	0.813	-	-	2.500	0.313
70301416	●	3/8	0.875	-	-	2.500	0.375
70301616	●	1/2	1.000	-	-	3.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

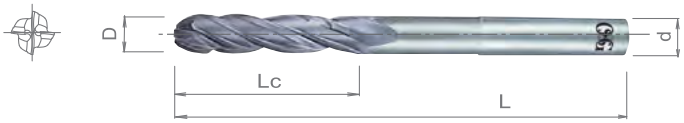
○ Good ◎ Best

List 7031

EXOCARB® DIAMOND D-GF-EBML

SPEED FEED 1383 | CARBIDE | DIA | 12µm | 4 FLUTE | 30° | SHANK h6 | LONG | EXTRA LONG | PACKED 1 PIECE

Radius	Tolerance
3/16" ≤ D ≤ 1/2"	+0 / -0.0015"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
70310916	●	3/16	1.000	4.000	0.188
70311116	●	1/4	1.500	4.000	0.250
70311416	●	3/8	1.500	4.000	0.375
70311616	●	1/2	2.000	5.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
									◎	◎					◎	

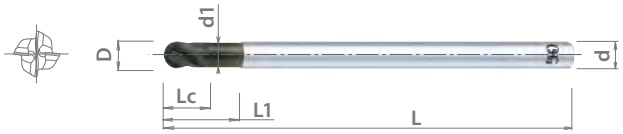
○ Good ◎ Best

List 7032

EXOCARB® DIAMOND LS-BN, Long Shank

SPEED FEED	CARBIDE	DIA	12µm	4 FLUTE	30°			SHANK	STUB	PACKED
1383								h6		1 PIECE

Radius Tolerance	
1/16" ≤ D ≤ 1/2"	+0 / -0.0015"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)
70320116	●	1/16	0.063	0.313	0.059	3.000	0.063
70320216	●	3/32	0.094	0.469	0.089	3.000	0.094
70320316	●	1/8	0.125	0.625	0.119	3.000	0.125
70320416	●	3/16	0.188	0.938	0.178	3.000	0.188
70320516	●	1/4	0.250	0.750	0.238	4.000	0.250
70320616	●	5/16	0.313	0.938	0.297	4.000	0.313
70320716	●	3/8	0.375	1.125	0.356	4.000	0.375
70320816	●	1/2	0.500	1.500	0.475	6.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340													
									◎	◎					◎	

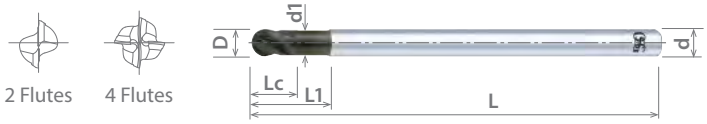
○ Good ◎ Best

List 7173

EXOCARB® DIAMOND LS-BN, Long Shank

SPEED FEED	CARBIDE	DIA	12µm	30°			SHANK	STUB	PACKED
1383							h6		1 PIECE

Radius	Tolerance
0.5mm ≤ D ≤ 12mm	+0 / -0.015mm



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter	Number of Flutes
		D (mm)	Lc (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)	
71730116	●	0.50	0.50	2.50	0.48	50.00	3.00	2
71730216	●	1.00	1.00	5.00	0.96	60.00	3.00	4
71730316	●	1.50	1.50	7.50	1.43	75.00	3.00	4
71730416	●	2.00	2.00	10.00	1.90	75.00	3.00	4
71730516	●	3.00	3.00	15.00	2.85	75.00	3.00	4
71730616	●	4.00	4.00	20.00	3.80	75.00	4.00	4
71730716	●	6.00	6.00	30.00	5.70	100.00	6.00	4
71730816	●	8.00	8.00	32.00	7.60	100.00	8.00	4
71730916	●	10.00	10.00	40.00	9.50	125.00	10.00	4
71731016	●	12.00	12.00	48.00	11.40	150.00	12.00	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

○ Good ◎ Best

List 7230

EXOCARB® DIAMOND DIA-EBDSS, High Precision

SPEED FEED	CARBIDE	DIA	12µm	30°			SHANK	REG	LONG	EXTRA LONG	PACKED
1492							h6				1 PIECE

Radius Tolerance	
1/64" ≤ D ≤ 3/16"	+0 / -0.0005"
D=1/4"	+0 / -0.0008"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
72300116	●	1/64	0.047	1.500	0.125	2
72300216	●	1/32	0.094	1.500	0.125	4
72300416	●	1/16	0.188	1.500	0.125	4
72300516	●	3/32	0.375	1.500	0.125	4
72300616	●	1/8	0.750	1.500	0.125	4
72300716	●	3/16	0.750	2.000	0.188	4
72300816	●	1/4	1.000	2.500	0.250	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

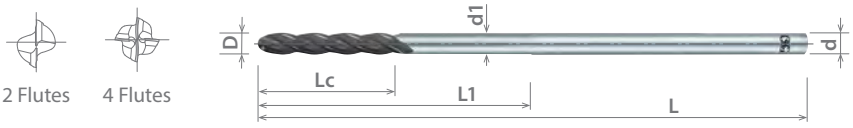
○ Good ◎ Best

List 7231

EXOCARB® DIAMOND DIA-LN-EBM, Long Reach, High Precision

SPEED FEED	CARBIDE	DIA	12µm	30°			SHANK	REG	LONG	EXTRA LONG	PACKED
1492							h6				1 PIECE

Radius Tolerance	
1/64" ≤ D ≤ 1/8"	+0 / -0.0004"
3/16" ≤ D ≤ 1/4"	+0 / -0.0007"



EDP Number		Diameter	Length of Cut	Neck Length	Neck Diameter	Overall Length	Shank Diameter	Number of Flutes
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	d1 (Inch)	L (Inch)	d (Inch)	
72310116	●	1/64	0.047	0.160	0.012	1.500	0.125	2
72310216	●	1/32	0.094	0.310	0.027	1.500	0.125	4
72310316	●	3/64	0.188	0.470	0.043	1.500	0.125	4
72310416	●	1/16	0.188	0.630	0.058	1.500	0.125	4
72310516	●	3/32	0.375	0.940	0.088	2.000	0.125	4
72310616	●	1/8	0.750	1.500	0.120	3.000	0.125	4
72310716	●	3/16	0.750	1.880	0.183	4.000	0.188	4
72310816	●	1/4	1.000	2.500	0.245	4.000	0.250	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340						◎	◎					◎	

○ Good ◎ Best

EXOCARB® DG-EBML

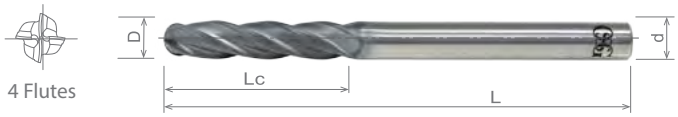
Long Length of Cut DG Coated 4-Fluted Ball Nose End Mills for Graphite

List 7430

EXOCARB® DG-EBML

NEW | SPEED FEED 1493 | CARBIDE | DG | 4 FLUTE | 30° | SHANK h6 | LONG | PACKED 1 PIECE

Radius Tolerance	
1/32" ≤ D ≤ 3/16"	+/- 0.00028"
1/4" ≤ D ≤ 1/2"	+/- 0.00039"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
74300125	●	1/32	0.156	2.500	0.125
74300225	●	3/64	0.234	2.500	0.125
74300325	●	1/16	0.313	2.500	0.125
74300425	●	3/32	0.469	2.500	0.125
74300525	●	1/8	0.625	3.000	0.125
74300625	●	3/16	0.938	3.000	0.188
74300725	●	1/4	1.250	4.000	0.250
74300825	○	3/8	1.875	6.000	0.375
74300925	●	1/2	2.250	6.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340												◎	

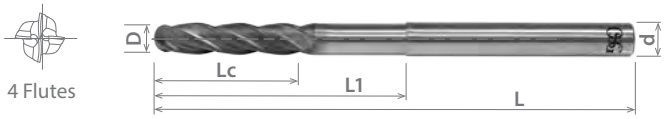
○ Good ◎ Best

List 7431

EXOCARB® DG-LN-EBML, Long Neck

NEW | SPEED FEED 1493 | CARBIDE | DG | 4 FLUTE | 30° | SHANK h6 | LONG | PACKED 1 PIECE

Radius Tolerance	
1/32" ≤ D ≤ 3/16"	+/- 0.00028"
D = 1/4"	+/- 0.00039"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
74310125	○	1/32	0.156	0.250	2.500	0.125
74310225	○	3/64	0.234	0.500	2.500	0.125
74310325	●	1/16	0.313	0.625	2.500	0.125
74310425	○	3/32	0.469	1.000	2.500	0.125
74310525	●	1/8	0.625	1.250	3.000	0.125
74310625	○	3/16	0.938	1.500	3.000	0.188
74310725	●	1/4	1.250	2.000	4.000	0.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

P					M			K	N				S		Other	
Steel					Stainless Steel			Cast Iron	Non-Ferrous				HRSA		Graphite	Cobalt-Chrome
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Mg	Brass, Bronze	Nickel Alloy	Titanium		
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)		
1010 1018	1035 1045	1065	4140 4340												◎	

○ Good ◎ Best

List VG441BN

HY-PRO® CARB VGX BN

SPEED FEED 1494 | CARBIDE | TiAlN | 4 FLUTE | 35° | SHANK h6 | STUB | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1-1/4"	+0 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Weldon Flat
VG441-1250-BN	●	1/8	0.500	2.000	0.125	-
VG441-1875-BN	●	3/16	0.625	2.250	0.188	-
VG441-2500-BN	●	1/4	0.750	2.500	0.250	-
VG441-3125-BN	●	5/16	0.750	2.500	0.313	●
VG441-3750-BN	●	3/8	0.875	2.500	0.375	●
VG441-4375-BN	●	7/16	0.875	2.500	0.438	●
VG441-5000-BN	●	1/2	1.000	3.000	0.500	●
VG441-5010-BN	●	1/2	1.250	3.000	0.500	●
VG441-6250-BN	●	5/8	1.250	3.500	0.625	●
VG441-7500-BN	●	3/4	1.500	4.000	0.750	●
VG441-1000-BN	●	1	1.500	4.000	1.000	●
VG441-1010-BN	●	1-1/4	2.250	5.000	1.250	●

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	○	

○ Good ◎ Best

List HP421BN

HY-PRO® CARB BN

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	35°			SHANK	STUB	REG	LONG	PACKED
1495-1496							h6				1 PIECE

Cutting Diameter Tolerance	
3/64" ≤ D ≤ 1"	+0 / -0.0015"
1mm ≤ D ≤ 25mm	+0 / -0.038mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP421-0394-BN	●	-	1.00	-	3.00	-	39.00	-	3.00
HP421-0469-BN	●	3/64	-	0.141	-	1.500	-	0.125	-
HP421-0591-BN	●	-	1.50	-	5.00	-	39.00	-	3.00
HP421-0625-BN	●	1/16	-	0.188	-	1.500	-	0.125	-
HP421-0781-BN	●	5/64	-	0.250	-	1.500	-	0.125	-
HP421-0787-BN	●	-	2.00	-	7.00	-	39.00	-	3.00
HP421-0938-BN	●	3/32	-	0.313	-	1.500	-	0.125	-
HP421-0984-BN	●	-	2.50	-	8.00	-	39.00	-	3.00
HP421-1094-BN	●	7/64	-	0.375	-	1.500	-	0.125	-
HP421-1181-BN	●	-	3.00	-	10.00	-	39.00	-	3.00
HP421-1250-BN	●	1/8	-	0.500	-	1.500	-	0.125	-
HP421-1378-BN	●	-	3.50	-	12.00	-	51.00	-	4.00
HP421-1406-BN	●	9/64	-	0.500	-	2.000	-	0.188	-
HP421-1562-BN	●	5/32	-	0.563	-	2.000	-	0.188	-
HP421-1575-BN	●	-	4.00	-	14.00	-	51.00	-	4.00
HP421-1719-BN	●	11/64	-	0.563	-	2.000	-	0.188	-
HP421-1772-BN	●	-	4.50	-	14.00	-	51.00	-	5.00
HP421-1875-BN	●	3/16	-	0.625	-	2.000	-	0.188	-
HP421-1968-BN	●	-	5.00	-	16.00	-	51.00	-	5.00
HP421-2031-BN	●	13/64	-	0.625	-	2.500	-	0.250	-
HP421-2188-BN	●	7/32	-	0.625	-	2.500	-	0.250	-
HP421-2362-BN	●	-	6.00	-	19.00	-	64.00	-	6.00
HP421-2500-BN	●	1/4	-	0.750	-	2.500	-	0.250	-
HP421-2756-BN	●	-	7.00	-	19.00	-	64.00	-	8.00
HP421-2812-BN	●	9/32	-	0.750	-	2.500	-	0.313	-
HP421-3125-BN	●	5/16	-	0.813	-	2.500	-	0.313	-
HP421-3150-BN	●	-	8.00	-	21.00	-	64.00	-	8.00
HP421-3438-BN	●	11/32	-	0.875	-	2.500	-	0.375	-
HP421-3543-BN	●	-	9.00	-	22.00	-	70.00	-	10.00
HP421-3750-BN	●	3/8	-	1.000	-	2.500	-	0.375	-
HP421-3937-BN	●	-	10.00	-	25.00	-	70.00	-	10.00
HP421-4062-BN	●	13/32	-	1.000	-	2.750	-	0.438	-
HP421-4331-BN	●	-	11.00	-	25.00	-	70.00	-	11.00
HP421-4375-BN	●	7/16	-	1.000	-	2.750	-	0.438	-
HP421-4724-BN	●	-	12.00	-	25.00	-	76.00	-	12.00
HP421-5000-BN	●	1/2	-	1.000	-	3.000	-	0.500	-
HP421-5512-BN	●	-	14.00	-	30.00	-	89.00	-	14.00
HP421-5625-BN	●	9/16	-	1.125	-	3.500	-	0.563	-
HP421-6250-BN	●	5/8	-	1.250	-	3.500	-	0.625	-
HP421-6299-BN	●	-	16.00	-	32.00	-	89.00	-	16.00
HP421-6875-BN	●	11/16	-	1.375	-	4.000	-	0.750	-
HP421-7087-BN	●	-	18.00	-	35.00	-	102.00	-	18.00
HP421-7500-BN	●	3/4	-	1.500	-	4.000	-	0.750	-
HP421-7874-BN	●	-	20.00	-	38.00	-	102.00	-	20.00
HP421-8661-BN	●	-	22.00	-	38.00	-	102.00	-	22.00
HP421-8750-BN	●	7/8	-	1.500	-	4.000	-	0.875	-
HP421-9843-BN	●	-	25.00	-	38.00	-	102.00	-	25.00
HP421-1000-BN	●	1	-	1.500	-	4.000	-	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○	○	○			○	○	○	○	○	

○ Good ◎ Best

List HP419

HY-PRO® CARB LN-BN, Necked

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	30°			SHANK	STUB	PACKED
1497-1498							h6		1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 3/16"	+0 / -0.0015"
0.5mm ≤ D ≤ 6mm	+0 / -0.038mm



EDP Number		Diameter		Length of Cut		Neck Length		Neck Diameter		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L1 (Inch)	L1 (mm)	d1 (Inch)	d1 (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP419-0197	●	-	0.50	-	0.50	-	2.50	-	0.45	-	60.00	-	6.00
HP419-0236	●	-	0.60	-	0.60	-	3.00	-	0.55	-	60.00	-	6.00
HP419-0312	●	1/32	-	0.031	-	0.313	-	0.029	-	2.500	-	0.250	-
HP419-0315	●	-	0.80	-	0.80	-	4.00	-	0.75	-	60.00	-	6.00
HP419-0394	●	-	1.00	-	1.00	-	5.00	-	0.95	-	60.00	-	6.00
HP419-0472	●	-	1.20	-	1.20	-	6.00	-	1.15	-	60.00	-	6.00
HP419-0551	●	-	1.40	-	1.40	-	7.00	-	1.35	-	60.00	-	6.00
HP419-0591	●	-	1.50	-	1.50	-	7.50	-	1.45	-	60.00	-	6.00
HP419-0625	●	1/16	-	0.063	-	0.625	-	0.06	-	2.500	-	0.250	-
HP419-0630	●	-	1.60	-	1.60	-	8.00	-	1.55	-	60.00	-	6.00
HP419-0709	●	-	1.80	-	1.80	-	9.00	-	1.75	-	60.00	-	6.00
HP419-0787	●	-	2.00	-	2.00	-	10.00	-	1.95	-	60.00	-	6.00
HP419-0938	●	3/32	-	0.094	-	0.938	-	0.091	-	2.500	-	0.250	-
HP419-0984	●	-	2.50	-	2.50	-	12.50	-	2.4	-	60.00	-	6.00
HP419-1181	●	-	3.00	-	3.00	-	15.00	-	2.85	-	70.00	-	6.00
HP419-1250	●	1/8	-	0.125	-	1.250	-	0.123	-	3.000	-	0.250	-
HP419-1378	●	-	3.50	-	3.50	-	17.50	-	3.35	-	70.00	-	6.00
HP419-1575	●	-	4.00	-	4.00	-	20.00	-	3.85	-	70.00	-	6.00
HP419-1875	●	3/16	-	0.188	-	1.875	-	0.183	-	4.000	-	0.250	-
HP419-1969	●	-	5.00	-	5.00	-	25.00	-	4.85	-	80.00	-	6.00
HP419-2362	●	-	6.00	-	6.00	-	30.00	-	5.85	-	90.00	-	6.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○				○					○	○		

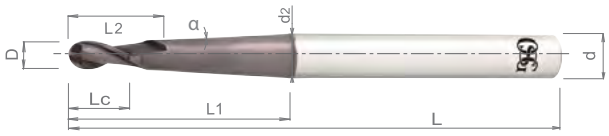
○ Good ◎ Best

List HP418

HY-PRO® CARB PC-BN, Pencil Neck

SPEED FEED	CARBIDE	TiAlN	2 FLUTE	30°			SHANK	STUB	REG	PACKED
1499-1500							h6			1 PIECE

Cutting Diameter Tolerance	
3/32" ≤ D ≤ 3/8"	+0 / -0.0015"
1mm ≤ D ≤ 12mm	+0 / -0.038mm



EDP Number		Diameter		Length of Cut		Neck Length		Non-Taper Neck Length		Neck Diameter Max		Neck Taper Angle	Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L1 (Inch)	L1 (mm)	L2 (Inch)	L2 (mm)	d1 (Inch)	d1 (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP418-0390	●	-	1.00	-	2.50	-	20.00	-	4.00	-	3.80	5	-	60.00	-	6.00
HP418-0392	●	-	1.00	-	2.50	-	20.00	-	4.00	-	1.80	1.5	-	70.00	-	6.00
HP418-0391	●	-	1.00	-	2.50	-	40.00	-	4.00	-	4.80	3	-	80.00	-	6.00
HP418-0780	●	-	2.00	-	5.00	-	20.00	-	7.00	-	4.30	5	-	60.00	-	6.00
HP418-0782	●	-	2.00	-	5.00	-	20.00	-	7.00	-	2.70	1.5	-	70.00	-	6.00
HP418-0781	●	-	2.00	-	5.00	-	40.00	-	7.00	-	5.50	3	-	80.00	-	6.00
HP418-0938	●	3/32	-	0.160	-	1.600	-	0.200	-	0.240	-	3	3.000	-	0.250	-
HP418-1180	●	-	3.00	-	8.00	-	30.00	-	10.50	-	5.00	3	-	70.00	-	6.00
HP418-1181	●	-	3.00	-	8.00	-	50.00	-	10.50	-	5.10	1.5	-	90.00	-	6.00
HP418-1250	●	1/8	-	0.225	-	1.600	-	0.270	-	0.217	-	2	3.000	-	0.250	-
HP418-1570	●	-	4.00	-	8.00	-	28.00	-	10.50	-	6.00	3	-	70.00	-	6.00
HP418-1571	●	-	4.00	-	8.00	-	48.00	-	10.50	-	6.00	1.5	-	90.00	-	6.00
HP418-1875	●	3/16	-	0.312	-	1.900	-	0.390	-	0.312	-	2	3.500	-	0.313	-
HP418-1960	●	-	5.00	-	10.00	-	40.00	-	12.50	-	8.00	3	-	90.00	-	8.00
HP418-1961	●	-	5.00	-	10.00	-	60.00	-	12.50	-	7.50	1.5	-	110.00	-	8.00
HP418-2360	●	-	6.00	-	12.00	-	33.50	-	14.50	-	8.00	3	-	90.00	-	8.00
HP418-2361	●	-	6.00	-	12.00	-	52.00	-	14.50	-	8.00	1.5	-	110.00	-	8.00
HP418-2500	●	1/4	-	0.400	-	2.250	-	0.500	-	0.375	-	2	4.000	-	0.375	-
HP418-3150	●	-	8.00	-	14.00	-	35.50	-	16.50	-	10.00	3	-	100.00	-	10.00
HP418-3151	●	-	8.00	-	14.00	-	54.50	-	16.50	-	10.00	1.5	-	120.00	-	10.00
HP418-3750	●	3/8	-	0.600	-	2.250	-	0.750	-	0.500	-	2	4.000	-	0.500	-
HP418-3930	●	-	10.00	-	18.00	-	39.50	-	20.50	-	12.00	3	-	110.00	-	12.00
HP418-3931	●	-	10.00	-	18.00	-	58.50	-	20.50	-	12.00	1.5	-	130.00	-	12.00
HP418-4720	●	-	12.00	-	22.00	-	60.00	-	25.00	-	16.00	3	-	140.00	-	16.00
HP418-4721	●	-	12.00	-	22.00	-	80.00	-	25.00	-	14.90	1.5	-	160.00	-	16.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○	○	○			○	○	○	○		

○ Good ◎ Best

HY-PRO® CARB

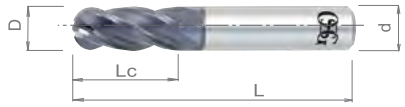
Performance Sub-Micrograin Carbide End Mills

List HP441BN

HY-PRO® CARB BN

SPEED FEED	CARBIDE	TiAlN	4 FLUTE	35°			SHANK	STUB	REG	LONG	PACKED
1495-1496							h6				1 PIECE

Cutting Diameter Tolerance	
3/64" ≤ D ≤ 1"	+0 / -0.0015"
1mm ≤ D ≤ 25mm	+0 / -0.038mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter	
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)
HP441-0394-BN	●	-	1.00	-	3.00	-	39.00	-	3.00
HP441-0469-BN	●	3/64	-	0.141	-	1.500	-	0.125	-
HP441-0591-BN	●	-	1.50	-	5.00	-	39.00	-	3.00
HP441-0625-BN	●	1/16	-	0.188	-	1.500	-	0.125	-
HP441-0781-BN	●	5/64	-	0.250	-	1.500	-	0.125	-
HP441-0787-BN	●	-	2.00	-	7.00	-	39.00	-	3.00
HP441-0938-BN	●	3/32	-	0.313	-	1.500	-	0.125	-
HP441-0984-BN	●	-	2.50	-	8.00	-	39.00	-	3.00
HP441-1094-BN	●	7/64	-	0.375	-	1.500	-	0.125	-
HP441-1181-BN	●	-	3.00	-	10.00	-	39.00	-	3.00
HP441-1250-BN	●	1/8	-	0.500	-	1.500	-	0.125	-
HP441-1378-BN	●	-	3.50	-	12.00	-	51.00	-	4.00
HP441-1406-BN	●	9/64	-	0.500	-	2.000	-	0.188	-
HP441-1562-BN	●	5/32	-	0.563	-	2.000	-	0.188	-
HP441-1575-BN	●	-	4.00	-	14.00	-	51.00	-	4.00
HP441-1719-BN	●	11/64	-	0.563	-	2.000	-	0.188	-
HP441-1772-BN	●	-	4.50	-	14.00	-	51.00	-	5.00
HP441-1875-BN	●	3/16	-	0.625	-	2.000	-	0.188	-
HP441-1968-BN	●	-	5.00	-	16.00	-	51.00	-	5.00
HP441-2031-BN	●	13/64	-	0.625	-	2.500	-	0.250	-
HP441-2188-BN	●	7/32	-	0.625	-	2.500	-	0.250	-
HP441-2362-BN	●	-	6.00	-	19.00	-	64.00	-	6.00
HP441-2500-BN	●	1/4	-	0.750	-	2.500	-	0.250	-
HP441-2756-BN	●	-	7.00	-	19.00	-	64.00	-	8.00
HP441-2812-BN	●	9/32	-	0.750	-	2.500	-	0.313	-
HP441-3125-BN	●	5/16	-	0.813	-	2.500	-	0.313	-
HP441-3150-BN	●	-	8.00	-	21.00	-	64.00	-	8.00
HP441-3438-BN	●	11/32	-	0.875	-	2.500	-	0.375	-
HP441-3543-BN	●	-	9.00	-	22.00	-	70.00	-	10.00
HP441-3750-BN	●	3/8	-	1.000	-	2.500	-	0.375	-
HP441-3937-BN	●	-	10.00	-	25.00	-	70.00	-	10.00
HP441-4062-BN	●	13/32	-	1.000	-	2.750	-	0.438	-
HP441-4331-BN	●	-	11.00	-	25.00	-	70.00	-	11.00
HP441-4375-BN	●	7/16	-	1.000	-	2.750	-	0.438	-
HP441-4724-BN	●	-	12.00	-	25.00	-	76.00	-	12.00
HP441-5000-BN	●	1/2	-	1.000	-	3.000	-	0.500	-
HP441-5512-BN	●	-	14.00	-	30.00	-	89.00	-	14.00
HP441-5625-BN	●	9/16	-	1.125	-	3.500	-	0.563	-
HP441-6250-BN	●	5/8	-	1.250	-	3.500	-	0.625	-
HP441-6299-BN	●	-	16.00	-	32.00	-	89.00	-	16.00
HP441-6875-BN	●	11/16	-	1.375	-	4.000	-	0.750	-
HP441-7087-BN	●	-	18.00	-	35.00	-	102.00	-	18.00
HP441-7500-BN	●	3/4	-	1.500	-	4.000	-	0.750	-
HP441-7874-BN	●	-	20.00	-	38.00	-	102.00	-	20.00
HP441-8661-BN	●	-	22.00	-	38.00	-	102.00	-	22.00
HP441-8750-BN	●	7/8	-	1.500	-	4.000	-	0.875	-
HP441-9843-BN	●	-	25.00	-	38.00	-	102.00	-	25.00
HP441-1000-BN	●	1	-	1.500	-	4.000	-	1.000	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HPC

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○	○	○			○	○	○	○	○	

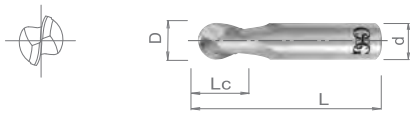
○ Good ◎ Best

List 412BN

OSG STANDARD CARBIDE BN

SPEED FEED	CARBIDE	BR	TiAlN	2 FLUTE	30°			STUB	REG	PACKED
1501										1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 3/4"	+0 / -0.002"
1mm ≤ D ≤ 12mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
412-0312-BN	●	1/32	-	0.078	-	1.500	-	0.125	-	BRIGHT
412-0312-BN11	●	1/32	-	0.078	-	1.500	-	0.125	-	TiAlN
412-0394-BN	●	-	1.00	-	2.00	-	39.00	-	3.00	BRIGHT
412-0394-BN11	●	-	1.00	-	2.00	-	39.00	-	3.00	TiAlN
412-0469-BN	●	3/64	-	0.094	-	1.500	-	0.125	-	BRIGHT
412-0591-BN	●	-	1.50	-	3.00	-	39.00	-	3.00	BRIGHT
412-0625-BN	●	1/16	-	0.125	-	1.500	-	0.125	-	BRIGHT
412-0625-BN11	●	1/16	-	0.125	-	1.500	-	0.125	-	TiAlN
412-0781-BN	●	5/64	-	0.156	-	1.500	-	0.125	-	BRIGHT
412-0787-BN	●	-	2.00	-	4.00	-	39.00	-	3.00	BRIGHT
412-0938-BN	●	3/32	-	0.188	-	1.500	-	0.125	-	BRIGHT
412-0984-BN	●	-	2.50	-	5.00	-	39.00	-	3.00	BRIGHT
412-1094-BN	●	7/64	-	0.219	-	1.500	-	0.125	-	BRIGHT
412-1181-BN	●	-	3.00	-	6.00	-	39.00	-	3.00	BRIGHT
412-1250-BN	●	1/8	-	0.250	-	1.500	-	0.125	-	BRIGHT
412-1250-BN11	●	1/8	-	0.250	-	1.500	-	0.125	-	TiAlN
412-1378-BN	●	-	3.50	-	7.00	-	51.00	-	4.00	BRIGHT
412-1406-BN	●	9/64	-	0.281	-	2.000	-	0.188	-	BRIGHT
412-1562-BN	●	5/32	-	0.313	-	2.000	-	0.188	-	BRIGHT
412-1562-BN11	●	5/32	-	0.313	-	2.000	-	0.188	-	TiAlN
412-1575-BN	●	-	4.00	-	8.00	-	51.00	-	4.00	BRIGHT
412-1575-BN11	●	-	4.00	-	8.00	-	51.00	-	4.00	TiAlN
412-1772-BN	●	-	4.50	-	9.00	-	51.00	-	5.00	BRIGHT
412-1875-BN	●	3/16	-	0.375	-	2.000	-	0.188	-	BRIGHT
412-1875-BN11	●	3/16	-	0.375	-	2.000	-	0.188	-	TiAlN
412-1968-BN	●	-	5.00	-	10.00	-	51.00	-	5.00	BRIGHT
412-2188-BN	●	7/32	-	0.438	-	2.000	-	0.250	-	BRIGHT
412-2362-BN	●	-	6.00	-	12.00	-	51.00	-	6.00	BRIGHT
412-2500-BN	●	1/4	-	0.500	-	2.000	-	0.250	-	BRIGHT
412-2500-BN11	●	1/4	-	0.500	-	2.000	-	0.250	-	TiAlN
412-2756-BN	●	-	7.00	-	12.00	-	51.00	-	8.00	BRIGHT
412-3125-BN	●	5/16	-	0.500	-	2.000	-	0.313	-	BRIGHT
412-3150-BN	●	-	8.00	-	12.00	-	51.00	-	8.00	BRIGHT
412-3543-BN	●	-	9.00	-	14.00	-	51.00	-	10.00	BRIGHT
412-3750-BN	●	3/8	-	0.625	-	2.000	-	0.375	-	BRIGHT
412-3750-BN11	●	3/8	-	0.625	-	2.000	-	0.375	-	TiAlN
412-3937-BN	●	-	10.00	-	14.00	-	51.00	-	10.00	BRIGHT
412-4331-BN	●	-	11.00	-	16.00	-	64.00	-	11.00	BRIGHT
412-4375-BN	●	7/16	-	0.625	-	2.500	-	0.438	-	BRIGHT
412-4724-BN	●	-	12.00	-	16.00	-	64.00	-	12.00	BRIGHT
412-5000-BN	●	1/2	-	0.625	-	2.500	-	0.500	-	BRIGHT
412-5000-BN11	●	1/2	-	0.625	-	2.500	-	0.500	-	TiAlN
412-6250-BN	●	5/8	-	0.750	-	3.000	-	0.625	-	BRIGHT
412-7500-BN	●	3/4	-	1.000	-	3.000	-	0.750	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○			○	○	○	○	○	

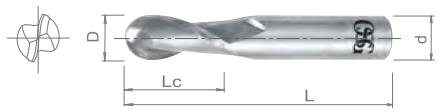
○ Good ◎ Best

List 402BN

OSG STANDARD CARBIDE BN

SPEED FEED	CARBIDE	BR	TiAlN	2 FLUTE	30°			STUB	REG	LONG	PACKED
1501											1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
0.5mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
402-0197-BN	●	-	0.50	-	1.50	-	39.00	-	3.00	BRIGHT
402-0197-BN11	●	-	0.50	-	1.50	-	39.00	-	3.00	TiAlN
402-0312-BN	●	1/32	-	0.125	-	1.500	-	0.125	-	BRIGHT
402-0312-BN11	●	1/32	-	0.125	-	1.500	-	0.125	-	TiAlN
402-0394-BN	●	-	1.00	-	3.00	-	39.00	-	3.00	BRIGHT
402-0394-BN11	●	-	1.00	-	3.00	-	39.00	-	3.00	TiAlN
402-0469-BN	●	3/64	-	0.141	-	1.500	-	0.125	-	BRIGHT
402-0469-BN11	●	3/64	-	0.141	-	1.500	-	0.125	-	TiAlN
402-0591-BN	●	-	1.50	-	5.00	-	39.00	-	3.00	BRIGHT
402-0591-BN11	●	-	1.50	-	5.00	-	39.00	-	3.00	TiAlN
402-0625-BN	●	1/16	-	0.188	-	1.500	-	0.125	-	BRIGHT
402-0625-BN11	●	1/16	-	0.188	-	1.500	-	0.125	-	TiAlN
402-0781-BN	●	5/64	-	0.250	-	1.500	-	0.125	-	BRIGHT
402-0781-BN11	●	5/64	-	0.250	-	1.500	-	0.125	-	TiAlN
402-0787-BN	●	-	2.00	-	7.00	-	39.00	-	3.00	BRIGHT
402-0787-BN11	●	-	2.00	-	7.00	-	39.00	-	3.00	TiAlN
402-0938-BN	●	3/32	-	0.313	-	1.500	-	0.125	-	BRIGHT
402-0938-BN11	●	3/32	-	0.313	-	1.500	-	0.125	-	TiAlN
402-0984-BN	●	-	2.50	-	8.00	-	39.00	-	3.00	BRIGHT
402-0984-BN11	●	-	2.50	-	8.00	-	39.00	-	3.00	TiAlN
402-1094-BN	●	7/64	-	0.375	-	1.500	-	0.125	-	BRIGHT
402-1094-BN11	●	7/64	-	0.375	-	1.500	-	0.125	-	TiAlN
402-1181-BN	●	-	3.00	-	10.00	-	39.00	-	3.00	BRIGHT
402-1181-BN11	●	-	3.00	-	10.00	-	39.00	-	3.00	TiAlN
402-1250-BN	●	1/8	-	0.500	-	1.500	-	0.125	-	BRIGHT
402-1250-BN11	●	1/8	-	0.500	-	1.500	-	0.125	-	TiAlN
402-1378-BN	●	-	3.50	-	12.00	-	51.00	-	4.00	BRIGHT
402-1378-BN11	●	-	3.50	-	12.00	-	51.00	-	4.00	TiAlN
402-1406-BN	●	9/64	-	0.500	-	2.000	-	0.188	-	BRIGHT
402-1406-BN11	●	9/64	-	0.500	-	2.000	-	0.188	-	TiAlN
402-1562-BN	●	5/32	-	0.563	-	2.000	-	0.188	-	BRIGHT
402-1562-BN11	●	5/32	-	0.563	-	2.000	-	0.188	-	TiAlN
402-1575-BN	●	-	4.00	-	14.00	-	51.00	-	4.00	BRIGHT
402-1575-BN11	●	-	4.00	-	14.00	-	51.00	-	4.00	TiAlN
402-1719-BN	●	11/64	-	0.563	-	2.000	-	0.188	-	BRIGHT
402-1719-BN11	●	11/64	-	0.563	-	2.000	-	0.188	-	TiAlN
402-1772-BN	●	-	4.50	-	14.00	-	51.00	-	5.00	BRIGHT
402-1772-BN11	●	-	4.50	-	14.00	-	51.00	-	5.00	TiAlN
402-1875-BN	●	3/16	-	0.625	-	2.000	-	0.188	-	BRIGHT
402-1875-BN11	●	3/16	-	0.625	-	2.000	-	0.188	-	TiAlN
402-1968-BN	●	-	5.00	-	16.00	-	51.00	-	5.00	BRIGHT
402-1968-BN11	●	-	5.00	-	16.00	-	51.00	-	5.00	TiAlN
402-2031-BN	●	13/64	-	0.625	-	2.500	-	0.250	-	BRIGHT
402-2031-BN11	●	13/64	-	0.625	-	2.500	-	0.250	-	TiAlN
402-2188-BN	●	7/32	-	0.625	-	2.500	-	0.250	-	BRIGHT
402-2188-BN11	●	7/32	-	0.625	-	2.500	-	0.250	-	TiAlN
402-2344-BN	●	15/64	-	0.750	-	2.500	-	0.250	-	BRIGHT
402-2344-BN11	●	15/64	-	0.750	-	2.500	-	0.250	-	TiAlN
402-2362-BN	●	-	6.00	-	19.00	-	64.00	-	6.00	BRIGHT
402-2362-BN11	●	-	6.00	-	19.00	-	64.00	-	6.00	TiAlN
402-2500-BN	●	1/4	-	0.750	-	2.500	-	0.250	-	BRIGHT
402-2500-BN11	●	1/4	-	0.750	-	2.500	-	0.250	-	TiAlN
402-2656-BN	●	17/64	-	0.750	-	2.500	-	0.313	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

List 402BN (Continued)

OSG STANDARD CARBIDE BN

SPEED FEED 1501 | CARBIDE | BR | TiAlN | 2 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
402-2656-BN11	●	17/64	-	0.750	-	2.500	-	0.313	-	TiAlN
402-2756-BN	●	-	7.00	-	19.00	-	64.00	-	8.00	BRIGHT
402-2756-BN11	●	-	7.00	-	19.00	-	64.00	-	8.00	TiAlN
402-2812-BN	●	9/32	-	0.750	-	2.500	-	0.313	-	BRIGHT
402-2812-BN11	●	9/32	-	0.750	-	2.500	-	0.313	-	TiAlN
402-2969-BN	●	19/64	-	0.813	-	2.500	-	0.313	-	BRIGHT
402-2969-BN11	●	19/64	-	0.813	-	2.500	-	0.313	-	TiAlN
402-3125-BN	●	5/16	-	0.813	-	2.500	-	0.313	-	BRIGHT
402-3125-BN11	●	5/16	-	0.813	-	2.500	-	0.313	-	TiAlN
402-3150-BN	●	-	8.00	-	21.00	-	64.00	-	8.00	BRIGHT
402-3150-BN11	●	-	8.00	-	21.00	-	64.00	-	8.00	TiAlN
402-3281-BN	●	21/64	-	0.875	-	2.500	-	0.375	-	BRIGHT
402-3281-BN11	●	21/64	-	0.875	-	2.500	-	0.375	-	TiAlN
402-3438-BN	●	11/32	-	0.875	-	2.500	-	0.375	-	BRIGHT
402-3438-BN11	●	11/32	-	0.875	-	2.500	-	0.375	-	TiAlN
402-3543-BN	●	-	9.00	-	22.00	-	70.00	-	10.00	BRIGHT
402-3543-BN11	●	-	9.00	-	22.00	-	70.00	-	10.00	TiAlN
402-3594-BN	●	23/64	-	0.875	-	2.500	-	0.375	-	BRIGHT
402-3594-BN11	●	23/64	-	0.875	-	2.500	-	0.375	-	TiAlN
402-3750-BN	●	3/8	-	1.000	-	2.500	-	0.375	-	BRIGHT
402-3750-BN11	●	3/8	-	1.000	-	2.500	-	0.375	-	TiAlN
402-3906-BN	●	25/64	-	1.000	-	2.750	-	0.438	-	BRIGHT
402-3906-BN11	●	25/64	-	1.000	-	2.750	-	0.438	-	TiAlN
402-3937-BN	●	-	10.00	-	25.00	-	70.00	-	10.00	BRIGHT
402-3937-BN11	●	-	10.00	-	25.00	-	70.00	-	10.00	TiAlN
402-4062-BN	●	13/32	-	1.000	-	2.750	-	0.438	-	BRIGHT
402-4062-BN11	●	13/32	-	1.000	-	2.750	-	0.438	-	TiAlN
402-4219-BN	●	27/64	-	1.000	-	2.750	-	0.438	-	BRIGHT
402-4219-BN11	●	27/64	-	1.000	-	2.750	-	0.438	-	TiAlN
402-4331-BN	●	-	11.00	-	25.00	-	70.00	-	11.00	BRIGHT
402-4331-BN11	●	-	11.00	-	25.00	-	70.00	-	11.00	TiAlN
402-4375-BN	●	7/16	-	1.000	-	2.750	-	0.438	-	BRIGHT
402-4375-BN11	●	7/16	-	1.000	-	2.750	-	0.438	-	TiAlN
402-4531-BN	●	29/64	-	1.000	-	3.000	-	0.500	-	BRIGHT
402-4531-BN11	●	29/64	-	1.000	-	3.000	-	0.500	-	TiAlN
402-4688-BN	●	15/32	-	1.000	-	3.000	-	0.500	-	BRIGHT
402-4688-BN11	●	15/32	-	1.000	-	3.000	-	0.500	-	TiAlN
402-4724-BN	●	-	12.00	-	25.00	-	76.00	-	12.00	BRIGHT
402-4724-BN11	●	-	12.00	-	25.00	-	76.00	-	12.00	TiAlN
402-4844-BN	●	31/64	-	1.000	-	3.000	-	0.500	-	BRIGHT
402-4844-BN11	●	31/64	-	1.000	-	3.000	-	0.500	-	TiAlN
402-5000-BN	●	1/2	-	1.000	-	3.000	-	0.500	-	BRIGHT
402-5000-BN11	●	1/2	-	1.000	-	3.000	-	0.500	-	TiAlN
402-5512-BN	●	-	14.00	-	30.00	-	89.00	-	14.00	BRIGHT
402-5512-BN11	●	-	14.00	-	30.00	-	89.00	-	14.00	TiAlN
402-5625-BN	●	9/16	-	1.125	-	3.500	-	0.563	-	BRIGHT
402-5625-BN11	●	9/16	-	1.125	-	3.500	-	0.563	-	TiAlN
402-6250-BN	●	5/8	-	1.250	-	3.500	-	0.625	-	BRIGHT
402-6250-BN11	●	5/8	-	1.250	-	3.500	-	0.625	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request.

HYE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○		

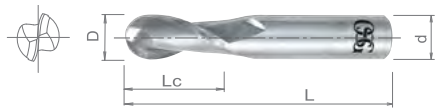
○ Good ◎ Best

List 402BN (Continued)

SPEED FEED 1501 | CARBIDE | BR | TiAlN | 2 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

OSG STANDARD CARBIDE BN

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
0.5mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
402-6299-BN	●	-	16.00	-	32.00	-	89.00	-	16.00	BRIGHT
402-6299-BN11	●	-	16.00	-	32.00	-	89.00	-	16.00	TiAlN
402-6875-BN	●	11/16	-	1.375	-	4.000	-	0.750	-	BRIGHT
402-6875-BN11	●	11/16	-	1.375	-	4.000	-	0.750	-	TiAlN
402-7087-BN	●	-	18.00	-	35.00	-	102.00	-	18.00	BRIGHT
402-7087-BN11	●	-	18.00	-	35.00	-	102.00	-	18.00	TiAlN
402-7500-BN	●	3/4	-	1.500	-	4.000	-	0.750	-	BRIGHT
402-7500-BN11	●	3/4	-	1.500	-	4.000	-	0.750	-	TiAlN
402-7874-BN	●	-	20.00	-	38.00	-	102.00	-	20.00	BRIGHT
402-7874-BN11	●	-	20.00	-	38.00	-	102.00	-	20.00	TiAlN
402-8661-BN	●	-	22.00	-	38.00	-	102.00	-	22.00	BRIGHT
402-8661-BN11	●	-	22.00	-	38.00	-	102.00	-	22.00	TiAlN
402-8750-BN	●	7/8	-	1.500	-	4.000	-	0.875	-	BRIGHT
402-8750-BN11	●	7/8	-	1.500	-	4.000	-	0.875	-	TiAlN
402-9843-BN	●	-	25.00	-	38.00	-	102.00	-	25.00	BRIGHT
402-9843-BN11	●	-	25.00	-	38.00	-	102.00	-	25.00	TiAlN
402-1000-BN	●	1	-	1.500	-	4.000	-	1.000	-	BRIGHT
402-1000-BN11	●	1	-	1.500	-	4.000	-	1.000	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○		

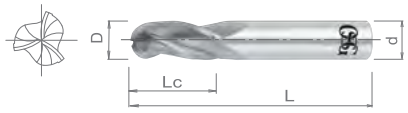
○ Good ◎ Best

List 403BN

OSG STANDARD CARBIDE BN

SPEED FEED	CARBIDE	BR	TiAlN	3 FLUTE	30°			STUB	REG	LONG	PACKED
1501											1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.002"
1mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
403-0394-BN	●	-	1.00	-	3.00	-	39.00	-	3.00	BRIGHT
403-0394-BN11	●	-	1.00	-	3.00	-	39.00	-	3.00	TiAlN
403-0591-BN	●	-	1.50	-	5.00	-	39.00	-	3.00	BRIGHT
403-0591-BN11	●	-	1.50	-	5.00	-	39.00	-	3.00	TiAlN
403-0625-BN	●	1/16	-	0.188	-	1.500	-	0.125	-	BRIGHT
403-0625-BN11	●	1/16	-	0.188	-	1.500	-	0.125	-	TiAlN
403-0781-BN	●	5/64	-	0.250	-	1.500	-	0.125	-	BRIGHT
403-0781-BN11	●	5/64	-	0.250	-	1.500	-	0.125	-	TiAlN
403-0787-BN	●	-	2.00	-	7.00	-	39.00	-	3.00	BRIGHT
403-0787-BN11	●	-	2.00	-	7.00	-	39.00	-	3.00	TiAlN
403-0938-BN	●	3/32	-	0.313	-	1.500	-	0.125	-	BRIGHT
403-0938-BN11	●	3/32	-	0.313	-	1.500	-	0.125	-	TiAlN
403-0984-BN	●	-	2.50	-	8.00	-	39.00	-	3.00	BRIGHT
403-0984-BN11	●	-	2.50	-	8.00	-	39.00	-	3.00	TiAlN
403-1094-BN	●	7/64	-	0.375	-	1.500	-	0.125	-	BRIGHT
403-1094-BN11	●	7/64	-	0.375	-	1.500	-	0.125	-	TiAlN
403-1181-BN	●	-	3.00	-	10.00	-	39.00	-	3.00	BRIGHT
403-1181-BN11	●	-	3.00	-	10.00	-	39.00	-	3.00	TiAlN
403-1250-BN	●	1/8	-	0.500	-	1.500	-	0.125	-	BRIGHT
403-1250-BN11	●	1/8	-	0.500	-	1.500	-	0.125	-	TiAlN
403-1378-BN	●	-	3.50	-	12.00	-	51.00	-	4.00	BRIGHT
403-1378-BN11	●	-	3.50	-	12.00	-	51.00	-	4.00	TiAlN
403-1406-BN	●	9/64	-	0.500	-	2.000	-	0.188	-	BRIGHT
403-1406-BN11	●	9/64	-	0.500	-	2.000	-	0.188	-	TiAlN
403-1562-BN	●	5/32	-	0.563	-	2.000	-	0.188	-	BRIGHT
403-1562-BN11	●	5/32	-	0.563	-	2.000	-	0.188	-	TiAlN
403-1575-BN	●	-	4.00	-	14.00	-	51.00	-	4.00	BRIGHT
403-1575-BN11	●	-	4.00	-	14.00	-	51.00	-	4.00	TiAlN
403-1719-BN	●	11/64	-	0.563	-	2.000	-	0.188	-	BRIGHT
403-1719-BN11	●	11/64	-	0.563	-	2.000	-	0.188	-	TiAlN
403-1772-BN	●	-	4.50	-	14.00	-	51.00	-	5.00	BRIGHT
403-1772-BN11	●	-	4.50	-	14.00	-	51.00	-	5.00	TiAlN
403-1875-BN	●	3/16	-	0.625	-	2.000	-	0.188	-	BRIGHT
403-1875-BN11	●	3/16	-	0.625	-	2.000	-	0.188	-	TiAlN
403-1968-BN	●	-	5.00	-	16.00	-	51.00	-	5.00	BRIGHT
403-1968-BN11	●	-	5.00	-	16.00	-	51.00	-	5.00	TiAlN
403-2031-BN	●	13/64	-	0.625	-	2.500	-	0.250	-	BRIGHT
403-2031-BN11	●	13/64	-	0.625	-	2.500	-	0.250	-	TiAlN
403-2188-BN	●	7/32	-	0.625	-	2.500	-	0.250	-	BRIGHT
403-2188-BN11	●	7/32	-	0.625	-	2.500	-	0.250	-	TiAlN
403-2344-BN	●	15/64	-	0.750	-	2.500	-	0.250	-	BRIGHT
403-2344-BN11	●	15/64	-	0.750	-	2.500	-	0.250	-	TiAlN
403-2362-BN	●	-	6.00	-	19.00	-	64.00	-	6.00	BRIGHT
403-2362-BN11	●	-	6.00	-	19.00	-	64.00	-	6.00	TiAlN
403-2500-BN	●	1/4	-	0.750	-	2.500	-	0.250	-	BRIGHT
403-2500-BN11	●	1/4	-	0.750	-	2.500	-	0.250	-	TiAlN
403-2656-BN	●	17/64	-	0.750	-	2.500	-	0.313	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○	○	

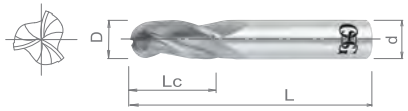
○ Good ◎ Best

List 403BN (Continued)

OSG STANDARD CARBIDE BN

SPEED FEED	CARBIDE	BR	TiAlN	3 FLUTE	30°			STUB	REG	LONG	PACKED
1501											1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 1"	+0 / -0.002"
1mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
403-2656-BN11	●	17/64	-	0.750	-	2.500	-	0.313	-	TiAlN
403-2756-BN	●	-	7.00	-	19.00	-	64.00	-	8.00	BRIGHT
403-2756-BN11	●	-	7.00	-	19.00	-	64.00	-	8.00	TiAlN
403-2812-BN	●	9/32	-	0.750	-	2.500	-	0.313	-	BRIGHT
403-2969-BN	●	19/64	-	0.813	-	2.500	-	0.313	-	BRIGHT
403-2969-BN11	●	19/64	-	0.813	-	2.500	-	0.313	-	TiAlN
403-3125-BN	●	5/16	-	0.813	-	2.500	-	0.313	-	BRIGHT
403-3125-BN11	●	5/16	-	0.813	-	2.500	-	0.313	-	TiAlN
403-3150-BN	●	-	8.00	-	21.00	-	64.00	-	8.00	BRIGHT
403-3150-BN11	●	-	8.00	-	21.00	-	64.00	-	8.00	TiAlN
403-3543-BN	●	-	9.00	-	22.00	-	70.00	-	10.00	BRIGHT
403-3543-BN11	●	-	9.00	-	22.00	-	70.00	-	10.00	TiAlN
403-3750-BN	●	3/8	-	1.000	-	2.500	-	0.375	-	BRIGHT
403-3750-BN11	●	3/8	-	1.000	-	2.500	-	0.375	-	TiAlN
403-3937-BN	●	-	10.00	-	25.00	-	70.00	-	10.00	BRIGHT
403-3937-BN11	●	-	10.00	-	25.00	-	70.00	-	10.00	TiAlN
403-4331-BN	●	-	11.00	-	25.00	-	70.00	-	11.00	BRIGHT
403-4331-BN11	●	-	11.00	-	25.00	-	70.00	-	11.00	TiAlN
403-4375-BN	●	7/16	-	1.000	-	2.750	-	0.438	-	BRIGHT
403-4375-BN11	●	7/16	-	1.000	-	2.750	-	0.438	-	TiAlN
403-4724-BN	●	-	12.00	-	25.00	-	76.00	-	12.00	BRIGHT
403-4724-BN11	●	-	12.00	-	25.00	-	76.00	-	12.00	TiAlN
403-5000-BN	●	1/2	-	1.000	-	3.000	-	0.500	-	BRIGHT
403-5000-BN11	●	1/2	-	1.000	-	3.000	-	0.500	-	TiAlN
403-5512-BN	●	-	14.00	-	30.00	-	89.00	-	14.00	BRIGHT
403-5512-BN11	●	-	14.00	-	30.00	-	89.00	-	14.00	TiAlN
403-5625-BN	●	9/16	-	1.125	-	3.500	-	0.563	-	BRIGHT
403-5625-BN11	●	9/16	-	1.125	-	3.500	-	0.563	-	TiAlN
403-6250-BN	●	5/8	-	1.250	-	3.500	-	0.625	-	BRIGHT
403-6250-BN11	●	5/8	-	1.250	-	3.500	-	0.625	-	TiAlN
403-6299-BN	●	-	16.00	-	32.00	-	89.00	-	16.00	BRIGHT
403-6299-BN11	●	-	16.00	-	32.00	-	89.00	-	16.00	TiAlN
403-6875-BN	●	11/16	-	1.375	-	4.000	-	0.750	-	BRIGHT
403-6875-BN11	●	11/16	-	1.375	-	4.000	-	0.750	-	TiAlN
403-7087-BN	●	-	18.00	-	35.00	-	102.00	-	18.00	BRIGHT
403-7087-BN11	●	-	18.00	-	35.00	-	102.00	-	18.00	TiAlN
403-7500-BN	●	3/4	-	1.500	-	4.000	-	0.750	-	BRIGHT
403-7500-BN11	●	3/4	-	1.500	-	4.000	-	0.750	-	TiAlN
403-7874-BN	●	-	20.00	-	38.00	-	102.00	-	20.00	BRIGHT
403-7874-BN11	●	-	20.00	-	38.00	-	102.00	-	20.00	TiAlN
403-8661-BN	●	-	22.00	-	38.00	-	102.00	-	22.00	BRIGHT
403-8661-BN11	●	-	22.00	-	38.00	-	102.00	-	22.00	TiAlN
403-8750-BN	●	7/8	-	1.500	-	4.000	-	0.875	-	BRIGHT
403-8750-BN11	●	7/8	-	1.500	-	4.000	-	0.875	-	TiAlN
403-9843-BN	●	-	25.00	-	38.00	-	102.00	-	25.00	BRIGHT
403-9843-BN11	●	-	25.00	-	38.00	-	102.00	-	25.00	TiAlN
403-1000-BN	●	1	-	1.500	-	4.000	-	1.000	-	BRIGHT
403-1000-BN11	●	1	-	1.500	-	4.000	-	1.000	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

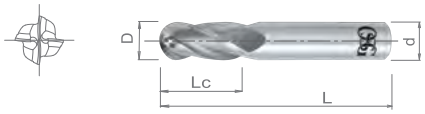
○ Good ◎ Best

List 404BN

OSG STANDARD CARBIDE BN

SPEED FEED	CARBIDE	BR	TiAlN	4 FLUTE	30°			STUB	REG	LONG	PACKED
1502-1503											1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
1mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
404-0312-BN	●	1/32	-	0.125	-	1.500	-	0.125	-	BRIGHT
404-0312-BN11	●	1/32	-	0.125	-	1.500	-	0.125	-	TiAlN
404-0394-BN	●	-	1.00	-	3.00	-	39.00	-	3.00	BRIGHT
404-0394-BN11	●	-	1.00	-	3.00	-	39.00	-	3.00	TiAlN
404-0469-BN	●	3/64	-	0.141	-	1.500	-	0.125	-	BRIGHT
404-0469-BN11	●	3/64	-	0.141	-	1.500	-	0.125	-	TiAlN
404-0591-BN	●	-	1.50	-	5.00	-	39.00	-	3.00	BRIGHT
404-0591-BN11	●	-	1.50	-	5.00	-	39.00	-	3.00	TiAlN
404-0625-BN	●	1/16	-	0.188	-	1.500	-	0.125	-	BRIGHT
404-0625-BN11	●	1/16	-	0.188	-	1.500	-	0.125	-	TiAlN
404-0781-BN	●	5/64	-	0.250	-	1.500	-	0.125	-	BRIGHT
404-0781-BN11	●	5/64	-	0.250	-	1.500	-	0.125	-	TiAlN
404-0787-BN	●	-	2.00	-	7.00	-	39.00	-	3.00	BRIGHT
404-0787-BN11	●	-	2.00	-	7.00	-	39.00	-	3.00	TiAlN
404-0938-BN	●	3/32	-	0.313	-	1.500	-	0.125	-	BRIGHT
404-0938-BN11	●	3/32	-	0.313	-	1.500	-	0.125	-	TiAlN
404-0984-BN	●	-	2.50	-	8.00	-	39.00	-	3.00	BRIGHT
404-0984-BN11	●	-	2.50	-	8.00	-	39.00	-	3.00	TiAlN
404-1094-BN	●	7/64	-	0.375	-	1.500	-	0.125	-	BRIGHT
404-1094-BN11	●	7/64	-	0.375	-	1.500	-	0.125	-	TiAlN
404-1181-BN	●	-	3.00	-	10.00	-	39.00	-	3.00	BRIGHT
404-1181-BN11	●	-	3.00	-	10.00	-	39.00	-	3.00	TiAlN
404-1250-BN	●	1/8	-	0.500	-	1.500	-	0.125	-	BRIGHT
404-1250-BN11	●	1/8	-	0.500	-	1.500	-	0.125	-	TiAlN
404-1378-BN	●	-	3.50	-	12.00	-	51.00	-	4.00	BRIGHT
404-1378-BN11	●	-	3.50	-	12.00	-	51.00	-	4.00	TiAlN
404-1406-BN	●	9/64	-	0.500	-	2.000	-	0.188	-	BRIGHT
404-1406-BN11	●	9/64	-	0.500	-	2.000	-	0.188	-	TiAlN
404-1562-BN	●	5/32	-	0.563	-	2.000	-	0.188	-	BRIGHT
404-1562-BN11	●	5/32	-	0.563	-	2.000	-	0.188	-	TiAlN
404-1575-BN	●	-	4.00	-	14.00	-	51.00	-	4.00	BRIGHT
404-1575-BN11	●	-	4.00	-	14.00	-	51.00	-	4.00	TiAlN
404-1719-BN	●	11/64	-	0.563	-	2.000	-	0.188	-	BRIGHT
404-1719-BN11	●	11/64	-	0.563	-	2.000	-	0.188	-	TiAlN
404-1772-BN	●	-	4.50	-	14.00	-	51.00	-	5.00	BRIGHT
404-1772-BN11	●	-	4.50	-	14.00	-	51.00	-	5.00	TiAlN
404-1875-BN	●	3/16	-	0.625	-	2.000	-	0.188	-	BRIGHT
404-1875-BN11	●	3/16	-	0.625	-	2.000	-	0.188	-	TiAlN
404-1968-BN	●	-	5.00	-	16.00	-	51.00	-	5.00	BRIGHT
404-1968-BN11	●	-	5.00	-	16.00	-	51.00	-	5.00	TiAlN
404-2031-BN	●	13/64	-	0.625	-	2.500	-	0.250	-	BRIGHT
404-2031-BN11	●	13/64	-	0.625	-	2.500	-	0.250	-	TiAlN
404-2188-BN	●	7/32	-	0.625	-	2.500	-	0.250	-	BRIGHT
404-2188-BN11	●	7/32	-	0.625	-	2.500	-	0.250	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

CONTINUED ›

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

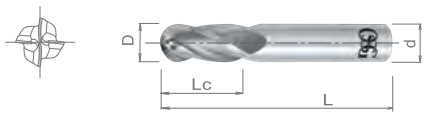
○ Good ◎ Best

List 404BN (Continued)

SPEED FEED 1502-1503 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

OSG STANDARD CARBIDE BN

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1"	+0 / -0.002"
1mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
404-2344-BN	●	15/64	-	0.750	-	2.500	-	0.250	-	BRIGHT
404-2344-BN11	●	15/64	-	0.750	-	2.500	-	0.250	-	TiAlN
404-2362-BN	●	-	6.00	-	19.00	-	64.00	-	6.00	BRIGHT
404-2362-BN11	●	-	6.00	-	19.00	-	64.00	-	6.00	TiAlN
404-2500-BN	●	1/4	-	0.750	-	2.500	-	0.250	-	BRIGHT
404-2500-BN11	●	1/4	-	0.750	-	2.500	-	0.250	-	TiAlN
404-2656-BN	●	17/64	-	0.750	-	2.500	-	0.313	-	BRIGHT
404-2656-BN11	●	17/64	-	0.750	-	2.500	-	0.313	-	TiAlN
404-2756-BN	●	-	7.00	-	19.00	-	64.00	-	8.00	BRIGHT
404-2756-BN11	●	-	7.00	-	19.00	-	64.00	-	8.00	TiAlN
404-2812-BN	●	9/32	-	0.750	-	2.500	-	0.313	-	BRIGHT
404-2812-BN11	●	9/32	-	0.750	-	2.500	-	0.313	-	TiAlN
404-2969-BN	●	19/64	-	0.813	-	2.500	-	0.313	-	BRIGHT
404-2969-BN11	●	19/64	-	0.813	-	2.500	-	0.313	-	TiAlN
404-3125-BN	●	5/16	-	0.813	-	2.500	-	0.313	-	BRIGHT
404-3125-BN11	●	5/16	-	0.813	-	2.500	-	0.313	-	TiAlN
404-3150-BN	●	-	8.00	-	21.00	-	64.00	-	8.00	BRIGHT
404-3150-BN11	●	-	8.00	-	21.00	-	64.00	-	8.00	TiAlN
404-3281-BN	●	21/64	-	0.875	-	2.500	-	0.375	-	BRIGHT
404-3281-BN11	●	21/64	-	0.875	-	2.500	-	0.375	-	TiAlN
404-3438-BN	●	11/32	-	0.875	-	2.500	-	0.375	-	BRIGHT
404-3438-BN11	●	11/32	-	0.875	-	2.500	-	0.375	-	TiAlN
404-3543-BN	●	-	9.00	-	22.00	-	70.00	-	10.00	BRIGHT
404-3543-BN11	●	-	9.00	-	22.00	-	70.00	-	10.00	TiAlN
404-3594-BN	●	23/64	-	0.875	-	2.500	-	0.375	-	BRIGHT
404-3594-BN11	●	23/64	-	0.875	-	2.500	-	0.375	-	TiAlN
404-3750-BN	●	3/8	-	1.000	-	2.500	-	0.375	-	BRIGHT
404-3750-BN11	●	3/8	-	1.000	-	2.500	-	0.375	-	TiAlN
404-3906-BN	●	25/64	-	1.000	-	2.750	-	0.438	-	BRIGHT
404-3906-BN11	●	25/64	-	1.000	-	2.750	-	0.438	-	TiAlN
404-3937-BN	●	-	10.00	-	25.00	-	70.00	-	10.00	BRIGHT
404-3937-BN11	●	-	10.00	-	25.00	-	70.00	-	10.00	TiAlN
404-4062-BN	●	13/32	-	1.000	-	2.750	-	0.438	-	BRIGHT
404-4062-BN11	●	13/32	-	1.000	-	2.750	-	0.438	-	TiAlN
404-4219-BN	●	27/64	-	1.000	-	2.750	-	0.438	-	BRIGHT
404-4219-BN11	●	27/64	-	1.000	-	2.750	-	0.438	-	TiAlN
404-4331-BN	●	-	11.00	-	25.00	-	70.00	-	11.00	BRIGHT
404-4331-BN11	●	-	11.00	-	25.00	-	70.00	-	11.00	TiAlN
404-4375-BN	●	7/16	-	1.000	-	2.750	-	0.438	-	BRIGHT
404-4375-BN11	●	7/16	-	1.000	-	2.750	-	0.438	-	TiAlN
404-4531-BN	●	29/64	-	1.000	-	3.000	-	0.500	-	BRIGHT
404-4531-BN11	●	29/64	-	1.000	-	3.000	-	0.500	-	TiAlN
404-4688-BN	●	15/32	-	1.000	-	3.000	-	0.500	-	BRIGHT
404-4688-BN11	●	15/32	-	1.000	-	3.000	-	0.500	-	TiAlN
404-4724-BN	●	-	12.00	-	25.00	-	76.00	-	12.00	BRIGHT
404-4724-BN11	●	-	12.00	-	25.00	-	76.00	-	12.00	TiAlN
404-4844-BN	●	31/64	-	1.000	-	3.000	-	0.500	-	BRIGHT
404-4844-BN11	●	31/64	-	1.000	-	3.000	-	0.500	-	TiAlN
404-5000-BN	●	1/2	-	1.000	-	3.000	-	0.500	-	BRIGHT
404-5000-BN11	●	1/2	-	1.000	-	3.000	-	0.500	-	TiAlN
404-5512-BN	●	-	14.00	-	30.00	-	89.00	-	14.00	BRIGHT
404-5512-BN11	●	-	14.00	-	30.00	-	89.00	-	14.00	TiAlN
404-5625-BN	●	9/16	-	1.125	-	3.500	-	0.563	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

List 404BN (Continued)

OSG STANDARD CARBIDE BN

SPEED FEED 1502-1503 | CARBIDE | BR | TiAlN | 4 FLUTE | 30° | STUB | REG | LONG | PACKED 1 PIECE

EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
404-5625-BN11	●	9/16	-	1.125	-	3.500	-	0.563	-	TiAlN
404-6250-BN	●	5/8	-	1.250	-	3.500	-	0.625	-	BRIGHT
404-6250-BN11	●	5/8	-	1.250	-	3.500	-	0.625	-	TiAlN
404-6299-BN	●	-	16.00	-	32.00	-	89.00	-	16.00	BRIGHT
404-6299-BN11	●	-	16.00	-	32.00	-	89.00	-	16.00	TiAlN
404-6875-BN	●	11/16	-	1.375	-	4.000	-	0.750	-	BRIGHT
404-6875-BN11	●	11/16	-	1.375	-	4.000	-	0.750	-	TiAlN
404-7087-BN	●	-	18.00	-	35.00	-	102.00	-	18.00	BRIGHT
404-7087-BN11	●	-	18.00	-	35.00	-	102.00	-	18.00	TiAlN
404-7500-BN	●	3/4	-	1.500	-	4.000	-	0.750	-	BRIGHT
404-7500-BN11	●	3/4	-	1.500	-	4.000	-	0.750	-	TiAlN
404-7874-BN	●	-	20.00	-	38.00	-	102.00	-	20.00	BRIGHT
404-7874-BN11	●	-	20.00	-	38.00	-	102.00	-	20.00	TiAlN
404-8661-BN	●	-	22.00	-	38.00	-	102.00	-	22.00	BRIGHT
404-8661-BN11	●	-	22.00	-	38.00	-	102.00	-	22.00	TiAlN
404-8750-BN	●	7/8	-	1.500	-	4.000	-	0.875	-	BRIGHT
404-8750-BN11	●	7/8	-	1.500	-	4.000	-	0.875	-	TiAlN
404-9843-BN	●	-	25.00	-	38.00	-	102.00	-	25.00	BRIGHT
404-9843-BN11	●	-	25.00	-	38.00	-	102.00	-	25.00	TiAlN
404-1000-BN	●	1	-	1.500	-	4.000	-	1.000	-	BRIGHT
404-1000-BN11	●	1	-	1.500	-	4.000	-	1.000	-	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

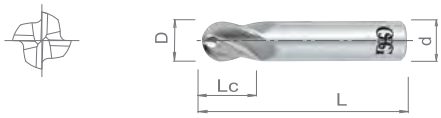
○ Good ◎ Best

List 414BN

OSG STANDARD CARBIDE BN

SPEED FEED	CARBIDE	BR	TiAlN	TiCN	4 FLUTE	30°			STUB	REG	PACKED
1502-1503											1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 3/4"	+0 / -0.002"
1mm ≤ D ≤ 12mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
414-0312-BN	●	1/32	-	0.078	-	1.500	-	0.125	-	BRIGHT
414-0312-BN11	●	1/32	-	0.078	-	1.500	-	0.125	-	TiAlN
414-0394-BN	●	-	1.00	-	2.00	-	39.00	-	3.00	BRIGHT
414-0394-BN11	●	-	1.00	-	2.00	-	39.00	-	3.00	TiAlN
414-0469-BN	●	3/64	-	0.094	-	1.500	-	0.125	-	BRIGHT
414-0469-BN11	●	3/64	-	0.094	-	1.500	-	0.125	-	TiAlN
414-0591-BN	●	-	1.50	-	3.00	-	39.00	-	3.00	BRIGHT
414-0625-BN	●	1/16	-	0.125	-	1.500	-	0.125	-	BRIGHT
414-0625-BN11	●	1/16	-	0.125	-	1.500	-	0.125	-	TiAlN
414-0781-BN	●	5/64	-	0.156	-	1.500	-	0.125	-	BRIGHT
414-0781-BN11	●	5/64	-	0.156	-	1.500	-	0.125	-	TiAlN
414-0787-BN	●	-	2.00	-	4.00	-	39.00	-	3.00	BRIGHT
414-0938-BN	●	3/32	-	0.188	-	1.500	-	0.125	-	BRIGHT
414-0938-BN11	●	3/32	-	0.188	-	1.500	-	0.125	-	TiAlN
414-0938-BN08	●	3/32	-	0.188	-	1.500	-	0.125	-	Ticn
414-0984-BN	●	-	2.50	-	5.00	-	39.00	-	3.00	BRIGHT
414-1094-BN	●	7/64	-	0.219	-	1.500	-	0.125	-	BRIGHT
414-1181-BN	●	-	3.00	-	6.00	-	39.00	-	3.00	BRIGHT
414-1250-BN	●	1/8	-	0.250	-	1.500	-	0.125	-	BRIGHT
414-1250-BN11	●	1/8	-	0.250	-	1.500	-	0.125	-	TiAlN
414-1250-BN08	●	1/8	-	0.250	-	1.500	-	0.125	-	Ticn
414-1378-BN	●	-	3.50	-	7.00	-	51.00	-	4.00	BRIGHT
414-1406-BN	●	9/64	-	0.281	-	2.000	-	0.188	-	BRIGHT
414-1562-BN	●	5/32	-	0.313	-	2.000	-	0.188	-	BRIGHT
414-1562-BN08	●	5/32	-	0.313	-	2.000	-	0.188	-	Ticn
414-1575-BN	●	-	4.00	-	8.00	-	51.00	-	4.00	BRIGHT
414-1772-BN	●	-	4.50	-	9.00	-	51.00	-	5.00	BRIGHT
414-1875-BN	●	3/16	-	0.375	-	2.000	-	0.188	-	BRIGHT
414-1875-BN11	●	3/16	-	0.375	-	2.000	-	0.188	-	TiAlN
414-1968-BN	●	-	5.00	-	10.00	-	51.00	-	5.00	BRIGHT
414-2188-BN	●	7/32	-	0.438	-	2.000	-	0.250	-	BRIGHT
414-2362-BN	●	-	6.00	-	12.00	-	51.00	-	6.00	BRIGHT
414-2500-BN	●	1/4	-	0.500	-	2.000	-	0.250	-	BRIGHT
414-2500-BN11	●	1/4	-	0.500	-	2.000	-	0.250	-	TiAlN
414-2756-BN	●	-	7.00	-	12.00	-	51.00	-	8.00	BRIGHT
414-3125-BN	●	5/16	-	0.500	-	2.000	-	0.313	-	BRIGHT
414-3125-BN11	●	5/16	-	0.500	-	2.000	-	0.313	-	TiAlN
414-3125-BN08	●	5/16	-	0.500	-	2.000	-	0.313	-	Ticn
414-3150-BN	●	-	8.00	-	12.00	-	51.00	-	8.00	BRIGHT
414-3543-BN	●	-	9.00	-	14.00	-	51.00	-	10.00	BRIGHT
414-3750-BN	●	3/8	-	0.625	-	2.000	-	0.375	-	BRIGHT
414-3750-BN11	●	3/8	-	0.625	-	2.000	-	0.375	-	TiAlN
414-3750-BN08	●	3/8	-	0.625	-	2.000	-	0.375	-	Ticn
414-3937-BN	●	-	10.00	-	14.00	-	51.00	-	10.00	BRIGHT
414-4331-BN	●	-	11.00	-	16.00	-	64.00	-	11.00	BRIGHT
414-4375-BN	●	7/16	-	0.625	-	2.500	-	0.438	-	BRIGHT
414-4724-BN	●	-	12.00	-	16.00	-	64.00	-	12.00	BRIGHT
414-5000-BN	●	1/2	-	0.625	-	2.500	-	0.500	-	BRIGHT
414-5000-BN08	●	1/2	-	0.625	-	2.500	-	0.500	-	Ticn
414-6250-BN	●	5/8	-	0.750	-	3.000	-	0.625	-	BRIGHT
414-7500-BN	●	3/4	-	1.000	-	3.000	-	0.750	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

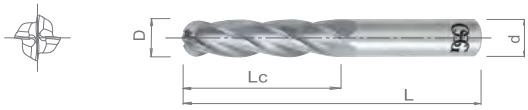
○ Good ◎ Best

List 464BN

OSG STANDARD CARBIDE BN

SPEED FEED 1502-1503 | CARBIDE | BR | TiAlN | TiCN | 4 FLUTE | 30° | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"
3mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
464-1181-BN	●	-	3.00	-	19.00	-	57.00	-	3.00	BRIGHT
464-1250-BN	●	1/8	-	0.750	-	2.250	-	0.125	-	BRIGHT
464-1250-BN11	●	1/8	-	0.750	-	2.250	-	0.125	-	TiAlN
464-1575-BN	●	-	4.00	-	19.00	-	57.00	-	4.00	BRIGHT
464-1875-BN	●	3/16	-	0.750	-	2.250	-	0.188	-	BRIGHT
464-1875-BN11	●	3/16	-	0.750	-	2.250	-	0.188	-	TiAlN
464-1968-BN	●	-	5.00	-	25.00	-	64.00	-	5.00	BRIGHT
464-2362-BN	●	-	6.00	-	28.00	-	76.00	-	6.00	BRIGHT
464-2500-BN	●	1/4	-	1.125	-	3.000	-	0.250	-	BRIGHT
464-2500-BN11	●	1/4	-	1.125	-	3.000	-	0.250	-	TiAlN
464-3125-BN	●	5/16	-	1.125	-	3.000	-	0.313	-	BRIGHT
464-3150-BN	●	-	8.00	-	29.00	-	76.00	-	8.00	BRIGHT
464-3750-BN	●	3/8	-	1.125	-	3.000	-	0.375	-	BRIGHT
464-3750-BN11	●	3/8	-	1.125	-	3.000	-	0.375	-	TiAlN
464-3937-BN	●	-	10.00	-	32.00	-	76.00	-	10.00	BRIGHT
464-4375-BN	●	7/16	-	2.000	-	4.000	-	0.438	-	BRIGHT
464-4724-BN	●	-	12.00	-	51.00	-	102.00	-	12.00	BRIGHT
464-5000-BN	●	1/2	-	2.000	-	4.000	-	0.500	-	BRIGHT
464-5000-BN11	●	1/2	-	2.000	-	4.000	-	0.500	-	TiAlN
464-5000-BN08	●	1/2	-	2.000	-	4.000	-	0.500	-	TiCN
464-5512-BN	●	-	14.00	-	57.00	-	127.00	-	14.00	BRIGHT
464-6250-BN	●	5/8	-	2.250	-	5.000	-	0.625	-	BRIGHT
464-6299-BN	●	-	16.00	-	57.00	-	127.00	-	16.00	BRIGHT
464-7087-BN	●	-	18.00	-	57.00	-	127.00	-	18.00	BRIGHT
464-7500-BN	●	3/4	-	2.250	-	5.000	-	0.750	-	BRIGHT
464-7874-BN	●	-	20.00	-	57.00	-	127.00	-	20.00	BRIGHT
464-9843-BN	●	-	25.00	-	57.00	-	127.00	-	25.00	BRIGHT
464-1000-BN	●	1	-	2.250	-	5.000	-	1.000	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○		○	○	○			○	○	○	

○ Good ◎ Best

List 484BN

OSG STANDARD CARBIDE BN

SPEED FEED	CARBIDE	BR	TiAlN	4 FLUTE	30°			REG	LONG	EXTRA LONG	PACKED
1502-1503											1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0 / -0.002"
3mm ≤ D ≤ 25mm	+0 / -0.050mm



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Surface Treatment
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
484-1181-BN	●	-	3.00	-	25.00	-	76.00	-	3.00	BRIGHT
484-1250-BN	●	1/8	-	1.000	-	3.000	-	0.125	-	BRIGHT
484-1250-BN11	●	1/8	-	1.000	-	3.000	-	0.125	-	TiAlN
484-1575-BN	●	-	4.00	-	28.00	-	76.00	-	4.00	BRIGHT
484-1875-BN	●	3/16	-	1.125	-	3.000	-	0.188	-	BRIGHT
484-1875-BN11	●	3/16	-	1.125	-	3.000	-	0.188	-	TiAlN
484-1968-BN	●	-	5.00	-	32.00	-	76.00	-	5.00	BRIGHT
484-2362-BN	●	-	6.00	-	38.00	-	102.00	-	6.00	BRIGHT
484-2500-BN	●	1/4	-	1.500	-	4.000	-	0.250	-	BRIGHT
484-2500-BN11	●	1/4	-	1.500	-	4.000	-	0.250	-	TiAlN
484-3125-BN	●	5/16	-	1.625	-	4.000	-	0.313	-	BRIGHT
484-3125-BN11	●	5/16	-	1.625	-	4.000	-	0.313	-	TiAlN
484-3150-BN	●	-	8.00	-	42.00	-	102.00	-	8.00	BRIGHT
484-3750-BN	●	3/8	-	1.750	-	4.000	-	0.375	-	BRIGHT
484-3750-BN11	●	3/8	-	1.750	-	4.000	-	0.375	-	TiAlN
484-3937-BN	●	-	10.00	-	45.00	-	102.00	-	10.00	BRIGHT
484-4375-BN	●	7/16	-	3.000	-	6.000	-	0.438	-	BRIGHT
484-4724-BN	●	-	12.00	-	76.00	-	153.00	-	12.00	BRIGHT
484-5000-BN	●	1/2	-	3.000	-	6.000	-	0.500	-	BRIGHT
484-5000-BN11	●	1/2	-	3.000	-	6.000	-	0.500	-	TiAlN
484-5512-BN	●	-	14.00	-	76.00	-	153.00	-	14.00	BRIGHT
484-6250-BN	●	5/8	-	3.000	-	6.000	-	0.625	-	BRIGHT
484-6299-BN	●	-	16.00	-	76.00	-	153.00	-	16.00	BRIGHT
484-7087-BN	●	-	18.00	-	76.00	-	153.00	-	18.00	BRIGHT
484-7500-BN	●	3/4	-	3.000	-	6.000	-	0.750	-	BRIGHT
484-7874-BN	●	-	20.00	-	76.00	-	153.00	-	20.00	BRIGHT
484-9843-BN	●	-	25.00	-	76.00	-	153.00	-	25.00	BRIGHT
484-1000-BN	●	1	-	3.000	-	6.000	-	1.000	-	BRIGHT

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○		

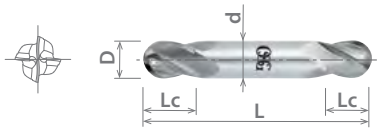
○ Good ◎ Best

List 424BN

OSG STANDARD CARBIDE DOUBLE END BN

SPEED FEED	CARBIDE	BR	TiAlN	4 FLUTE	30°			STUB	REG	PACKED
1502-1503										1 PIECE

Cutting Diameter Tolerance	
1/32" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Surface Treatment
424-0312-BN	●	1/32	0.078	1.500	0.125	BRIGHT
424-0312-BN11	●	1/32	0.078	1.500	0.125	TiAlN
424-0469-BN	●	3/64	0.094	1.500	0.125	BRIGHT
424-0469-BN11	●	3/64	0.094	1.500	0.125	TiAlN
424-0625-BN	●	1/16	0.125	1.500	0.125	BRIGHT
424-0625-BN11	●	1/16	0.125	1.500	0.125	TiAlN
424-0781-BN	●	5/64	0.156	1.500	0.125	BRIGHT
424-0938-BN	●	3/32	0.188	1.500	0.125	BRIGHT
424-0938-BN11	●	3/32	0.188	1.500	0.125	TiAlN
424-1094-BN	●	7/64	0.219	1.500	0.125	BRIGHT
424-1250-BN	●	1/8	0.250	1.500	0.125	BRIGHT
424-1250-BN11	●	1/8	0.250	1.500	0.125	TiAlN
424-1406-BN	●	9/64	0.281	2.000	0.188	BRIGHT
424-1562-BN	●	5/32	0.313	2.000	0.188	BRIGHT
424-1875-BN	●	3/16	0.375	2.000	0.188	BRIGHT
424-1875-BN11	●	3/16	0.375	2.000	0.188	TiAlN
424-2188-BN	●	7/32	0.500	2.500	0.250	BRIGHT
424-2500-BN	●	1/4	0.500	2.500	0.250	BRIGHT
424-2500-BN11	●	1/4	0.500	2.500	0.250	TiAlN
424-3125-BN	●	5/16	0.500	2.500	0.313	BRIGHT
424-3750-BN	●	3/8	0.500	2.500	0.375	BRIGHT
424-3750-BN11	●	3/8	0.500	2.500	0.375	TiAlN
424-4375-BN	●	7/16	0.563	2.750	0.438	BRIGHT
424-5000-BN	●	1/2	0.625	3.000	0.500	BRIGHT
424-5000-BN11	●	1/2	0.625	3.000	0.500	TiAlN

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	○	○	○	○		○	○	○			○	○	○	

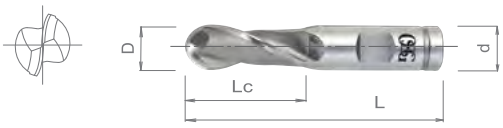
○ Good ◎ Best

List 621

EXOMILL VC-10 CPM-EBD

SPEED FEED										
1504	VC10	BR	2 FLUTE	30°			WELDON FLAT	STUB	REG	PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1-1/2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
6210100	●	1/8	0.375	2.313	0.375
6210200	●	3/16	0.500	2.375	0.375
6210300	●	1/4	0.625	2.438	0.375
6210400	●	5/16	0.750	2.500	0.375
6210500	●	3/8	0.750	2.500	0.375
6211100	●	1/2	1.000	3.000	0.500
6212100	●	5/8	1.375	3.500	0.625
6213100	●	3/4	1.625	3.875	0.750
6215100	●	1	2.250	4.750	1.000
6216100	●	1-1/4	2.500	5.000	1.250
6216200	●	1-1/2	2.500	5.000	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		

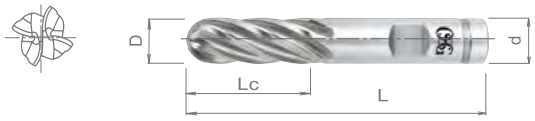
○ Good ◎ Best

List 644

EXOMILL VC-10 CPM-EBD

SPEED FEED	VC10	BR	30°			WELDON FLAT	STUB	REG	PACKED
1504									1 PIECE

Cutting Diameter Tolerance	
3/8" ≤ D ≤ 1-1/2"	+0.0011 / -0"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
6440500	●	3/8	0.750	2.500	0.375	4
6441100	●	1/2	1.250	3.250	0.500	4
6441500	●	1/2	1.250	3.250	0.500	6
6442100	●	5/8	1.625	3.750	0.625	4
6442500	●	5/8	1.625	3.750	0.625	6
6443100	●	3/4	1.625	3.875	0.750	4
6443500	●	3/4	1.625	3.875	0.750	6
6444100	●	7/8	1.875	4.125	0.875	4
6444500	●	7/8	1.875	4.125	0.875	6
6445100	●	1	2.000	4.500	1.000	4
6445500	●	1	2.000	4.500	1.000	6
6446100	●	1-1/4	2.000	4.500	1.250	4
6446500	●	1-1/4	2.000	4.500	1.250	6
6446200	●	1-1/2	2.000	4.500	1.250	4
6446600	●	1-1/2	2.000	4.500	1.250	6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

EXM

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	◎	◎	◎	◎	○	○		○	◎	○		

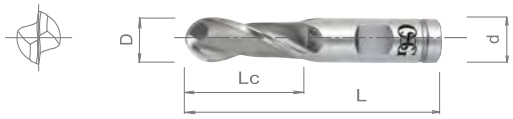
○ Good ◎ Best

List 521

OSG COBALT HSS EBD

SPEED FEED	HSS-Co	BR	2 FLUTE	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1504											1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1-1/2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5210100	●	1/8	0.375	2.313	0.375
5210200	●	3/16	0.500	2.375	0.375
5210300	●	1/4	0.625	2.438	0.375
5210400	●	5/16	0.750	2.500	0.375
5210500	●	3/8	0.750	2.500	0.375
5210600	●	3/8	1.500	3.250	0.375
5219600	●	7/16	1.000	3.000	0.500
5211100	●	1/2	1.000	3.000	0.500
5217100	●	1/2	2.000	4.000	0.500
5211200	●	9/16	1.125	3.125	0.500
5211300	●	5/8	1.125	3.125	0.500
5212100	●	5/8	1.375	3.500	0.625
5211500	●	3/4	1.313	3.313	0.500
5213100	●	3/4	1.625	3.875	0.750
5214300	●	3/4	3.000	5.250	0.750
5213200	●	7/8	1.875	4.125	0.750
5214100	●	7/8	2.000	4.250	0.875
5213300	●	1	2.250	4.500	0.750
5215100	●	1	2.250	4.750	1.000
5215200	●	1-1/8	2.250	4.750	1.000
5216100	●	1-1/4	2.500	5.000	1.250
5216200	●	1-1/2	2.500	5.000	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

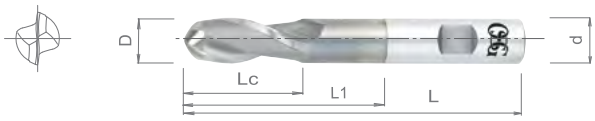
○ Good ◎ Best

List 526

OSG COBALT HSS LS-EBD, Reduced Neck

SPEED FEED	HSS-Co	BR	2 FLUTE	30°			WELDON FLAT	REG	PACKED
1504									1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Neck Length	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L1 (Inch)	L (Inch)	d (Inch)
5260100	●	1/8	0.375	0.813	2.375	0.375
5260200	●	3/16	0.500	1.125	2.688	0.375
5260300	●	1/4	0.625	1.500	3.063	0.375
5260400	●	5/16	0.750	1.750	3.313	0.375
5260500	●	3/8	0.750	1.750	3.313	0.375
5269600	●	7/16	1.000	1.875	3.688	0.500
5261100	●	1/2	1.000	2.250	4.000	0.500
5262100	●	5/8	1.375	2.750	4.625	0.625
5263100	●	3/4	1.625	3.375	5.375	0.750
5265100	●	1	2.500	5.000	7.250	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

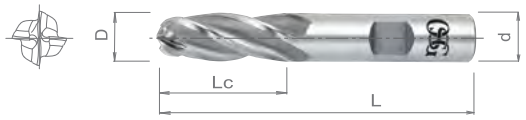
○ Good ◎ Best

List 544

OSG COBALT HSS EBM

SPEED FEED	HSS-Co	BR	4 FLUTE	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1504											1 PIECE

Cutting Diameter Tolerance	
3/8" ≤ D ≤ 1-1/2"	+0.0011 / -0"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5440500	●	3/8	0.750	2.500	0.375
5449700	●	7/16	1.250	3.250	0.500
5441100	●	1/2	1.250	3.250	0.500
5442100	●	5/8	1.625	3.750	0.625
5442200	●	5/8	2.500	4.625	0.625
5443100	●	3/4	1.625	3.875	0.750
5444100	●	7/8	1.875	4.125	0.875
5445100	●	1	2.000	4.500	1.000
5446100	●	1-1/4	2.000	4.500	1.250
5446200	●	1-1/2	2.000	4.500	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	◎	◎	◎	○	○	○	○	○	○		○	○	○		

○ Good ◎ Best

List 440

OSG COBALT HSS EX-REB

SPEED FEED	HSS-Co	BR	ROUGH	30°			WELDON FLAT	STUB	REG	LONG	PACKED
1505											1 PIECE



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
4400100	●	1/2	1.250	3.250	0.500	4
4400300	●	1/2	2.000	4.000	0.500	4
4400500	●	5/8	1.625	3.750	0.625	4
4400700	●	5/8	2.500	4.625	0.625	4
4401300	●	3/4	1.625	3.875	0.750	4
4401500	●	3/4	3.000	5.250	0.750	4
4410500	●	1	2.000	4.500	1.000	4
4410900	●	1	4.000	6.500	1.000	4
4412100	●	1-1/4	2.000	4.500	1.250	6
4412500	●	1-1/4	4.000	6.500	1.250	6
4413300	●	1-1/2	2.000	4.500	1.250	6
4413700	●	1-1/2	4.000	6.500	1.250	6
4420900	●	2	4.000	7.750	2.000	8
4421100	●	2	6.000	9.750	2.000	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Other coatings available upon request. 2" diameter shanks have combination drive.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	○	○	○	○	○	○	○	○		○	○			

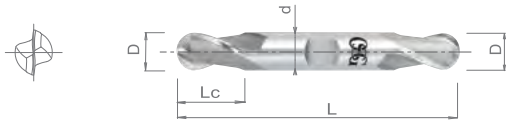
○ Good ◎ Best

List 523

OSG COBALT HSS DOUBLE END DDEB

SPEED FEED	HSS-Co	BR	2 FLUTE	30°			WELDON FLAT	STUB	REG	PACKED
1504										1 PIECE

Cutting Diameter Tolerance	
D < Shank Diameter	+0 / -0.0011"
D = Shank Diameter	-0.0004 / -0.0015"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5230100	●	1/8	0.375	3.063	0.375
5230200	●	3/16	0.438	3.125	0.375
5230300	●	1/4	0.500	3.125	0.375
5230400	●	5/16	0.563	3.125	0.375
5230500	●	3/8	0.563	3.125	0.375
5239600	●	7/16	0.813	3.750	0.500
5231100	●	1/2	0.813	3.750	0.500
5232100	●	5/8	1.125	4.500	0.625
5233100	●	3/4	1.313	5.000	0.750
5235100	●	1	1.625	5.875	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

○ Good ◎ Best

List 570

OSG COBALT HSS DOUBLE END M-DDEB, Miniature

HSS-Co | BR | 2 FLUTE | 30° | STUB | PACKED 1 PIECE

Cutting Diameter Tolerance	
D < Shank Diameter	+0 / -0.0011"
D = Shank Diameter	-0.0004 / -0.0015"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
5707200	●	1/16	0.094	2.000	0.188
5707400	●	3/32	0.141	2.000	0.188
5707600	●	1/8	0.188	2.000	0.188
5707800	●	5/32	0.234	2.000	0.188
5708000	●	3/16	0.281	2.000	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

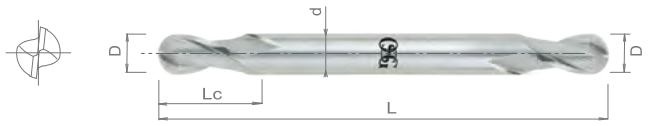
○ Good ◎ Best

List 571

HSS-Co | BR | 2 FLUTE | 30° | REG | PACKED 1 PIECE

OSG COBALT HSS DOUBLE END M-DDEB, Miniature

Cutting Diameter Tolerance	
D < Shank Diameter	+0 / -0.0011"
D = Shank Diameter	-0.0004 / -0.0015"



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5717200	●	1/16	0.188	2.250	0.188
5717400	●	3/32	0.281	2.250	0.188
5717600	●	1/8	0.375	2.250	0.188
5717800	●	5/32	0.438	2.250	0.188
5718000	●	3/16	0.500	2.250	0.188

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
◎	◎	○	○	○	○	○	○	○	○	○		○	○	○		

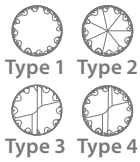
○ Good ◎ Best

List 2061

EXOPRO® AERO-BNC, Nicked Router

SPEED FEED 1506 | CARBIDE | BR | DIA | 15° | SHANK h6 | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.002"





EDP Number		Diameter D (Fractional Size)	Corner Radius R (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes	Type	Surface Treatment
20610116	●	1/8	-	0.250	1.500	0.125	6	2	DIAMOND
20611116	●	1/8	-	0.375	1.500	0.125	6	3	DIAMOND
20612116	●	1/8	-	0.500	1.500	0.125	8	3	DIAMOND
20610216	●	3/16	-	0.375	2.000	0.188	6	2	DIAMOND
20611216	●	3/16	-	0.563	2.000	0.188	6	3	DIAMOND
20612216	●	3/16	-	0.750	2.000	0.188	8	3	DIAMOND
20610316	●	1/4	-	0.500	2.500	0.250	8	2	DIAMOND
20613416	●	1/4	-	0.750	2.500	0.250	8	2	DIAMOND
20611316	●	1/4	-	0.750	2.500	0.250	10	3	DIAMOND
20612316	●	1/4	-	0.750	2.500	0.250	10	2	DIAMOND
20612416	●	1/4	-	0.750	2.500	0.250	12	2	DIAMOND
20617316	●	1/4	0.030	1.000	3.000	0.250	12	2	DIAMOND
20614400	●	1/4	-	1.000	3.000	0.250	12	2	BRIGHT
20613216	●	1/4	-	1.000	3.000	0.250	8	2	DIAMOND
20616316	●	1/4	-	1.000	3.000	0.250	8	4	DIAMOND
20613316	●	1/4	-	1.000	3.000	0.250	10	3	DIAMOND
20614316	●	1/4	-	1.000	3.000	0.250	10	2	DIAMOND
20614416	●	1/4	-	1.000	3.000	0.250	12	2	DIAMOND
20616416	●	1/4	-	1.000	3.000	0.250	12	4	DIAMOND
20615216	●	1/4	-	1.250	4.000	0.250	8	2	DIAMOND
20615316	●	1/4	-	1.250	4.000	0.250	12	1	DIAMOND
20610416	●	5/16	-	1.000	2.500	0.313	10	3	DIAMOND
20610516	●	3/8	-	0.750	2.500	0.375	12	2	DIAMOND
20616816	●	3/8	0.030	1.125	3.000	0.375	12	2	DIAMOND
20611516	●	3/8	-	1.125	3.000	0.375	12	3	DIAMOND
20612516	●	3/8	-	1.125	3.000	0.375	12	2	DIAMOND
20616516	●	3/8	-	1.250	3.000	0.375	12	4	DIAMOND
20613516	●	3/8	-	1.500	4.000	0.375	12	3	DIAMOND
20614516	●	3/8	-	1.500	4.000	0.375	12	2	DIAMOND
20615516	●	3/8	-	2.000	4.000	0.375	12	1	DIAMOND
20616716	●	1/2	-	0.875	2.875	0.500	14	1	DIAMOND
20613716	●	1/2	0.030	1.000	3.000	0.500	14	2	DIAMOND
20610716	●	1/2	-	1.000	3.000	0.500	14	3	DIAMOND
20611716	●	1/2	-	1.000	3.000	0.500	14	2	DIAMOND
20615716	●	1/2	-	1.000	3.000	0.500	14	4	DIAMOND
20612716	●	1/2	-	2.000	4.000	0.500	16	2	DIAMOND

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

Note: Type 1: Non End Cutting
Type 2: Bur End
Type 3: End Mill Cut
Type 4: Drill Point

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	○		○	○		○	○	◎			

○ Good ◎ Best

List 2066

EXOPRO® AERO-HBC, 30° Compression Router

SPEED FEED	CARBIDE	DIA	4 FLUTE	30°			SHANK	REG	LONG	PACKED
1506							h6			1 PIECE

Cutting Diameter Tolerance	
1/8" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter	Compression Length	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	L2 (Inch)	Lc (Inch)	L (Inch)	d (Inch)
20660116	●	1/8	0.125	0.560	1.500	0.125
20660316	●	1/4	0.250	0.750	2.500	0.250
20660516	●	3/8	0.375	0.875	3.000	0.375
20660716	●	1/2	0.500	1.500	3.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	◎	○	○	○	○	○	○				

○ Good ◎ Best

List 2064

EXOPRO® AERO-HBC 45, 45° Compression Router

SPEED FEED 1506 | CARBIDE | DIA | 4 FLUTE | 45° | SHANK h6 | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter D (Fractional Size)	Compression Length L2 (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
20642516	●	1/4	0.250	0.750	3.000	0.250
20643516	●	3/8	0.375	0.750	3.000	0.375
20643616	●	3/8	0.375	2.000	4.000	0.375
20645016	●	1/2	0.500	1.000	3.000	0.500
20645116	●	1/2	0.500	2.000	4.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	◎	○	○	○	○	○	○				

○ Good ◎ Best

List 2068

EXOPRO® AERO-HBC 60, 60° Compression Router

SPEED FEED 1507 | CARBIDE | DIA | 2 FLUTE | 60° | SHANK h6 | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter D (Fractional Size)	Compression Length L2 (Inch)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
20682516	●	1/4	0.188	0.750	3.000	0.250
20683516	●	3/8	0.281	0.750	3.000	0.375
20683616	●	3/8	0.281	2.000	4.000	0.375
20685016	●	1/2	0.375	1.000	3.000	0.500
20685116	●	1/2	0.375	2.000	4.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	◎	○	◎	◎	◎	◎	◎				

○ Good ◎ Best

List 2680

EXOPRO® AERO-REC, Roughing Router

SPEED FEED	CARBIDE	DIA	15°			SHANK	REG	LONG	PACKED
1508						h6			1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
26809316	●	15/64	0.750	2.500	0.250	4
26805316	●	1/4	0.500	2.500	0.250	4
26800316	●	1/4	0.750	2.500	0.250	4
26806316	●	1/4	1.000	3.000	0.250	4
26809416	●	5/16	0.938	3.000	0.375	6
26809516	●	23/64	1.125	3.000	0.375	6
26805516	●	3/8	0.750	3.000	0.375	6
26800516	●	3/8	1.125	3.000	0.375	6
26809616	●	7/16	1.313	3.000	0.500	8
26809716	●	31/64	1.500	3.000	0.500	8
26805716	●	1/2	1.000	3.000	0.500	8
26800716	●	1/2	1.500	3.000	0.500	8

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	◎		○	○		○	○	◎			

○ Good ◎ Best

List 2650

EXOPRO® AERO-MFR, Finishing Router

SPEED FEED 1509 | CARBIDE | DIA | 15° | SHANK h6 | REG | LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1/2"	+0 / -0.002"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Number of Flutes
26500316	●	1/4	0.750	2.500	0.250	8
26501316	●	1/4	1.000	3.000	0.250	8
26500616	●	3/8	1.125	3.000	0.375	12
26501516	●	3/8	1.500	3.000	0.375	12
26500716	●	1/2	1.500	4.000	0.500	14
26501716	●	1/2	2.000	4.000	0.500	14

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

EP

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	◎		○	○		○	○	◎			

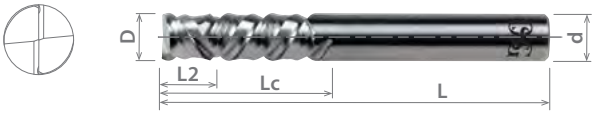
○ Good ◎ Best

List 668

OSG AERO-HBC 60, 60° Compression Router

SPEED FEED	CARBIDE	BR	2 FLUTE	60°			SHANK	REG	LONG	EXTRA LONG	PACKED
1507							h6				1 PIECE

Cutting Diameter Tolerance	
1/4" ≤ D ≤ 1/2"	+0 / -0.0015"



EDP Number		Diameter	Compression Length	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	L2 (Inch)	Lc (Inch)	L (Inch)	d (Inch)
668-2501	●	1/4	0.188	0.750	2.500	0.250
668-3751	●	3/8	0.281	0.750	3.000	0.375
668-3752	●	3/8	0.281	2.000	4.000	0.375
668-5001	●	1/2	0.375	1.000	3.000	0.500
668-5002	●	1/2	0.375	2.000	4.000	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
		◎	◎	◎	◎	◎	◎				

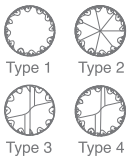
○ Good ◎ Best

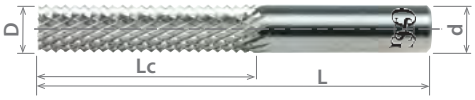
List 641R

OSG AERO-HFR, Roughing Router

SPEED FEED	CARBIDE	BR	30°		SHANK	REG	LONG	EXTRA LONG	PACKED
1510					h6				1 PIECE

Cutting Diameter Tolerance	
3/16" ≤ D ≤ 1/2"	+0 / -0.003"





EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Type
641-1871	●	3/16	1.000	3.000	0.250	1
641-1872	●	3/16	1.000	3.000	0.250	2
641-1873	●	3/16	1.000	3.000	0.250	3
641-1874	●	3/16	1.000	3.000	0.250	4
641-2501	●	1/4	1.000	3.000	0.250	1
641-2502	●	1/4	1.000	3.000	0.250	2
641-2503	●	1/4	1.000	3.000	0.250	3
641-2504	●	1/4	1.000	3.000	0.250	4
641-3751	●	3/8	1.000	3.000	0.375	1
641-3752	●	3/8	1.000	3.000	0.375	2
641-3753	●	3/8	1.000	3.000	0.375	3
641-3754	●	3/8	1.000	3.000	0.375	4
641-5001	●	1/2	1.000	3.000	0.500	1
641-5002	●	1/2	1.000	3.000	0.500	2
641-5003	●	1/2	1.000	3.000	0.500	3
641-5004	●	1/2	1.000	3.000	0.500	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Type 1: Non End Cutting
Type 2: Bur End
Type 3: End Mill Cut
Type 4: Drill Point

HYE

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
◎	◎		○	○		○	○	○			

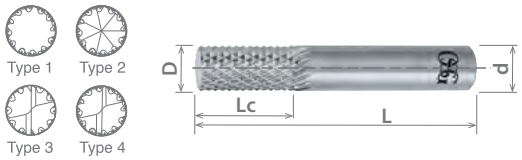
○ Good ◎ Best

List 640

OSG STANDARD CARBIDE, Fiberglass Routers, Diamond Cut

CARBIDE	BR	30°		SHANK h6	REG	LONG	PACKED 1 PIECE

Cutting Diameter Tolerance	
3/16" ≤ D ≤ 1/2"	+0 / -0.003"



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Type
640-0621	●	1/16	0.188	1.500	0.125	1
640-0622	●	1/16	0.188	1.500	0.125	2
640-0623	●	1/16	0.188	1.500	0.125	3
640-0624	●	1/16	0.188	1.500	0.125	4
640-0931	●	3/32	0.313	1.500	0.125	1
640-0932	●	3/32	0.313	1.500	0.125	2
640-0933	●	3/32	0.313	1.500	0.125	3
640-0934	●	3/32	0.313	1.500	0.125	4
640-1251	●	1/8	0.438	1.500	0.125	1
640-1252	●	1/8	0.438	1.500	0.125	2
640-1253	●	1/8	0.438	1.500	0.125	3
640-1254	●	1/8	0.438	1.500	0.125	4
640-1871	●	3/16	0.625	2.000	0.188	1
640-1872	●	3/16	0.625	2.000	0.188	2
640-1873	●	3/16	0.625	2.000	0.188	3
640-1874	●	3/16	0.625	2.000	0.188	4
640-1881	●	3/16	0.625	2.000	0.250	1
640-1882	●	3/16	0.625	2.000	0.250	2
640-1883	●	3/16	0.625	2.000	0.250	3
640-1884	●	3/16	0.625	2.000	0.250	4
640-2501	●	1/4	0.750	2.000	0.250	1
640-2502	●	1/4	0.750	2.000	0.250	2
640-2503	●	1/4	0.750	2.000	0.250	3
640-2504	●	1/4	0.750	2.000	0.250	4
640-2511	●	1/4	0.750	2.500	0.250	1
640-2512	●	1/4	0.750	2.500	0.250	2
640-2513	●	1/4	0.750	2.500	0.250	3
640-2514	●	1/4	0.750	2.500	0.250	4
640-3121	●	5/16	1.000	2.500	0.313	1
640-3122	●	5/16	1.000	2.500	0.313	2
640-3123	●	5/16	1.000	2.500	0.313	3
640-3124	●	5/16	1.000	2.500	0.313	4
640-3751	●	3/8	1.000	2.500	0.375	1
640-3752	●	3/8	1.000	2.500	0.375	2
640-3753	●	3/8	1.000	2.500	0.375	3
640-3754	●	3/8	1.000	2.500	0.375	4
640-5001	●	1/2	1.000	3.000	0.500	1
640-5002	●	1/2	1.000	3.000	0.500	2
640-5003	●	1/2	1.000	3.000	0.500	3
640-5004	●	1/2	1.000	3.000	0.500	4

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

Note: Type 1: Non End Cutting
Type 2: Bur End
Type 3: End Mill Cut
Type 4: Drill Point

Carbon Fiber (CFRP)	Glass Fiber (GFRP)	Aramid Fiber (AFRP)	Honeycomb					Carbon/ Carbon	Carbon Fiber/ Aluminum Stack	Carbon Fiber/ Titanium Stack	Carbon Fiber/Al/ Ti/CRES Stack
			CFRP/ Nomex	GFRP/ Nomex	AFRP	CFRP/Al	Al/Al				
	○										

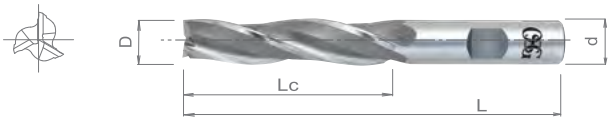
○ Good ◎ Best

List 591

OSG COBALT HSS TPET, 1° Taper per Side

SPEED FEED	HSS-Co	BR	3 FLUTE	25°			WELDON FLAT	REG	LONG	EXTRA LONG	PACKED
1511											1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 5/8"	+0 / -10'



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5910100	●	1/16	0.500	1.750	0.188
5910200	●	1/16	1.000	2.250	0.188
5911100	●	5/64	0.500	1.750	0.188
5911200	●	5/64	1.000	2.250	0.188
5912100	●	3/32	0.750	2.000	0.188
5912400	●	3/32	1.500	2.688	0.188
5914100	●	1/8	0.375	1.625	0.188
5914200	●	1/8	0.750	2.000	0.188
5914300	●	1/8	1.000	2.250	0.188
5915100	●	3/16	0.750	2.625	0.375
5915200	●	3/16	1.250	3.125	0.375
5916100	●	1/4	0.750	2.500	0.375
5916300	●	1/4	1.250	3.000	0.375
5916400	●	1/4	2.250	4.000	0.375
5916500	●	1/4	3.250	5.000	0.375
5917100	●	3/8	1.250	3.250	0.500
5917200	●	3/8	2.250	4.250	0.500
5917300	●	3/8	3.250	5.250	0.500
5918100	●	1/2	1.250	3.250	0.500
5918200	●	1/2	2.250	4.250	0.500
5918300	●	1/2	3.250	5.375	0.625
5919100	●	5/8	4.250	6.500	0.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		

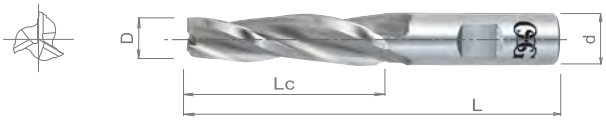
○ Good ◎ Best

List 593

OSG COBALT HSS TPET, 2° Taper per Side

SPEED FEED	HSS-Co	BR	3 FLUTE	25°			WELDON FLAT	REG	LONG	EXTRA LONG	PACKED
1512											1 PIECE

Cutting Diameter Tolerance	
1/16" ≤ D ≤ 5/8"	+0 / -10'



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5930100	●	1/16	0.500	1.750	0.188
5930200	●	1/16	1.000	2.250	0.188
5931100	●	5/64	0.500	1.750	0.188
5931200	●	5/64	1.000	2.250	0.188
5931300	●	5/64	1.500	2.688	0.188
5932100	●	3/32	0.750	2.000	0.188
5932300	●	3/32	1.250	2.500	0.188
5934200	●	1/8	0.750	2.000	0.188
5934300	●	1/8	1.000	2.875	0.375
5935100	●	3/16	0.750	2.625	0.375
5935200	●	3/16	1.250	3.125	0.375
5936100	●	1/4	0.750	2.500	0.375
5936300	●	1/4	1.250	3.000	0.375
5936400	●	1/4	2.250	4.375	0.500
5936500	●	1/4	3.250	5.250	0.500
5937100	●	3/8	1.250	3.250	0.500
5937200	●	3/8	2.250	4.250	0.500
5937300	●	3/8	3.250	5.375	0.625
5938100	●	1/2	1.250	3.250	0.500
5938200	●	1/2	2.250	4.375	0.625
5938300	●	1/2	3.250	5.375	0.625
5939100	●	5/8	4.250	6.500	0.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		

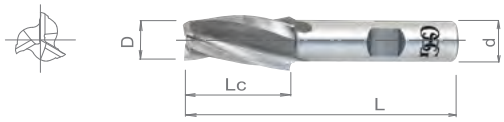
○ Good ◎ Best

List 594

OSG COBALT HSS TPET, 3° Taper per Side

SPEED FEED	HSS-Co	BR	3 FLUTE	25°			WELDON FLAT	REG	LONG	EXTRA LONG	PACKED
1512											1 PIECE

Cutting Diameter Tolerance	
3/32" ≤ D ≤ 1/2"	+0 / -10'



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5942200	●	3/32	1.000	2.875	0.375
5942300	●	3/32	1.250	3.125	0.375
5942400	●	3/32	1.500	3.375	0.375
5942500	●	3/32	2.000	3.750	0.375
5942600	●	3/32	2.500	4.250	0.375
5943100	●	7/64	1.000	2.875	0.375
5943200	●	7/64	1.500	3.375	0.375
5943300	●	7/64	2.000	3.750	0.375
5944200	●	1/8	0.750	2.625	0.375
5944300	●	1/8	1.000	2.875	0.375
5944400	●	1/8	1.125	3.000	0.375
5944700	●	1/8	1.500	3.375	0.375
5944800	●	1/8	2.000	3.750	0.375
5944900	●	1/8	2.500	4.500	0.500
5945000	●	1/8	3.000	5.000	0.500
5945100	●	3/16	0.750	2.625	0.375
5945200	●	3/16	1.250	3.125	0.375
5945400	●	3/16	2.500	4.500	0.500
5945500	●	3/16	3.000	5.000	0.500
5945600	●	3/16	3.250	5.375	0.625
5945700	●	3/16	4.000	6.125	0.625
5946100	●	1/4	0.750	2.500	0.375
5946200	●	1/4	1.000	2.750	0.375
5946300	●	1/4	1.250	3.250	0.500
5946400	●	1/4	2.250	4.250	0.500
5946500	●	1/4	3.250	5.250	0.500
5946600	●	1/4	4.000	6.250	0.750
5947100	●	3/8	1.250	3.250	0.500
5947200	●	3/8	2.250	4.375	0.625
5947300	●	3/8	3.250	5.375	0.625
5948100	●	1/2	1.250	3.250	0.500
5948200	●	1/2	2.250	4.375	0.625

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		

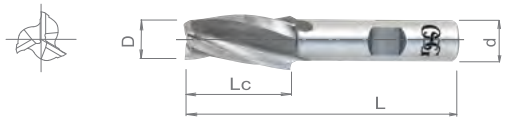
○ Good ◎ Best

List 595

OSG COBALT HSS TPET, 5° Taper per Side

SPEED FEED 1513 | HSS-Co | BR | 3 FLUTE | 25° | WELDON FLAT | REG | LONG | EXTRA LONG | PACKED 1 PIECE

Cutting Diameter Tolerance	
3/32" ≤ D ≤ 1/2"	+0 / -10'



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
5952100	●	3/32	0.750	2.625	0.375
5952200	●	3/32	1.000	2.875	0.375
5952300	●	3/32	1.250	3.000	0.375
5952400	●	3/32	1.500	3.313	0.375
5952500	●	3/32	2.000	4.000	0.500
5952600	●	3/32	2.500	4.625	0.625
5953100	●	7/64	1.000	2.875	0.375
5953200	●	7/64	1.500	3.313	0.375
5953300	●	7/64	2.000	4.000	0.500
5954200	●	1/8	0.750	2.625	0.375
5954300	●	1/8	1.000	2.875	0.375
5954400	●	1/8	1.125	2.875	0.375
5954700	●	1/8	1.500	3.250	0.375
5954800	●	1/8	2.000	3.750	0.375
5954900	●	1/8	2.500	4.500	0.500
5955000	●	1/8	3.000	5.250	0.750
5955100	●	3/16	0.750	2.563	0.375
5955200	●	3/16	1.250	3.375	0.500
5955400	●	3/16	2.500	4.625	0.625
5955500	●	3/16	3.000	5.250	0.750
5955600	●	3/16	3.250	5.500	0.750
5955700	●	3/16	4.000	6.250	0.750
5956100	●	1/4	0.750	2.500	0.375
5956200	●	1/4	1.000	3.000	0.500
5956300	●	1/4	1.250	3.250	0.500
5956400	●	1/4	2.250	4.375	0.625
5956500	●	1/4	3.250	5.500	0.750
5956600	●	1/4	4.000	6.250	0.750
5957100	●	3/8	1.250	3.375	0.625
5957200	●	3/8	2.250	4.500	0.750
5957300	●	3/8	3.250	5.500	0.750
5958100	●	1/2	1.250	3.250	0.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High														
1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		

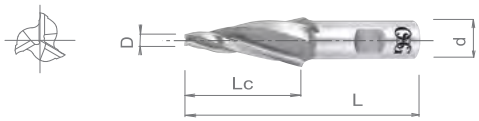
○ Good ◎ Best

List 596

OSG COBALT HSS TPET, 7° Taper per Side

SPEED FEED	HSS-Co	BR	3 FLUTE	25°			WELDON FLAT	REG	LONG	EXTRA LONG	PACKED
1513											1 PIECE

Cutting Diameter Tolerance	
5/64" ≤ D ≤ 1/2"	+0 / -10'



EDP Number		Diameter	Length of Cut	Overall Length	Shank Diameter
		D (Fractional Size)	Lc (Inch)	L (Inch)	d (Inch)
5961200	●	5/64	1.000	2.750	0.375
5962200	●	3/32	1.000	2.750	0.375
5962300	●	3/32	1.250	3.000	0.375
5962400	●	3/32	1.500	3.500	0.500
5964200	●	1/8	0.750	2.563	0.375
5964300	●	1/8	1.000	2.750	0.375
5964700	●	1/8	1.500	3.500	0.500
5965200	●	3/16	1.250	3.250	0.500
5966100	●	1/4	0.750	2.500	0.375
5966300	●	1/4	1.250	3.250	0.500
5966400	●	1/4	2.250	4.500	0.750
5967200	●	3/8	2.250	4.500	0.750
5968100	●	1/2	1.250	3.375	0.625

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		

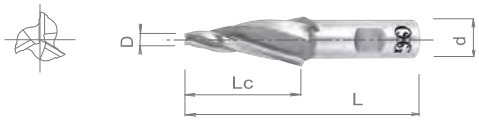
○ Good ◎ Best

List 597

OSG COBALT HSS TPET, 10° Taper per Side

SPEED FEED											
1514	HSS-Co	BR	3 FLUTE	25°			WELDON FLAT	REG	LONG	EXTRA LONG	PACKED 1 PIECE

Cutting Diameter Tolerance	
3/32" ≤ D ≤ 1/4"	+0 / -10'



EDP Number		Diameter D (Fractional Size)	Length of Cut Lc (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)
5972400	●	3/32	1.500	3.625	0.625
5974200	●	1/8	0.750	2.750	0.500
5974500	●	1/8	1.250	3.375	0.625
5976100	●	1/4	0.750	2.750	0.500
5976300	●	1/4	1.250	3.375	0.625
5976400	●	1/4	2.250	4.500	0.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Other coatings available upon request.

STE

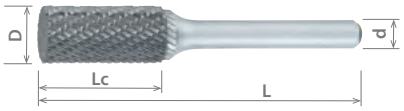
P					M			K	N		S		H			
Steel					Stainless Steel			Cast Iron	Non-Ferrous		HRSA		Hardened Steel			
Carbon Steel			Alloy Steel	Die Steel					Aluminum		Nickel Alloy	Titanium				
Low	Medium	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
1010 1018	1035 1045	1065	4140 4340													
○	○	○	◎	◎	○	○	○	○	○	○		○	○	○		

○ Good ◎ Best

List 801

OSG Carbide Bur SA-Cylindrical

SPEED FEED	CARBIDE		STUB	REG	LONG	PACKED
1518		BR				1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
801-1250-60	●	-	3.00	-	12.00	-	56.00	-	6.00	SA-11M
801-1250-60-EC	●	-	3.00	-	12.00	-	56.00	-	6.00	SA-11M
801-1250	●	1/8	-	0.500	-	2.330	-	0.250	-	SA-11
801-1250-EC	●	1/8	-	0.500	-	2.330	-	0.250	-	SA-11
801-1875	●	3/16	-	0.625	-	2.000	-	0.250	-	SA-14
801-1875-EC	●	3/16	-	0.625	-	2.000	-	0.250	-	SA-14
801-1875-60	●	-	5.00	-	16.00	-	50.00	-	6.00	SA-14M
801-1875-60-EC	●	-	5.00	-	16.00	-	50.00	-	6.00	SA-14M
801-2362	●	-	6.00	-	16.00	-	50.00	-	6.00	SA-1M
801-2362-EC	●	-	6.00	-	16.00	-	50.00	-	6.00	SA-1M
801-2500	●	1/4	-	0.625	-	2.000	-	0.250	-	SA-1
801-2500-EC	●	1/4	-	0.625	-	2.000	-	0.250	-	SA-1
801-3125	●	5/16	-	0.750	-	2.750	-	0.250	-	SA-2
801-3125-EC	●	5/16	-	0.750	-	2.750	-	0.250	-	SA-2
801-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SA-2M
801-3125-60-EC	●	-	8.00	-	19.00	-	63.00	-	6.00	SA-2M
801-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SA-3M
801-3750-60-EC	●	-	9.50	-	19.00	-	63.00	-	6.00	SA-3M
801-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SA-3
801-3750-EC	●	3/8	-	0.750	-	2.500	-	0.250	-	SA-3
801-4375-60	●	-	11.00	-	25.00	-	63.00	-	6.00	SA-4M
801-4375-60-EC	●	-	11.00	-	25.00	-	63.00	-	6.00	SA-4M
801-4375	●	7/16	-	1.000	-	3.000	-	0.250	-	SA-4
801-4375-EC	●	7/16	-	1.000	-	3.000	-	0.250	-	SA-4
801-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SA-5M
801-5000-60-EC	●	-	12.70	-	25.00	-	69.00	-	6.00	SA-5M
801-5001-60	●	-	12.70	-	12.70	-	58.00	-	6.00	SA-5MF
801-5001-60-EC	●	-	12.70	-	12.70	-	58.00	-	6.00	SA-5MF
801-5001	●	1/2	-	0.500	-	2.500	-	0.250	-	SA-5F
801-5001-EC	●	1/2	-	0.500	-	2.500	-	0.250	-	SA-5F
801-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SA-5
801-5000-EC	●	1/2	-	1.000	-	2.750	-	0.250	-	SA-5
801-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SA-6
801-6250-EC	●	5/8	-	1.000	-	2.750	-	0.250	-	SA-6
801-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SA-6M
801-6250-60-EC	●	-	16.00	-	25.00	-	69.00	-	6.00	SA-6M
801-7501-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SA-7M
801-7501-60-EC	●	-	19.00	-	25.00	-	69.00	-	6.00	SA-7M
801-7500	●	3/4	-	0.750	-	2.500	-	0.250	-	SA-16
801-7500-60	●	-	19.00	-	19.00	-	63.00	-	6.00	SA-16M
801-7500-60-EC	●	-	19.00	-	19.00	-	63.00	-	6.00	SA-16M
801-7500-EC	●	3/4	-	0.750	-	2.500	-	0.250	-	SA-16
801-7501	●	3/4	-	1.000	-	2.750	-	0.250	-	SA-7
801-7501-EC	●	3/4	-	1.000	-	2.750	-	0.250	-	SA-7
801-1000-60	●	-	25.00	-	25.00	-	69.00	-	6.00	SA-9M
801-1000	●	1	-	1.000	-	2.770	-	0.250	-	SA-9
801-1000-EC	●	1	-	1.000	-	2.770	-	0.250	-	SA-9
801-1000-60-EC	●	-	25.00	-	25.00	-	69.00	-	6.00	SA-9M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 802

OSG Carbide Bur SC-Cylindrical Ball End

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | LONG | PACKED 1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
802-1250-60	●	-	3.00	-	12.00	-	56.00	-	6.00	SC-11M
802-1250	●	1/8	-	0.500	-	2.000	-	0.250	-	SC-11
802-1875	●	3/16	-	0.625	-	2.000	-	0.250	-	SC-14
802-1875-60	●	-	5.00	-	16.00	-	50.00	-	6.00	SC-14M
802-2362	●	-	6.00	-	16.00	-	50.00	-	6.00	SC-1M
802-2500	●	1/4	-	0.625	-	2.000	-	0.250	-	SC-1
802-3125	●	5/16	-	0.750	-	2.500	-	0.250	-	SC-2
802-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SC-2M
802-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SC-3
802-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SC-3M
802-4375-60	●	-	11.00	-	25.00	-	69.00	-	6.00	SC-4M
802-4375	●	7/16	-	1.000	-	2.750	-	0.250	-	SC-4
802-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SC-5M
802-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SC-5
802-6250	●	5/8	-	1.000	-	2.700	-	0.250	-	SC-6
802-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SC-6M
802-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SC-7M
802-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SC-7

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 803

OSG Carbide Bur SF-Round Nose Tree

SPEED FEED	CARBIDE		STUB	REG	PACKED
1518		BR			1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
803-2362	●	-	6.00	-	16.00	-	50.00	-	6.00	SF-1M
803-2500	●	1/4	-	0.625	-	2.000	-	0.250	-	SF-1
803-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SF-3
803-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SF-3M
803-5001	●	1/2	-	0.750	-	2.500	-	0.250	-	SF-13
803-5001-60	●	-	12.70	-	19.00	-	63.00	-	6.00	SF-13M
803-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SF-5M
803-5000	●	1/2	-	1.000	-	2.762	-	0.250	-	SF-5
803-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SF-6
803-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SF-6M
803-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SF-7
803-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SF-7M
803-7501	●	3/4	-	1.250	-	3.000	-	0.250	-	SF-14
803-7501-60	●	-	19.00	-	32.00	-	76.00	-	6.00	SF-14M
803-7502	●	3/4	-	1.500	-	3.250	-	0.250	-	SF-15
803-7502-60	●	-	19.00	-	38.00	-	82.00	-	6.00	SF-15M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 804

OSG Carbide Bur SG-Pointed Tree

SPEED FEED	CARBIDE		STUB	REG	PACKED
1518		BR			1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
804-2362	●	-	6.00	-	16.00	-	50.00	-	6.00	SG-1M
804-2500	●	1/4	-	0.625	-	2.000	-	0.250	-	SG-1
804-3125	●	5/16	-	0.750	-	2.500	-	0.250	-	SG-2
804-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SG-2M
804-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SG-3
804-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SG-3M
804-5001	●	1/2	-	0.750	-	2.500	-	0.250	-	SG-13
804-5001-60	●	-	12.70	-	19.00	-	63.00	-	6.00	SG-13M
804-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SG-5
804-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SG-5M
804-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SG-6
804-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SG-6M
804-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SG-7
804-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SG-7M
804-7501	●	3/4	-	1.500	-	3.250	-	0.250	-	SG-15
804-7501-60	●	-	19.00	-	38.00	-	82.00	-	6.00	SG-15M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 805

OSG Carbide Bur SM-Pointed Cone

SPEED FEED	CARBIDE	BR	STUB	REG	LONG	PACKED
1518						1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
805-2362	●	-	6.00	-	12.70	22.00	-	50.00	-	6.00	SM-1M
805-2363	●	-	6.00	-	19.00	14.00	-	50.00	-	6.00	SM-2M
805-2364	●	-	6.00	-	25.00	10.00	-	50.00	-	6.00	SM-3M
805-2500	●	1/4	-	0.500	-	22.00	2.000	-	0.250	-	SM-1
805-2501	●	1/4	-	0.750	-	14.00	2.000	-	0.250	-	SM-2
805-2502	●	1/4	-	1.000	-	10.00	2.000	-	0.250	-	SM-3
805-3750	●	3/8	-	0.625	-	28.00	2.500	-	0.250	-	SM-4
805-3750-60	●	-	9.50	-	16.00	28.00	-	63.00	-	6.00	SM-4M
805-5000	●	1/2	-	0.875	-	28.00	2.750	-	0.250	-	SM-5
805-5000-60	●	-	12.70	-	22.00	28.00	-	69.00	-	6.00	SM-5M
805-6250	●	5/8	-	1.000	-	31.00	2.925	-	0.250	-	SM-6
805-6250-60	●	-	16.00	-	25.00	31.00	-	73.00	-	6.00	SM-6M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

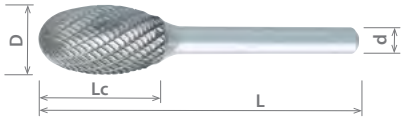
Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 806

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE

OSG Carbide Bur SE-Egg Shape



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
806-2362	●	-	6.00	-	9.50	-	50.00	-	6.00	SE-1M
806-2500	●	1/4	-	0.375	-	2.000	-	0.250	-	SE-1
806-3750	●	3/8	-	0.625	-	2.625	-	0.250	-	SE-3
806-3750-60	●	-	9.50	-	16.00	-	60.00	-	6.00	SE-3M
806-5000	●	1/2	-	0.875	-	2.625	-	0.250	-	SE-5
806-5000-60	●	-	12.70	-	22.00	-	66.00	-	6.00	SE-5M
806-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SE-6
806-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SE-6M
806-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SE-7
806-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SE-7M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 807

SPEED FEED 1518 | CARBIDE | BR | REG | PACKED 1 PIECE

OSG Carbide Bur SL-14° Included Angle



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
807-2362	●	-	6.00	-	16.00	14.00	-	50.00	-	6.00	SL-1M
807-2500	●	1/4	-	0.625	-	14.00	2.000	-	0.250	-	SL-1
807-3125-60	●	-	8.00	-	22.00	14.00	-	69.00	-	6.00	SL-2M
807-3125	●	5/16	-	0.875	-	14.00	2.775	-	0.250	-	SL-2
807-3750-60	●	-	9.50	-	27.00	14.00	-	74.00	-	6.00	SL-3M
807-3750	●	3/8	-	1.063	-	14.00	2.980	-	0.250	-	SL-3
807-5000	●	1/2	-	1.125	-	14.00	3.125	-	0.250	-	SL-4
807-5000-60	●	-	12.70	-	28.00	14.00	-	76.00	-	6.00	SL-4M
807-6250	●	5/8	-	1.313	-	14.00	3.312	-	0.250	-	SL-5
807-6250-60	●	-	16.00	-	30.00	14.00	-	77.00	-	6.00	SL-5M
807-7500	●	3/4	-	1.500	-	14.00	3.359	-	0.250	-	SL-7
807-7500-60	●	-	19.00	-	38.00	14.00	-	85.00	-	6.00	SL-7M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 808

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE

OSG Carbide Bur SD-Ball Shape



EDP Number		Diameter		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
808-1250	●	1/8	-	2.000	-	0.250	-	SD-11
808-1250-60	●	-	3.00	-	50.00	-	6.00	SD-11M
808-1875	●	3/16	-	2.000	-	0.250	-	SD-14
808-1875-60	●	-	5.00	-	50.00	-	6.00	SD-14M
808-2362	●	-	6.00	-	50.00	-	6.00	SD-1M
808-2500	●	1/4	-	2.000	-	0.250	-	SD-1
808-3125	●	5/16	-	2.031	-	0.250	-	SD-2
808-3125-60	●	-	8.00	-	50.00	-	6.00	SD-2M
808-3750	●	3/8	-	2.080	-	0.250	-	SD-3
808-3750-60	●	-	9.50	-	52.00	-	6.00	SD-3M
808-5000-60	●	-	12.70	-	55.00	-	6.00	SD-5M
808-5000	●	1/2	-	2.216	-	0.250	-	SD-5
808-6250	●	5/8	-	2.300	-	0.250	-	SD-6
808-6250-60	●	-	16.00	-	58.00	-	6.00	SD-6M
808-7500	●	3/4	-	2.438	-	0.250	-	SD-7
808-7500-60	●	-	19.00	-	62.00	-	6.00	SD-7M
808-1000	●	1	-	2.671	-	0.250	-	SD-9
808-1000-60	●	-	25.00	-	72.00	-	6.00	SD-9M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 849

OSG Carbide Bur SK-90° Cone

SPEED FEED 1518 | CARBIDE | BR | PACKED 1 PIECE



EDP Number		Diameter		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
849-2362	●	-	6.00	90.00	-	50.00	-	6.00	SK-1M
849-2500	●	1/4	-	90.00	2.000	-	0.250	-	SK-1
849-3750	●	3/8	-	90.00	2.063	-	0.250	-	SK-3
849-3750-60	●	-	9.50	90.00	-	52.00	-	6.00	SK-3M
849-5000	●	1/2	-	90.00	2.125	-	0.250	-	SK-5
849-5000-60	●	-	12.70	90.00	-	54.00	-	6.00	SK-5M
849-6250	●	5/8	-	90.00	2.234	-	0.250	-	SK-6
849-6250-60	●	-	16.00	90.00	-	57.00	-	6.00	SK-6M
849-7500	●	3/4	-	90.00	2.297	-	0.250	-	SK-7
849-7500-60	●	-	19.00	90.00	-	58.00	-	6.00	SK-7M
849-1000	●	1	-	90.00	2.391	-	0.250	-	SK-9
849-1000-60	●	-	25.00	90.00	-	60.00	-	6.00	SK-9M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 850

OSG Carbide Bur SJ-60° Cone

SPEED FEED	CARBIDE		PACKED
1518		BR	1 PIECE



EDP Number		Diameter		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
850-2362	●	-	6.00	60.00	-	50.00	-	6.00	SJ-1M
850-2500	●	1/4	-	60.00	2.000	-	0.250	-	SJ-1
850-3750	●	3/8	-	60.00	2.188	-	0.250	-	SJ-3
850-3750-60	●	-	9.50	60.00	-	55.00	-	6.00	SJ-3M
850-5000	●	1/2	-	60.00	2.297	-	0.250	-	SJ-5
850-5000-60	●	-	12.70	60.00	-	38.00	-	6.00	SJ-5M
850-6250	●	5/8	-	60.00	2.438	-	0.250	-	SJ-6
850-6250-60	●	-	16.00	60.00	-	61.00	-	6.00	SJ-6M
850-7500	●	3/4	-	60.00	2.438	-	0.250	-	SJ-7
850-7500-60	●	-	19.00	60.00	-	65.00	-	6.00	SJ-7M
850-1000	●	1	-	60.00	2.734	-	0.250	-	SJ-9
850-1000-60	●	-	25.00	60.00	-	68.00	-	6.00	SJ-9M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 851

SPEED FEED 1518 | CARBIDE | BR | REG | PACKED 1 PIECE

OSG Carbide Bur SH-Flame Shape



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
851-3125	●	5/16	-	0.750	-	2.500	-	0.250	-	SH-2
851-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SH-2M
851-5000	●	1/2	-	1.250	-	3.000	-	0.250	-	SH-5
851-5000-60	●	-	12.70	-	32.00	-	76.00	-	6.00	SH-5M
851-6250	●	5/8	-	1.438	-	3.188	-	0.250	-	SH-6
851-6250-60	●	-	16.00	-	36.00	-	80.00	-	6.00	SH-6M
851-7500	●	3/4	-	1.625	-	3.375	-	0.250	-	SH-7
851-7500-60	●	-	19.00	-	41.00	-	85.00	-	6.00	SH-7M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 852

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE

OSG Carbide Bur SN-Inverted Taper



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
852-2362	●	-	6.00	-	8.00	10.00	-	50.00	-	6.00	SN-1M
852-2500	●	1/4	-	0.313	-	10.00	2.000	-	0.250	-	SN-1
852-3750	●	3/8	-	0.375	-	13.00	2.125	-	0.250	-	SN-2
852-3750-60	●	-	9.50	-	9.50	13.00	-	53.00	-	6.00	SN-2M
852-5000	●	1/2	-	0.500	-	28.00	2.250	-	0.250	-	SN-4
852-5000-60	●	-	12.70	-	12.70	28.00	-	57.00	-	6.00	SN-4M
852-6250	●	5/8	-	0.750	-	18.00	2.500	-	0.250	-	SN-6
852-6250-60	●	-	16.00	-	19.00	18.00	-	63.00	-	6.00	SN-6M
852-7500	●	3/4	-	0.625	-	30.00	2.375	-	0.250	-	SN-7
852-7500-60	●	-	19.00	-	16.00	30.00	-	60.00	-	6.00	SN-7M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

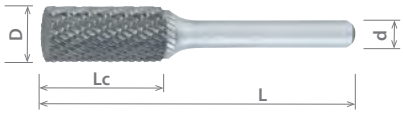
Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 861

OSG Carbide Bur SA-Cylindrical

SPEED FEED	CARBIDE		REG	PACKED
1518		BR		1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
861-3750	●	3/8	-	0.750	-	6.750	-	0.250	-	SA-3L6
861-3750-60	●	-	9.50	-	19.00	-	169.00	-	6.00	SA-3ML6
861-5000	●	1/2	-	1.000	-	7.000	-	0.250	-	SA-5L6
861-5000-60	●	-	12.70	-	25.00	-	175.00	-	6.00	SA-5ML6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 862

OSG Carbide Bur SC-Cylindrical Ball End

SPEED FEED	CARBIDE		REG	PACKED
1518		BR		1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
862-3750	●	3/8	-	0.750	-	6.750	-	0.250	-	SC-3L6
862-3750-60	●	-	9.50	-	19.00	-	169.00	-	6.00	SC-3ML6
862-5000	●	1/2	-	1.000	-	7.000	-	0.250	-	SC-5L6
862-5000-60	●	-	12.70	-	25.00	-	175.00	-	6.00	SC-5ML6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 863

OSG Carbide Bur SF-Round Nose Tree

SPEED FEED	CARBIDE		REG	PACKED
1518		BR		1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
863-3750	●	3/8	-	0.750	-	6.750	-	0.250	-	SF-3L6
863-3750-60	●	-	9.50	-	19.00	-	169.00	-	6.00	SF-3ML6
863-5000	●	1/2	-	1.000	-	7.000	-	0.250	-	SF-5L6
863-5000-60	●	-	12.70	-	25.00	-	175.00	-	6.00	SF-5ML6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 867

OSG Carbide Bur SL-14° Included Angle

SPEED FEED	CARBIDE		REG	PACKED
1518		BR		1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
867-3750	●	3/8	-	1.063	-	7.200	-	0.250	-	SL-3L6
867-3750-60	●	-	9.50	-	27.00	-	177.00	-	6.00	SL-3ML6
867-5000	●	1/2	-	1.125	-	7.125	-	0.250	-	SL-5L6
867-5000-60	●	-	12.70	-	28.00	-	178.00	-	6.00	SL-5ML6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 868

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE

OSG Carbide Bur SD-Ball Shape



EDP Number		Diameter		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
868-3750	●	3/8	-	6.332	-	0.250	-	SD-3L6
868-3750-60	●	-	9.50	-	158.00	-	6.00	SD-3ML6
868-5000	●	1/2	-	6.450	-	0.250	-	SD-5L6
868-5000-60	●	-	12.70	-	161.00	-	6.00	SD-5ML6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 901

OSG Carbide Bur SA-Cylindrical

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | LONG | PACKED 1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
901-1250	●	1/8	-	0.500	-	2.350	-	0.250	-	SA-11
901-1250-EC	●	1/8	-	0.500	-	2.350	-	0.250	-	SA-11
901-1250-60	●	-	3.00	-	12.00	-	56.00	-	6.00	SA-11M
901-1250-60-EC	●	-	3.00	-	12.00	-	56.00	-	6.00	SA-11M
901-1875	●	3/16	-	0.625	-	2.000	-	0.250	-	SA-14
901-1875-60	●	-	5.00	-	16.00	-	50.00	-	6.00	SA-14M
901-1875-EC	●	3/16	-	0.625	-	2.000	-	0.250	-	SA-14
901-1875-60-EC	●	-	5.00	-	16.00	-	50.00	-	6.00	SA-14M
901-2362	●	-	6.00	-	16.00	-	50.00	-	6.00	SA-1M
901-2362-EC	●	-	6.00	-	16.00	-	50.00	-	6.00	SA-1M
901-2500	●	1/4	-	0.625	-	2.000	-	0.250	-	SA-1
901-2500-EC	●	1/4	-	0.625	-	2.000	-	0.250	-	SA-1
901-3125	●	5/16	-	0.750	-	2.750	-	0.250	-	SA-2
901-3125-EC	●	5/16	-	0.750	-	2.750	-	0.250	-	SA-2
901-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SA-2M
901-3125-60-EC	●	-	8.00	-	19.00	-	63.00	-	6.00	SA-2M
901-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SA-3
901-3750-EC	●	3/8	-	0.750	-	2.500	-	0.250	-	SA-3
901-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SA-3M
901-3750-60-EC	●	-	9.50	-	19.00	-	63.00	-	6.00	SA-3M
901-4375	●	7/16	-	1.000	-	2.750	-	0.250	-	SA-4
901-4375-EC	●	7/16	-	1.000	-	2.750	-	0.250	-	SA-4
901-4375-60	●	-	11.00	-	25.00	-	69.00	-	6.00	SA-4M
901-4375-60-EC	●	-	11.00	-	25.00	-	69.00	-	6.00	SA-4M
901-5001	●	1/2	-	0.500	-	2.250	-	0.250	-	SA-5F
901-5001-60	●	-	12.70	-	12.70	-	58.00	-	6.00	SA-5MF
901-5001-60-EC	●	-	12.70	-	12.70	-	58.00	-	6.00	SA-5MF
901-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SA-5
901-5000-EC	●	1/2	-	1.000	-	3.000	-	0.250	-	SA-5
901-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SA-5M
901-5000-60-EC	●	-	12.70	-	25.00	-	69.00	-	6.00	SA-5M
901-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SA-6
901-6250-EC	●	5/8	-	1.000	-	2.750	-	0.250	-	SA-6
901-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SA-6M
901-6250-60-EC	●	-	16.00	-	25.00	-	69.00	-	6.00	SA-6M
901-7500	●	3/4	-	0.750	-	2.500	-	0.250	-	SA-16
901-7500-60	●	-	19.00	-	19.00	-	63.00	-	6.00	SA-16M
901-7500-60-EC	●	-	19.00	-	19.00	-	63.00	-	6.00	SA-16M
901-7500-EC	●	3/4	-	0.750	-	2.500	-	0.250	-	SA-16
901-7501-60-EC	●	-	19.00	-	25.00	-	69.00	-	6.00	SA-7M
901-7501-EC	●	3/4	-	1.000	-	2.750	-	0.250	-	SA-7
901-7501	●	3/4	-	1.000	-	3.000	-	0.250	-	SA-7
901-7501-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SA-7M
901-1000	●	1	-	1.000	-	2.750	-	0.250	-	SA-9
901-1000-EC	●	1	-	1.000	-	2.750	-	0.250	-	SA-9
901-1000-60	●	-	25.00	-	25.00	-	69.00	-	6.00	SA-9M
901-1000-60-EC	●	-	25.00	-	25.00	-	69.00	-	6.00	SA-9M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 902

OSG Carbide Bur SC-Cylindrical Ball End

SPEED FEED	CARBIDE		STUB	REG	LONG	PACKED
1518		BR				1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
902-1250	●	1/8	-	0.500	-	2.000	-	0.250	-	SC-11
902-1250-60	●	-	3.00	-	12.00	-	56.00	-	6.00	SC-11M
902-1875	●	3/16	-	0.625	-	2.000	-	0.250	-	SC-14
902-1875-60	●	-	5.00	-	16.00	-	50.00	-	6.00	SC-14M
902-2362	●	-	6.00	-	16.00	-	50.00	-	6.00	SC-1M
902-2500	●	1/4	-	0.625	-	2.000	-	0.250	-	SC-1
902-3125	●	5/16	-	0.750	-	2.000	-	0.250	-	SC-2
902-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SC-2M
902-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SC-3
902-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SC-3M
902-4375	●	7/16	-	1.000	-	2.750	-	0.250	-	SC-4
902-4375-60	●	-	11.00	-	25.00	-	69.00	-	6.00	SC-4M
902-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SC-5
902-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SC-5M
902-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SC-6
902-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SC-6M
902-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SC-7
902-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SC-7M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 903

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | PACKED 1 PIECE

OSG Carbide Bur SF-Round Nose Tree



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
903-2362	●	-	6.00	-	16.00	-	50.00	-	6.00	SF-1M
903-2500	●	1/4	-	0.750	-	2.000	-	0.250	-	SF-1
903-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SF-3
903-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SF-3M
903-5001	●	1/2	-	0.750	-	2.500	-	0.250	-	SF-13
903-5001-60	●	-	12.70	-	19.00	-	63.00	-	6.00	SF-13M
903-5000	●	1/2	-	1.000	-	2.755	-	0.250	-	SF-5
903-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SF-5M
903-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SF-6
903-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SF-6M
903-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SF-7
903-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SF-7M
903-7501	●	3/4	-	1.250	-	3.000	-	0.250	-	SF-14
903-7501-60	●	-	19.00	-	32.00	-	76.00	-	6.00	SF-14M
903-7502	●	3/4	-	1.500	-	3.500	-	0.250	-	SF-15
903-7502-60	●	-	19.00	-	38.00	-	82.00	-	6.00	SF-15M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 904

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | PACKED 1 PIECE

OSG Carbide Bur SG-Pointed Tree



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
904-2362	●	-	6.00	-	16.00	-	50.00	-	6.00	SG-1M
904-2500	●	1/4	-	0.625	-	2.000	-	0.250	-	SG-1
904-3125	●	5/16	-	0.750	-	2.500	-	0.250	-	SG-2
904-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SG-2M
904-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SG-3
904-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SG-3M
904-5001	●	1/2	-	0.750	-	2.500	-	0.250	-	SG-13
904-5001-60	●	-	12.70	-	19.00	-	63.00	-	6.00	SG-13M
904-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SG-5
904-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SG-5M
904-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SG-6
904-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SG-6M
904-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SG-7
904-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SG-7M
904-7501	●	3/4	-	1.500	-	3.250	-	0.250	-	SG-15
904-7501-60	●	-	19.00	-	38.00	-	82.00	-	6.00	SG-15M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 905

OSG Carbide Bur SM-Pointed Cone

SPEED FEED	CARBIDE		STUB	REG	LONG	PACKED
1518		BR				1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
905-2362	●	-	6.00	-	12.70	22.00	-	50.00	-	6.00	SM-1M
905-2363	●	-	6.00	-	19.00	14.00	-	50.00	-	6.00	SM-2M
905-2364	●	-	6.00	-	25.00	10.00	-	50.00	-	6.00	SM-3M
905-2500	●	1/4	-	0.500	-	22.00	2.000	-	0.250	-	SM-1
905-2501	●	1/4	-	0.750	-	14.00	2.000	-	0.250	-	SM-2
905-2502	●	1/4	-	1.000	-	10.00	2.000	-	0.250	-	SM-3
905-3750	●	3/8	-	0.625	-	28.00	2.500	-	0.250	-	SM-4
905-3750-60	●	-	9.50	-	16.00	28.00	-	63.00	-	6.00	SM-4M
905-5000	●	1/2	-	0.875	-	28.00	2.500	-	0.250	-	SM-5
905-5000-60	●	-	12.70	-	22.00	28.00	-	69.00	-	6.00	SM-5M
905-6250	●	5/8	-	1.000	-	31.00	2.500	-	0.250	-	SM-6
905-6250-60	●	-	16.00	-	25.00	31.00	-	73.00	-	6.00	SM-6M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 906

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE

OSG Carbide Bur SE-Egg Shape



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
906-2362	●	-	6.00	-	9.40	-	50.00	-	6.00	SE-1M
906-2500	●	1/4	-	0.375	-	2.000	-	0.250	-	SE-1
906-3750	●	3/8	-	0.625	-	2.375	-	0.250	-	SE-3
906-3750-60	●	-	9.50	-	16.00	-	60.00	-	6.00	SE-3M
906-5000	●	1/2	-	0.875	-	2.625	-	0.250	-	SE-5
906-5000-60	●	-	12.70	-	22.00	-	66.00	-	6.00	SE-5M
906-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SE-6
906-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SE-6M
906-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SE-7
906-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SE-7M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 907

OSG Carbide Bur SL-14° Included Angle

SPEED FEED 1518 | CARBIDE | BR | REG | PACKED 1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
907-2362	●	-	6.00	-	16.00	14.00	-	50.00	-	6.00	SL-1M
907-2500	●	1/4	-	0.625	-	14.00	2.021	-	0.250	-	SL-1
907-3125	●	5/16	-	0.875	-	14.00	2.795	-	0.250	-	SL-2
907-3125-60	●	-	8.00	-	22.00	14.00	-	69.00	-	6.00	SL-2M
907-3750	●	3/8	-	1.063	-	14.00	3.000	-	0.250	-	SL-3
907-3750-60	●	-	9.50	-	27.00	14.00	-	74.00	-	6.00	SL-3M
907-5000	●	1/2	-	1.125	-	14.00	3.015	-	0.250	-	SL-4
907-5000-60	●	-	12.70	-	28.00	14.00	-	76.00	-	6.00	SL-4M
907-6250	●	5/8	-	1.313	-	14.00	3.187	-	0.250	-	SL-5
907-6250-60	●	-	16.00	-	30.00	14.00	-	77.00	-	6.00	SL-5M
907-7500	●	3/4	-	1.500	-	14.00	3.359	-	0.250	-	SL-7
907-7500-60	●	-	19.00	-	38.00	14.00	-	85.00	-	6.00	SL-7M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 908

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE

OSG Carbide Bur SD-Ball Shape



EDP Number		Diameter		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
908-1250	●	1/8	-	2.000	-	0.250	-	SD-11
908-1250-60	●	-	3.00	-	50.00	-	6.00	SD-11M
908-1875	●	3/16	-	2.000	-	0.250	-	SD-14
908-1875-60	●	-	5.00	-	50.00	-	6.00	SD-14M
908-2362	●	-	6.00	-	50.00	-	6.00	SD-1M
908-2500	●	1/4	-	2.000	-	0.250	-	SD-1
908-3125	●	5/16	-	2.042	-	0.250	-	SD-2
908-3125-60	●	-	8.00	-	50.00	-	6.00	SD-2M
908-3750	●	3/8	-	2.332	-	0.250	-	SD-3
908-3750-60	●	-	9.50	-	52.00	-	6.00	SD-3M
908-5000	●	1/2	-	2.250	-	0.250	-	SD-5
908-5000-60	●	-	12.70	-	55.00	-	6.00	SD-5M
908-6250	●	5/8	-	2.312	-	0.250	-	SD-6
908-6250-60	●	-	16.00	-	58.00	-	6.00	SD-6M
908-7500	●	3/4	-	2.750	-	0.250	-	SD-7
908-7500-60	●	-	19.00	-	62.00	-	6.00	SD-7M
908-1000	●	1	-	2.671	-	0.250	-	SD-9
908-1000-60	●	-	25.00	-	72.00	-	6.00	SD-9M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 949

OSG Carbide Bur SL-14° Included Angle

SPEED FEED	CARBIDE		PACKED
1518		BR	1 PIECE



EDP Number		Diameter		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
949-2362	●	-	6.00	90.00	-	50.00	-	6.00	SK-1M
949-2500	●	1/4	-	90.00	2.000	-	0.250	-	SK-1
949-3750	●	3/8	-	90.00	2.063	-	0.250	-	SK-3
949-3750-60	●	-	9.50	90.00	-	52.00	-	6.00	SK-3M
949-5000	●	1/2	-	90.00	2.125	-	0.250	-	SK-5
949-5000-60	●	-	12.70	90.00	-	54.00	-	6.00	SK-5M
949-6250	●	5/8	-	90.00	2.250	-	0.250	-	SK-6
949-6250-60	●	-	16.00	90.00	-	57.00	-	6.00	SK-6M
949-7500	●	3/4	-	90.00	2.297	-	0.250	-	SK-7
949-7500-60	●	-	19.00	90.00	-	58.00	-	6.00	SK-7M
949-1000	●	1	-	90.00	2.391	-	0.250	-	SK-9
949-1000-60	●	-	25.00	90.00	-	60.00	-	6.00	SK-9M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 950

OSG Carbide Bur SJ-60° Cone

SPEED FEED	CARBIDE		PACKED
1518		BR	1 PIECE



EDP Number		Diameter		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
950-2362	●	-	6.00	60.00	-	50.00	-	6.00	SJ-1M
950-2500	●	1/4	-	60.00	2.000	-	0.250	-	SJ-1
950-3750	●	3/8	-	60.00	2.188	-	0.250	-	SJ-3
950-3750-60	●	-	9.50	60.00	-	55.00	-	6.00	SJ-3M
950-5000	●	1/2	-	60.00	2.297	-	0.250	-	SJ-5
950-5000-60	●	-	12.70	60.00	-	58.00	-	6.00	SJ-5M
950-6250	●	5/8	-	60.00	2.438	-	0.250	-	SJ-6
950-6250-60	●	-	16.00	60.00	-	61.00	-	6.00	SJ-6M
950-7500	●	3/4	-	60.00	2.547	-	0.250	-	SJ-7
950-7500-60	●	-	19.00	60.00	-	65.00	-	6.00	SJ-7M
950-1000	●	1	-	60.00	2.719	-	0.250	-	SJ-9
950-1000-60	●	-	25.00	60.00	-	68.00	-	6.00	SJ-9M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

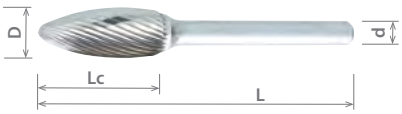
Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 951

OSG Carbide Bur SH-Flame Shape

SPEED FEED 1518 | CARBIDE | BR | REG | EXTRA LONG | PACKED 1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
951-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SH-2M
951-3125	●	5/16	-	1.625	-	3.375	-	0.250	-	SH-2
951-5000	●	1/2	-	1.250	-	3.000	-	0.250	-	SH-5
951-5000-60	●	-	12.70	-	32.00	-	76.00	-	6.00	SH-5M
951-6250	●	5/8	-	1.438	-	3.188	-	0.250	-	SH-6
951-6250-60	●	-	16.00	-	36.00	-	80.00	-	6.00	SH-6M
951-7500	●	3/4	-	1.625	-	3.625	-	0.250	-	SH-7
951-7500-60	●	-	19.00	-	41.00	-	85.00	-	6.00	SH-7M

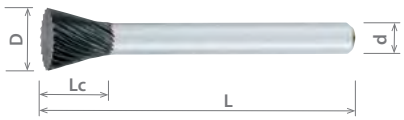
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 952

OSG Carbide Bur SN-Inverted Taper

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)	
952-2362	●	-	6.00	-	8.00	10.00	-	50.00	-	6.00	SN-1M
952-2500	●	1/4	-	0.313	-	10.00	2.000	-	0.250	-	SN-1
952-3750	●	3/8	-	0.375	-	13.00	2.125	-	0.250	-	SN-2
952-3750-60	●	-	9.50	-	9.50	13.00	-	53.00	-	6.00	SN-2M
952-5000	●	1/2	-	0.500	-	28.00	2.250	-	0.250	-	SN-4
952-5000-60	●	-	12.70	-	12.70	28.00	-	57.00	-	6.00	SN-4M
952-6250	●	5/8	-	0.750	-	18.00	2.500	-	0.250	-	SN-6
952-6250-60	●	-	16.00	-	19.00	18.00	-	63.00	-	6.00	SN-6M
952-7500	●	3/4	-	0.625	-	30.00	2.375	-	0.250	-	SN-7
952-7500-60	●	-	19.00	-	16.00	30.00	-	60.00	-	6.00	SN-7M

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 961

SPEED FEED 1518 | CARBIDE | BR | PACKED 1 PIECE

OSG Carbide Bur SA-Cylindrical



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
961-3750	●	3/8	-	0.750	-	6.750	-	0.250	-	SA-3L6
961-3750-60	●	-	9.50	-	19.00	-	169.00	-	6.00	SA-3ML6
961-5000	●	1/2	-	1.000	-	7.000	-	0.250	-	SA-5L6
961-5000-60	●	-	12.70	-	25.00	-	175.00	-	6.00	SA-5ML6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 962

SPEED FEED 1518 | CARBIDE | BR | PACKED 1 PIECE

OSG Carbide Bur SC-Cylindrical Ball End



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
962-3750	●	3/8	-	0.750	-	6.750	-	0.250	-	SC-3L6
962-3750-60	●	-	9.50	-	19.00	-	169.00	-	6.00	SC-3ML6
962-5000	●	1/2	-	1.000	-	7.000	-	0.250	-	SC-5L6
962-5000-60	●	-	12.70	-	25.00	-	175.00	-	6.00	SC-5ML6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 963

OSG Carbide Bur SF-Round Nose Tree

SPEED FEED	CARBIDE	BR	PACKED
1518			1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
963-3750	●	3/8	-	0.750	-	6.750	-	0.250	-	SF-3L6
963-3750-60	●	-	9.50	-	19.00	-	169.00	-	6.00	SF-3ML6
963-5000	●	1/2	-	1.000	-	7.000	-	0.250	-	SF-5L6
963-5000-60	●	-	12.70	-	25.00	-	175.00	-	6.00	SF-5ML6

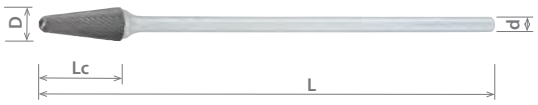
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 967

OSG Carbide Bur SL-14° Included Angle

SPEED FEED	CARBIDE	BR	PACKED
1518			1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
967-3750	●	3/8	-	1.063	-	7.063	-	0.250	-	SL-3L6
967-3750-60	●	-	9.50	-	27.00	-	177.00	-	6.00	SL-3ML6
967-5000	●	1/2	-	1.125	-	7.125	-	0.250	-	SL-5L6
967-5000-60	●	-	12.70	-	28.00	-	178.00	-	6.00	SL-5ML6

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 968

OSG Carbide Bur SD-Ball Shape

SPEED FEED	CARBIDE		PACKED
1518		BR	1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
968-3750	●	3/8	-	0.332	-	6.332	-	0.250	-	SD-3L6
968-3750-60	●	-	9.50	-	8.00	-	158.00	-	6.00	SD-3ML6
968-5000	●	1/2	-	0.450	-	6.450	-	0.250	-	SD-5L6
968-5000-60	●	-	12.70	-	11.00	-	161.00	-	6.00	SD-5ML6

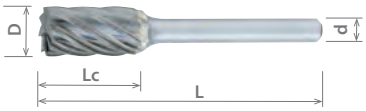
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 881

OSG Carbide Bur SA-Cylindrical

SPEED FEED	CARBIDE		STUB	REG	LONG	PACKED
1518		BR				1 PIECE



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
881-2362	●	-	6.00	-	19.00	-	50.00	-	6.00	SA-1MA
881-2500	●	1/4	-	0.750	-	2.000	-	0.250	-	SA-1A
881-3125-60	●	-	8.00	-	19.00	-	63.00	-	6.00	SA-2MA
881-3750	●	3/8	-	0.750	-	2.500	-	0.250	-	SA-3A
881-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SA-3MA
881-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SA-5A
881-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SA-5MA
881-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SA-6A
881-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SA-6MA
881-7500	●	3/4	-	1.000	-	3.000	-	0.250	-	SA-7A
881-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SA-7MA

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

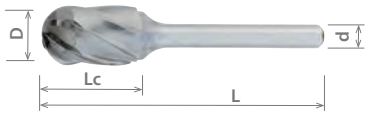
Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 882

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | LONG | PACKED 1 PIECE

OSG Carbide Bur SC-Cylindrical Ball End



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
882-2362	●	-	6.00	-	19.00	-	50.00	-	6.00	SC-1MA
882-2500	●	1/4	-	0.750	-	2.000	-	0.250	-	SC-1A
882-3750	●	3/8	-	0.750	-	2.750	-	0.250	-	SC-3A
882-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SC-5A
882-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SC-5MA
882-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SC-6MA
882-6250	●	5/8	-	1.000	-	3.000	-	0.250	-	SC-6A
882-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SC-3MA
882-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SC-7A
882-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SC-7MA

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 883

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | LONG | PACKED 1 PIECE

OSG Carbide Bur SF-Round Nose Tree



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
883-2362	●	-	6.00	-	19.00	-	50.00	-	6.00	SF-1MA
883-2500	●	1/4	-	0.750	-	2.000	-	0.250	-	SF-1A
883-3750	●	3/8	-	0.750	-	2.520	-	0.250	-	SF-3A
883-3750-60	●	-	9.50	-	19.00	-	63.00	-	6.00	SF-3MA
883-5000	●	1/2	-	1.000	-	2.750	-	0.250	-	SF-5A
883-5000-60	●	-	12.70	-	25.00	-	69.00	-	6.00	SF-5MA
883-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SF-6A
883-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SF-6MA
883-7500	●	3/4	-	1.250	-	3.000	-	0.250	-	SF-14A
883-7500-60	●	-	19.00	-	32.00	-	76.00	-	6.00	SF-14MA

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

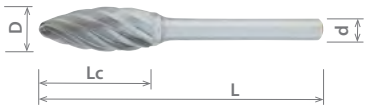
Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 885

SPEED FEED 1518 | CARBIDE | BR | REG | PACKED 1 PIECE

OSG Carbide Bur SC-Cylindrical Ball End



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
885-5000	●	1/2	-	1.250	-	3.000	-	0.250	-	SH-5A
885-5000-60	●	-	12.70	-	32.00	-	76.00	-	6.00	SH-5MA
885-6250-60	●	-	16.00	-	36.00	-	80.00	-	6.00	SH-6MA
885-6250	●	5/8	-	1.438	-	3.438	-	0.250	-	SH-6A
885-7500-60	●	-	19.00	-	41.00	-	85.00	-	6.00	SH-7MA
885-7500	●	3/4	-	1.625	-	3.625	-	0.250	-	SH-7A

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 886

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE

OSG Carbide Bur SE-Egg Shape



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
886-3750	●	3/8	-	0.625	-	2.390	-	0.250	-	SE-3A
886-3750-60	●	-	9.50	-	16.00	-	60.00	-	6.00	SE-3A
886-5000	●	1/2	-	0.875	-	2.625	-	0.250	-	SE-5A
886-5000-60	●	-	12.70	-	22.00	-	66.00	-	6.00	SE-5MA
886-6250	●	5/8	-	1.000	-	2.750	-	0.250	-	SE-6A
886-6250-60	●	-	16.00	-	25.00	-	69.00	-	6.00	SE-6MA
886-7500	●	3/4	-	1.000	-	2.750	-	0.250	-	SE-7A
886-7500-60	●	-	19.00	-	25.00	-	69.00	-	6.00	SE-7MA

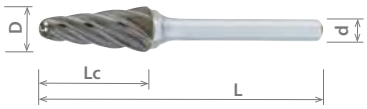
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 887

SPEED FEED 1518 | CARBIDE | BR | REG | PACKED 1 PIECE

OSG Carbide Bur SL-14° Included Angle



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
887-3750	●	3/8	-	1.063	-	3.000	-	0.250	-	SL-3A
887-3750-60	●	-	9.50	-	27.00	-	74.00	-	6.00	SL-3MA
887-5000	●	1/2	-	1.266	-	3.266	-	0.250	-	SL-4A
887-5000-60	●	-	12.70	-	28.00	-	76.00	-	6.00	SL-4MA
887-6250	●	5/8	-	1.438	-	3.438	-	0.250	-	SL-6A
887-6250-60	●	-	16.00	-	30.00	-	77.00	-	6.00	SL-6MA
887-7500	●	3/4	-	1.609	-	3.609	-	0.250	-	SL-7A
887-7500-60	●	-	19.00	-	38.00	-	85.00	-	6.00	SL-7MA

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 888

SPEED FEED 1518 | CARBIDE | BR | STUB | PACKED 1 PIECE

OSG Carbide Bur SD-Ball Shape



EDP Number		Diameter		Length of Cut		Overall Length		Shank Diameter		Style
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	L (Inch)	L (mm)	d (Inch)	d (mm)	
888-2362	●	-	6.00	-	5.00	-	50.00	-	6.00	SD-1MA
888-2500	●	1/4	-	0.220	-	2.000	-	0.250	-	SD-1A
888-3125-60	●	-	8.00	-	6.40	-	50.00	-	6.00	SD-2MA
888-3750	●	3/8	-	0.332	-	2.078	-	0.250	-	SD-3A
888-3750-60	●	-	9.50	-	8.00	-	52.00	-	6.00	SD-3MA
888-5000	●	1/2	-	0.450	-	2.203	-	0.250	-	SD-5A
888-5000-60	●	-	12.70	-	11.00	-	55.00	-	6.00	SD-5MA
888-6250	●	5/8	-	0.568	-	2.313	-	0.250	-	SD-6A
888-6250-60	●	-	16.00	-	14.00	-	58.00	-	6.00	SD-6MA

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Tool diameter ≤ 1/4" / 6mm have brazed carbide shanks, all others have hardened steel shanks.

HYE

List 800

OSG Carbide Bur Tough Cut

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style	Shape
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)		
800-8008-30	●	-	1.50	-	6.00	-	-	38.00	-	3.00	SA-41M	Cylindrical
800-8008	●	1/16	-	0.250	-	-	1.500	-	0.125	-	SA-41	Cylindrical
800-8018	●	3/32	-	0.090	-	-	1.500	-	0.125	-	SD-41	Ball Shape
800-8001	●	3/32	-	0.438	-	-	1.500	-	0.125	-	SA-42	Cylindrical
800-8001-30	●	-	2.50	-	11.00	-	-	38.00	-	3.00	SA-42M	Cylindrical
800-8007	●	3/32	-	0.438	-	-	1.500	-	0.125	-	SC-41	Cylindrical Ball End
800-8018-30	●	-	2.50	-	2.30	-	-	38.00	-	3.00	SD-41M	Ball Shape
800-8007-30	●	-	2.50	-	11.00	-	-	38.00	-	3.00	SC-41M	Cylindrical Ball End
800-8009-30	●	-	3.00	-	-	-	-	38.00	-	3.00	SB-ECO	Cylindrical
800-8016-30	●	-	3.00	-	1.50	90.00	-	38.00	-	3.00	SK-42M	90° Included Angle
800-8015-30	●	-	3.00	-	2.50	60.00	-	38.00	-	3.00	SJ-42M	60° Included Angle
800-8019-30	●	-	3.00	-	2.80	-	-	50.00	-	3.00	SD-42M	Ball Shape
800-8014-30	●	-	3.00	-	4.00	10.00	-	38.00	-	3.00	SN-42M	Inverted Taper
800-8010-30	●	-	3.00	-	5.50	-	-	38.00	-	3.00	SE-41M	Egg Shape
800-8020-30	●	-	3.00	-	6.30	-	-	38.00	-	3.00	SH-41M	Flame Shape
800-8011-30	●	-	3.00	-	8.90	12.00	-	38.00	-	3.00	SM-41M	Pointed Cone
800-8012-30	●	-	3.00	-	11.00	14.00	-	38.00	-	3.00	SM-42M	Pointed Cone
800-8005-30	●	-	3.00	-	12.70	-	-	38.00	-	3.00	SG-44M	Pointed Tree
800-8006-30	●	-	3.00	-	12.70	-	-	38.00	-	3.00	SF-42M	Round Nose Tree
800-8017-30	●	-	3.00	-	12.70	8.00	-	38.00	-	3.00	SL-42M	14° Included Angle
800-8002-30	●	-	3.00	-	14.00	-	-	38.00	-	3.00	SA-43M	Cylindrical
800-8003-30	●	-	3.00	-	14.00	-	-	38.00	-	3.00	SB-43M	Cylindrical
800-8004-30	●	-	3.00	-	14.00	-	-	38.00	-	3.00	SC-42M	Cylindrical Ball End
800-8013-30	●	-	3.00	-	16.00	7.00	-	38.00	-	3.00	SM-43M	Pointed Cone
800-8016	●	1/8	-	0.063	-	90.00	1.500	-	0.125	-	SK-42	90° Included Angle
800-8015	●	1/8	-	0.094	-	60.00	1.500	-	0.125	-	SJ-42	60° Included Angle
800-8019	●	1/8	-	0.110	-	-	1.500	-	0.125	-	SD-42	Ball Shape
800-8014	●	1/8	-	0.188	-	10.00	1.500	-	0.125	-	SN-42	Inverted Taper
800-8010	●	1/8	-	0.219	-	-	1.500	-	0.125	-	SE-41	Egg Shape
800-8020	●	1/8	-	0.250	-	-	1.500	-	0.125	-	SH-41	Flame Shape
800-8011	●	1/8	-	0.344	-	12.00	1.500	-	0.125	-	SM-41	Pointed Cone
800-8012	●	1/8	-	0.438	-	14.00	1.500	-	0.125	-	SM-42	Pointed Cone
800-8005	●	1/8	-	0.500	-	-	1.500	-	0.125	-	SG-44	Pointed Tree
800-8006	●	1/8	-	0.500	-	-	1.500	-	0.125	-	SF-42	Round Nose Tree
800-8017	●	1/8	-	0.500	-	8.00	1.500	-	0.125	-	SL-42	14° Included Angle
800-8002	●	1/8	-	0.563	-	-	1.500	-	0.125	-	SA-43	Cylindrical
800-8003	●	1/8	-	0.563	-	-	1.500	-	0.125	-	SB-43	Cylindrical
800-8004	●	1/8	-	0.563	-	-	1.500	-	0.125	-	SC-42	Cylindrical Ball End
800-8013	●	1/8	-	0.625	-	7.00	1.500	-	0.125	-	SM-43	Pointed Cone

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 815

OSG Carbide Bur Tough Cut

SPEED FEED	CARBIDE		STUB	REG	PACKED
1518		BR			1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style	Shape
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)		
815-0006	●	1/4	-	0.188	-	-	1.687	-	0.125	-	SB-51	Cylindrical
815-0006-30	●	-	6.30	-	4.70	-	-	43.00	-	3.00	SB-51M	Cylindrical
815-0007	●	1/4	-	0.220	-	-	1.720	-	0.125	-	SD-51	Ball Shape
815-0007-30	●	-	6.30	-	5.00	-	-	44.00	-	3.00	SD-51M	Ball Shape
815-0009	●	1/4	-	0.250	-	10.00	1.500	-	0.125	-	SN-51	Inverted Taper
815-0009-30	●	-	6.30	-	6.00	10.00	-	44.00	-	3.00	SN-51M	Inverted Taper
815-0008	●	1/4	-	0.375	-	-	1.875	-	0.125	-	SE-51	Egg Shape
815-0008-30	●	-	6.30	-	9.50	-	-	47.00	-	3.00	SE-51M	Egg Shape
815-0001	●	1/4	-	0.500	-	-	2.000	-	0.125	-	SA-51	Cylindrical
815-0002	●	1/4	-	0.500	-	-	2.000	-	0.125	-	SC-51	Cylindrical Ball End
815-0002-30	●	-	6.30	-	12.70	-	-	50.00	-	3.00	SC-51M	Cylindrical Ball End
815-0003	●	1/4	-	0.500	-	-	2.000	-	0.125	-	SF-51	Round Nose Tree
815-0003-30	●	-	6.30	-	12.70	-	-	56.00	-	3.00	SF-51M	Round Nose Tree
815-0004	●	1/4	-	0.500	-	-	2.000	-	0.125	-	SG-51	Pointed Tree
815-0004-30	●	-	6.30	-	12.70	-	-	50.00	-	3.00	SG-51M	Pointed Tree
815-0005	●	1/4	-	0.500	-	22.00	2.150	-	0.125	-	SM-51	Pointed Cone
815-0001-30	●	-	6.30	-	12.70	-	-	50.00	-	3.00	SA-51M	Cylindrical
815-0005-30	●	-	6.30	-	12.70	22.00	-	53.00	-	3.00	SM-51M	Pointed Cone

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 820

OSG Carbide Bur Tough Cut

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | LONG | PACKED 1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style	Shape
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)		
820-0001	●	5/32	-	0.500	-	-	1.500	-	0.125	-	SA-52	Cylindrical
820-0002	●	5/32	-	0.500	-	-	1.500	-	0.125	-	SC-52	Cylindrical Ball End
820-0001-30	●	-	4.00	-	12.70	-	-	38.00	-	3.00	SA-52M	Cylindrical
820-0002-30	●	-	4.00	-	12.70	-	-	38.00	-	3.00	SC-52M	Cylindrical Ball End
820-0008	●	3/16	-	0.160	-	-	1.500	-	0.125	-	SD-53	Ball Shape
820-0008-30	●	-	5.00	-	4.70	-	-	38.00	-	3.00	SD-53M	Ball Shape
820-0010	●	3/16	-	0.250	-	10.00	1.500	-	0.125	-	SN-53	Inverted Taper
820-0010-30	●	-	5.00	-	6.30	10.00	-	38.00	-	3.00	SN-53M	Inverted Taper
820-0006	●	3/16	-	0.281	-	-	1.500	-	0.125	-	SE-53	Egg Shape
820-0006-30	●	-	5.00	-	7.10	-	-	38.00	-	3.00	SE-53M	Egg Shape
820-0009	●	3/16	-	0.375	-	-	1.500	-	0.125	-	SH-53	Flame Shape
820-0009-30	●	-	5.00	-	9.50	-	-	38.00	-	3.00	SH-53M	Flame Shape
820-0003	●	3/16	-	0.500	-	-	1.500	-	0.125	-	SF-53	Round Nose Tree
820-0004	●	3/16	-	0.500	-	-	1.500	-	0.125	-	SG-53	Pointed Tree
820-0005	●	3/16	-	0.500	-	16.00	1.500	-	0.125	-	SM-53	Pointed Cone
820-0005-30	●	-	5.00	-	12.70	16.00	-	38.00	-	3.00	SM-53M	Pointed Cone
820-0007	●	3/16	-	0.500	-	14.00	1.500	-	0.125	-	SL-53	14° Included Angle
820-0011	●	3/16	-	0.500	-	-	1.500	-	0.125	-	SA-53	Cylindrical
820-0012	●	3/16	-	0.500	-	-	1.500	-	0.125	-	SC-53	Cylindrical Ball End
820-0012-30	●	-	5.00	-	12.70	-	-	38.00	-	3.00	SC-53M	Cylindrical Ball End
820-0003-30	●	-	5.00	-	12.70	-	-	38.00	-	3.00	SF-53M	Round Nose Tree
820-0004-30	●	-	5.00	-	12.70	-	-	38.00	-	3.00	SG-53M	Pointed Tree
820-0007-30	●	-	5.00	-	12.70	14.00	-	38.00	-	3.00	SL-53M	14° Included Angle
820-0011-30	●	-	5.00	-	12.70	-	-	38.00	-	3.00	SA-53M	Cylindrical

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 900

SPEED FEED 1518 | CARBIDE | BR | STUB | REG | LONG | EXTRA LONG | PACKED 1 PIECE

OSG Carbide Bur Medium Right Hand Spiral



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style	Shape
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)		
900-9008	●	1/16	-	0.250	-	-	1.500	-	0.125	-	SA-41	Cylindrical
900-9008-30	●	-	1.50	-	6.00	-	-	38.00	-	3.00	SA-41M	Cylindrical
900-9018	●	3/32	-	0.090	-	-	1.500	-	0.125	-	SD-41	Ball Shape
900-9018-30	●	-	2.50	-	2.30	-	-	38.00	-	3.00	SD-41M	Ball Shape
900-9001	●	3/32	-	0.438	-	-	1.500	-	0.125	-	SA-42	Cylindrical
900-9007	●	3/32	-	0.438	-	-	1.500	-	0.125	-	SC-41	Cylindrical Ball End
900-9001-30	●	-	2.40	-	11.00	-	-	38.00	-	3.00	SA-42M	Cylindrical
900-9007-30	●	-	2.50	-	11.00	-	-	38.00	-	3.00	SC-41M	Cylindrical Ball End
900-9009-30	●	-	3.00	-	-	-	-	38.00	-	3.00	SB-ECO	Cylindrical
900-9016-30	●	-	3.00	-	1.50	90.00	-	38.00	-	3.00	SK-42M	90° Included Angle
900-9015-30	●	-	3.00	-	2.50	60.00	-	38.00	-	3.00	SJ-42M	60° Included Angle
900-9019-30	●	-	3.00	-	2.80	-	-	50.00	-	3.00	SD-42M	Ball Shape
900-9014-30	●	-	3.00	-	4.00	10.00	-	38.00	-	3.00	SN-42M	Inverted Taper
900-9010-30	●	-	3.00	-	5.50	-	-	38.00	-	3.00	SE-41M	Egg Shape
900-9020-30	●	-	3.00	-	6.30	-	-	38.00	-	3.00	SH-41M	Flame Shape
900-9011-30	●	-	3.00	-	8.90	12.00	-	38.00	-	3.00	SM-41M	Pointed Cone
900-9012-30	●	-	3.00	-	11.00	14.00	-	38.00	-	3.00	SM-42M	Pointed Cone
900-9005-30	●	-	3.00	-	12.70	-	-	38.00	-	3.00	SG-44M	Pointed Tree
900-9006-30	●	-	3.00	-	12.70	-	-	38.00	-	3.00	SF-42M	Round Nose Tree
900-9017-30	●	-	3.00	-	12.70	8.00	-	38.00	-	3.00	SL-42M	14° Included Angle
900-9003-30	●	-	3.00	-	14.00	-	-	38.00	-	3.00	SB-43M	Cylindrical
900-9004-30	●	-	3.00	-	14.00	-	-	38.00	-	3.00	SC-42M	Cylindrical Ball End
900-9002-30	●	-	3.00	-	14.00	-	-	38.00	-	3.00	SA-43M	Cylindrical
900-9013-30	●	-	3.00	-	16.00	7.00	-	38.00	-	3.00	SM-43M	Pointed Cone
900-9009	●	1/8	-	-	-	-	1.500	-	0.125	-	SB-ECO	Cylindrical
900-9016	●	1/8	-	0.063	-	90.00	1.500	-	0.125	-	SK-42	90° Included Angle
900-9015	●	1/8	-	0.094	-	60.00	1.500	-	0.125	-	SJ-42	60° Included Angle
900-9019	●	1/8	-	0.110	-	-	1.500	-	0.125	-	SD-42	Ball Shape
900-9014	●	1/8	-	0.188	-	10.00	1.500	-	0.125	-	SN-42	Inverted Taper
900-9010	●	1/8	-	0.219	-	-	1.500	-	0.125	-	SE-41	Egg Shape
900-9020	●	1/8	-	0.250	-	-	1.500	-	0.125	-	SH-41	Flame Shape
900-9011	●	1/8	-	0.344	-	12.00	1.500	-	0.125	-	SM-41	Pointed Cone
900-9012	●	1/8	-	0.438	-	14.00	1.500	-	0.125	-	SM-42	Pointed Cone
900-9005	●	1/8	-	0.500	-	-	1.500	-	0.125	-	SG-44	Pointed Tree
900-9006	●	1/8	-	0.500	-	-	1.500	-	0.125	-	SF-42	Round Nose Tree
900-9017	●	1/8	-	0.500	-	8.00	1.500	-	0.125	-	SL-42	14° Included Angle
900-9002	●	1/8	-	0.563	-	-	1.500	-	0.125	-	SA-43	Cylindrical
900-9003	●	1/8	-	0.563	-	-	1.500	-	0.125	-	SB-43	Cylindrical
900-9004	●	1/8	-	0.563	-	-	1.500	-	0.125	-	SC-42	Cylindrical Ball End
900-9013	●	1/8	-	0.625	-	7.00	1.500	-	0.125	-	SM-43	Pointed Cone

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 915

OSG Carbide Bur Medium Right Hand Spiral

SPEED FEED	CARBIDE		STUB	REG	PACKED
1518		BR			1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style	Shape
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)		
915-0006	●	1/4	-	0.188	-	-	1.687	-	0.125	-	SB-51	Cylindrical
915-0006-30	●	-	6.30	-	4.70	-	-	43.00	-	3.00	SB-51M	Cylindrical
915-0007	●	1/4	-	0.220	-	-	1.720	-	0.125	-	SD-51	Ball Shape
915-0007-30	●	-	6.30	-	5.00	-	-	44.00	-	3.00	SD-51M	Ball Shape
915-0009	●	1/4	-	0.250	-	10.00	1.500	-	0.125	-	SN-51	Inverted Taper
915-0009-30	●	-	6.30	-	6.00	10.00	-	44.00	-	3.00	SN-51M	Inverted Taper
915-0008	●	1/4	-	0.375	-	-	1.875	-	0.125	-	SE-51	Egg Shape
915-0008-30	●	-	6.30	-	9.50	-	-	47.00	-	3.00	SE-51M	Egg Shape
915-0001	●	1/4	-	0.500	-	-	2.000	-	0.125	-	SA-51	Cylindrical
915-0002	●	1/4	-	0.500	-	-	2.000	-	0.125	-	SC-51	Cylindrical Ball End
915-0003	●	1/4	-	0.500	-	-	2.000	-	0.125	-	SF-51	Round Nose Tree
915-0004	●	1/4	-	0.500	-	-	2.000	-	0.125	-	SG-51	Pointed Tree
915-0005	●	1/4	-	0.500	-	22.00	2.150	-	0.125	-	SM-51	Pointed Cone
915-0001-30	●	-	6.30	-	12.70	-	-	50.00	-	3.00	SA-51M	Cylindrical
915-0002-30	●	-	6.30	-	12.70	-	-	50.00	-	3.00	SC-51M	Cylindrical Ball End
915-0004-30	●	-	6.30	-	12.70	-	-	53.00	-	3.00	SG-51M	Pointed Tree
915-0005-30	●	-	6.30	-	12.70	22.00	-	53.00	-	3.00	SM-51M	Pointed Cone
915-0003-30	●	-	6.30	-	12.70	-	-	56.00	-	3.00	SF-51M	Round Nose Tree

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 920

OSG Carbide Bur Medium Right Hand Spiral

SPEED FEED	CARBIDE	BR	STUB	REG	LONG	PACKED
1518						1 PIECE



EDP Number		Diameter		Length of Cut		Included Angle	Overall Length		Shank Diameter		Style	Shape
		D (Fractional Size)	D (mm)	Lc (Inch)	Lc (mm)	α (°)	L (Inch)	L (mm)	d (Inch)	d (mm)		
920-0001	●	5/32	-	0.500	-	-	1.500	-	0.125	-	SA-52	Cylindrical
920-0002	●	5/32	-	0.500	-	-	1.500	-	0.125	-	SC-52	Cylindrical Ball End
920-0001-30	●	-	4.00	-	12.70	-	-	38.00	-	3.00	SA-52M	Cylindrical
920-0002-30	●	-	4.00	-	12.70	-	-	38.00	-	3.00	SC-52M	Cylindrical Ball End
920-0008	●	3/16	-	0.160	-	-	1.500	-	0.125	-	SD-53	Ball Shape
920-0008-30	●	-	5.00	-	4.70	-	-	38.00	-	3.00	SD-53M	Ball Shape
920-0010	●	3/16	-	0.250	-	10.00	1.500	-	0.125	-	SN-53	Inverted Taper
920-0010-30	●	-	5.00	-	6.30	10.00	-	38.00	-	3.00	SN-53M	Inverted Taper
920-0006	●	3/16	-	0.281	-	-	1.500	-	0.125	-	SE-53	Egg Shape
920-0006-30	●	-	5.00	-	7.10	-	-	38.00	-	3.00	SE-53M	Egg Shape
920-0009	●	3/16	-	0.375	-	-	1.500	-	0.125	-	SH-53	Flame Shape
920-0009-30	●	-	5.00	-	9.50	-	-	38.00	-	3.00	SH-53M	Flame Shape
920-0003	●	3/16	-	0.500	-	-	1.500	-	0.125	-	SF-53	Round Nose Tree
920-0004	●	3/16	-	0.500	-	-	1.500	-	0.125	-	SG-53	Pointed Tree
920-0005	●	3/16	-	0.500	-	16.00	1.500	-	0.125	-	SM-53	Pointed Cone
920-0007	●	3/16	-	0.500	-	14.00	1.500	-	0.125	-	SL-53	14° Included Angle
920-0011	●	3/16	-	0.500	-	-	1.500	-	0.125	-	SA-53	Cylindrical
920-0012	●	3/16	-	0.500	-	-	1.500	-	0.125	-	SC-53	Cylindrical Ball End
920-0003-30	●	-	5.00	-	12.70	-	-	38.00	-	3.00	SF-53M	Round Nose Tree
920-0004-30	●	-	5.00	-	12.70	-	-	38.00	-	3.00	SG-53M	Pointed Tree
920-0005-30	●	-	5.00	-	12.70	16.00	-	38.00	-	3.00	SM-53M	Pointed Cone
920-0007-30	●	-	5.00	-	12.70	14.00	-	38.00	-	3.00	SL-53M	14° Included Angle
920-0011-30	●	-	5.00	-	12.70	-	-	38.00	-	3.00	SA-53M	Cylindrical
920-0012-30	●	-	5.00	-	12.70	-	-	38.00	-	3.00	SC-53M	Cylindrical Ball End

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HYE

List 52700

SPEED FEED 1525 | INSERTS 1187 | ACCS. 1188 | STEEL | PACKED 1 PIECE

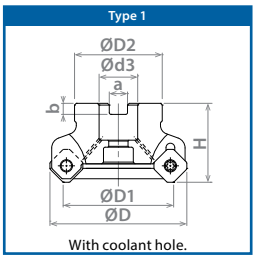
OSG PHOENIX® PAS BORE

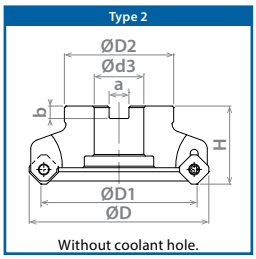


EDP Number		Designation	Type	Diameter	Effective Diameter	Number of Flutes	Body Height	Flange Diameter	Bore Diameter	Keyway Width	Keyway Depth	Applicable Insert
				D (Inch)	D1 (Inch)		H (Inch)	D2 (Inch)	d3 (Inch)	a (Inch)	b (Inch)	
52700000	●	PAS15R200A075-4	1	2.590	2.000	4	1.772	1.772	0.750	0.315	0.197	SNKU15
52700001	●	PAS15R250A075-5	1	3.090	2.500	5	1.772	1.968	0.750	0.315	0.197	SNKU15
52700002	●	PAS15R300A100-6	1	3.590	3.000	6	1.968	2.362	1.000	0.375	0.236	SNKU15
52700003	●	PAS15R400A125-7	2	4.590	4.000	7	1.968	2.756	1.250	0.500	0.315	SNKU15
52700004	●	PAS15R500A150-8	2	5.590	5.000	8	2.480	3.543	1.500	0.625	0.394	SNKU15
52700005	●	PAS15R600A150-9	2	6.590	6.000	9	2.480	3.740	1.500	0.625	0.394	SNKU15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT





DESIGNATION EXPLANATION

PAS 15 R 200 A 075 (W)-4

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Wedge Clamping | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		◎	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78020

SPEED FEED 1525 | INSERTS 1187 | ACCS. 1188 | STEEL | PACKED 1 PIECE

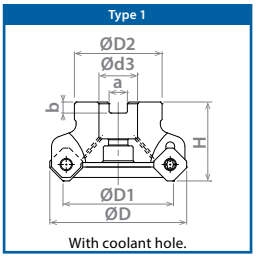
OSG PHOENIX® PAS BORE

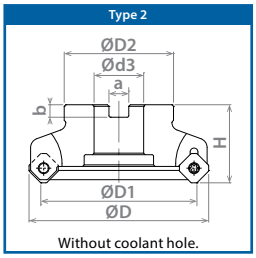


EDP Number		Designation	Type	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7802000	●	PAS15R050M22-4	1	65.00	50.00	4	45.00	45.00	22.00	10.40	6.30	SNKU15
7802001	●	PAS15R063M22-5	1	78.00	63.00	5	45.00	50.00	22.00	10.40	6.30	SNKU15
7802002	●	PAS15R080M25.4-6	1	95.00	80.00	6	50.00	60.00	25.40	9.50	6.00	SNKU15
7802003	●	PAS15R100M31.7-7	2	115.00	100.00	7	50.00	70.00	31.75	12.70	8.00	SNKU15
7802004	●	PAS15R125M38.1-8	2	140.00	125.00	8	63.00	90.00	38.10	15.90	10.00	SNKU15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT





DESIGNATION EXPLANATION

PAS 15 R 050 M 22 (W)-4

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Wedge Clamping | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		◎	○

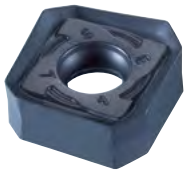
Material recommendation based on inserts compatible with this tool body.

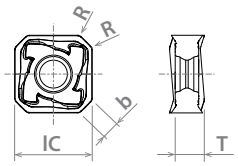
○ Good ◎ Best

List 78PAS

PACKED
10 PIECE

OSG PHOENIX® PAS INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size					Grade
				IC (mm)	T (mm)	R (mm)	b (mm)	Aa Max (mm)	
7812060	●	SNKU1505AZER-GR	8	15.88	7.18	1.00	3.65	6.50	XC1015
7819061	●	SNKU1505AZER-GM	8	15.88	7.18	1.00	3.65	6.50	XC3025
52700006	●	SNKU1505AZER-SM	8	15.88	7.18	1.00	3.65	6.50	XC5040
7813061	●	SNKU1505AZER-GM	8	15.88	7.18	1.00	3.65	6.50	XP2040
7814061	●	SNKU1505AZER-GM	8	15.88	7.18	1.00	3.65	6.50	XP3035

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

S N K U 15 05 AZ E R-GM XP3035

Insert Shape	Clearance Angle	Tolerance	Insert Features	Cutting Edge Length	Thickness	Corner Radius	Cutting Edge Type	Cutting Direction	Chip Breaker	Grade

See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC1015	GR	N			◎			
XC3025	GM	N	◎		○			
XC5040	SM	Y		○			◎	
XP2040	GM	Y	○	◎			○	○
XP3035	GM	N	◎	○	○			

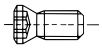
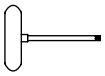
GM: Medium Cutting GR: Rough Cutting SM: Heat Resistant Alloy

○ Good ◎ Best

List 7808H

PACKED 1 PIECE | PACKED 10 PIECE

OSG PHOENIX® PAS ACCESSORIES

Appearance	EDP No.		Designation	Applicable Cutter		Recommended Tightening Torque
				Inch	mm	
 Clamping Screw	7808131	●	FS45513P (M4.5 x 13, Torx 20IP)	PAS BORE Ø2.000-6.000	PAS BORE Ø50-125	5.0 Nm
 Wrench	7808000	●	20IP-T (Torx 20IP)	PAS BORE Ø2.000-6.000	PAS BORE Ø50-125	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

PXT

List 52800

SPEED FEED 1526 | INSERTS 1191 | ACCS. 1192 | STEEL | PACKED 1 PIECE

OSG PHOENIX® PAO BORE



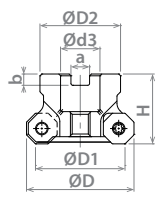


EDP Number		Designation	Type	Diameter D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Body Height H (Inch)	Flange Diameter D2 (Inch)	Bore Diameter d3 (Inch)	Keyway Width a (Inch)	Keyway Depth b (Inch)	Applicable Insert
52800000	●	PAO06R200A075-5	1	2.401	2.000	5	1.575	1.772	0.750	0.315	0.197	OZKU06 / XAHT06
52800001	●	PAO06R250A075-7	2	2.901	2.500	7	1.575	1.968	0.750	0.315	0.197	OZKU06 / XAHT06
52800002	●	PAO06R300A100-8	2	3.401	3.000	8	1.968	2.362	1.000	0.375	0.236	OZKU06 / XAHT06
52800003	●	PAO06R400A125-10	3	4.401	4.000	10	1.968	2.756	1.250	0.500	0.315	OZKU06 / XAHT06
52800004	●	PAO06R500A150-12	3	5.401	5.000	12	2.480	3.543	1.500	0.625	0.394	OZKU06 / XAHT06
52800005	●	PAO06R600A150-13	3	6.401	6.000	13	2.480	3.740	1.500	0.625	0.394	OZKU06 / XAHT06
52800006	●	PAO06R400A125W-14	4	4.401	4.000	14	1.968	2.756	1.250	0.500	0.315	OZKU06 / XAHT06
52800007	●	PAO06R500A150W-17	4	5.401	5.000	17	2.480	3.543	1.500	0.625	0.394	OZKU06 / XAHT06
52800008	●	PAO06R600A150W-20	4	6.401	6.000	20	2.480	3.740	1.500	0.625	0.394	OZKU06 / XAHT06
52800009	●	PAO06R800A250W-25	5	8.401	8.000	25	2.480	5.118	2.500	1.000	0.551	OZKU06 / XAHT06

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

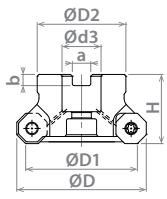
PXT

Type 1



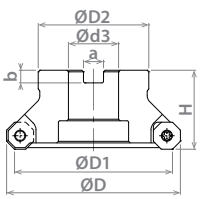
With coolant hole.

Type 2



With coolant hole.

Type 3



Without coolant hole.

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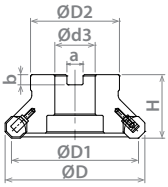
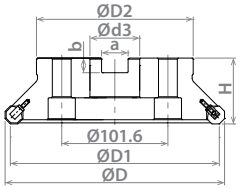


Without coolant hole.

Type 5



Without coolant hole.

DESIGNATION EXPLANATION

PAO 06 R 200 A 075-4

Series	Insert Size	Cutting Direction	Diameter	Units	Bore Diameter	Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		◎	

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78120

SPEED FEED 1526 | INSERTS 1191 | ACCS. 1192 | STEEL | PACKED 1 PIECE

OSG PHOENIX® PAO BORE



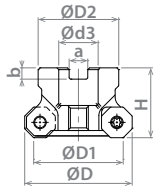


EDP Number		Designation	Type	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7802020	▲	PAO06R050M22-5	1	60.20	50.00	5	40.00	45.00	22.00	10.40	6.30	OZKU06 / XAHT06
7802021	▲	PAO06R063M22-7	2	73.20	63.00	7	40.00	50.00	22.00	10.40	6.30	OZKU06 / XAHT06
7802022	▲	PAO06R080M25.4-8	2	90.20	80.00	8	50.00	60.00	25.40	9.50	6.00	OZKU06 / XAHT06
7802023	▲	PAO06R100M31.7-10	3	110.20	100.00	10	50.00	70.00	31.75	12.70	8.00	OZKU06 / XAHT06
7802024	▲	PAO06R125M38.1-12	3	135.20	125.00	12	63.00	90.00	38.10	15.90	10.00	OZKU06 / XAHT06
7802089	▲	PAO06R100M31.7W-14	4	110.20	100.00	14	50.00	70.00	31.75	12.70	8.00	OZKU06 / XAHT06
7802091	▲	PAO06R125M38.1W-17	4	135.20	125.00	17	63.00	90.00	38.10	15.90	10.00	OZKU06 / XAHT06
7802093	▲	PAO06R160M50.8W-20	4	170.20	160.00	20	63.00	100.00	50.80	19.00	11.00	OZKU06 / XAHT06
7802095	▲	PAO06R200M47.6W-25	5	210.20	200.00	25	63.00	150.00	47.63	25.40	14.00	OZKU06 / XAHT06

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

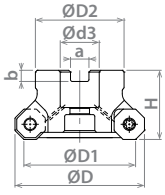
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

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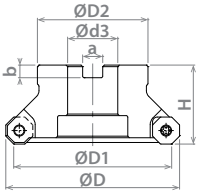
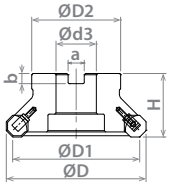


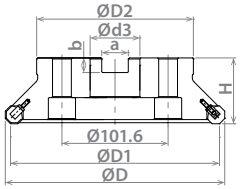
Without coolant hole.

Type 4



Without coolant hole.

Type 5



Without coolant hole.

DESIGNATION EXPLANATION

PAO 06 R 050 M 22-4

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		◎	

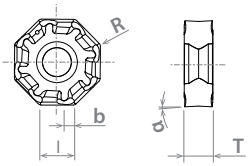
Material recommendation based on inserts compatible with this tool body.

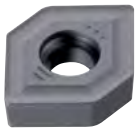
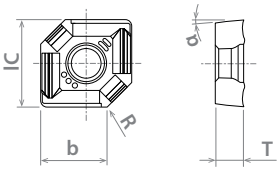
○ Good ◎ Best

List 78PAO

PACKED
10 PIECE

OSG PHOENIX® PAO INSERTS

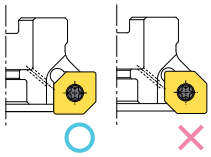



EDP Number		Designation	Number of Cutting Edges	Insert Size							Grade
				IC (mm)	T (mm)	l (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7812062	●	OZKU060508SR-GM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XC1015
7812086	●	OZKU060508SR-GR	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XC1015
7827063	●	OZKU060508SR-GL	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XC3020
7827062	●	OZKU060508SR-GM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XC3020
7825063	●	OZKU060508SR-GL	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XC3030
7825062	●	OZKU060508SR-GM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XC3030
7816085	●	OZKU060508ER-SM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XC5040
7821062	●	OZKU060508SR-GM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP1020
7821086	●	OZKU060508SR-GR	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP1020
7826063	●	OZKU060508SR-GL	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP2025
7826062	●	OZKU060508SR-GM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP2025
7813063	●	OZKU060508SR-GL	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP2040
7813062	●	OZKU060508SR-GM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP2040
7828063	●	OZKU060508SR-GL	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP3025
7828062	●	OZKU060508SR-GM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP3025
7814063	●	OZKU060508SR-GL	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP3035
7814062	●	OZKU060508SR-GM	16	17.10	5.66	6.00	3.00	0.80	2.00	3.50	XP3035
7812064	●	XAHT060525SR-GM	2	17.10	5.56	-	3.00	2.50	10.00	3.50	XC1015
7814064	●	XAHT060525SR-GM	2	17.10	5.56	-	3.00	2.50	10.00	3.50	XP3035

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

Note: Correct orientation of wiper insert:



DESIGNATION EXPLANATION

O Z K U 06 05 08 S R-GL XP3035

Insert Shape | Clearance Angle | Tolerance | Insert Features | Cutting Edge Length | Thickness | Corner Radius | Cutting Edge Type | Cutting Direction | Chip Breaker | Grade

See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC1015	GM / GR	N			◎ *			
XC3020	GM / GL	N	◎		○			
XC3030	GM / GL	N	◎		○			
XC5040	SM	Y		○			◎	
XP1020	GM / GR	N			◎ **			
XP2025	GM / GL	Y	○	◎			○	
XP2040	GM / GL	Y	○	◎			○	○
XP3025	GM / GL	Y	◎		○			
XP3035	GM / GL	N	◎	○	○			

GM: Medium Cutting GR: Rough Cutting SM: Heat Resistant Alloy

*: XC1015 best recommended for grey cast iron

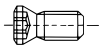
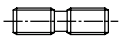
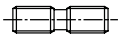
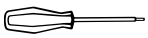
**: XP1020 best recommended for ductile cast iron

○ Good ◎ Best

List 7808H

OSG PHOENIX® PAO ACCESSORIES

PACKED 1 PIECE	PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Cutter		Recommended Tightening Torque
				Inch	mm	
 Clamping Screw	7808130	●	FS50614 (M5 x 14, Torx 20)	PAO BORE Ø2.000-6.000	PAO BORE Ø50-125	5.0 Nm
 Wedge Clamping Screw	7808140	●	WS0621T (M6x21)	PAO BORE(W) Ø4.000-8.000	PAO BORE(W) Ø100-200	4.0 Nm
 Wedge	7808141	●	W12F-06N (M6)	PAO BORE(W) Ø4.000-8.000	PAO BORE(W) Ø100-200	
 Power Screw	7808151	●	PS1031 (M10x31)	PAO BORE Ø2.000	PAO BORE Ø50	20.0 Nm
 Wrench	7808208	●	T15-D (Torx 15)	PAO BORE(W) Ø4.000-8.000	PAO BORE(W) Ø100-200	
	7808209	●	T20-D (Torx 20)	PAO BORE Ø2.000-6.000	PAO BORE Ø50-125	

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws, Wedge, Wedge Clamping Screws = 10 pcs.; Wrench, Power Screw = 1 pc.

PXT

List 52900

OSG PHOENIX® PSF SA/FA

SPEED FEED 1527 | INSERTS 1197 | ACCS. 1198 | STEEL | PACKED 1 PIECE

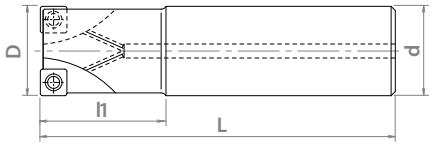


EDP Number		Designation	Body Type	Type	Diameter D (Inch)	Number of Flutes	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Applicable Insert
52900000	●	PSF09R100SA100-3S	Cylindrical Shank Short	1	1.000	3	1.378	4.724	1.000	SD_T09
52900001	●	PSF09R125SA125-4S	Cylindrical Shank Short	1	1.250	4	1.772	5.118	1.250	SD_T09
52900002	●	PSF09R150SA125-5S	Cylindrical Shank Short	2	1.500	5	1.969	5.512	1.250	SD_T09
52900004	●	PSF09R100FA100-3S	Weldon Shank Short	1	1.000	3	1.551	3.831	1.000	SD_T09
52900005	●	PSF09R125FA125-4S	Weldon Shank Short	1	1.250	4	2.098	4.378	1.250	SD_T09
52900006	●	PSF09R150FA125-5S	Weldon Shank Short	2	1.500	5	2.098	4.378	1.250	SD_T09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

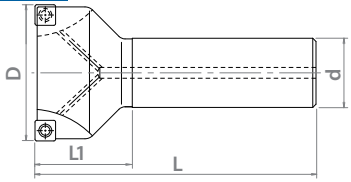
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PSF 09 R 100 SA 100-3-S

Series | Insert Size | Cutting Direction | Diameter | Body Type | Shank Diameter | Number of Flutes | Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78030

SPEED FEED 1527 | INSERTS 1197 | ACCS. 1198 | STEEL | PACKED 1 PIECE

OSG PHOENIX® PSF SS, Cylindrical Shank Short

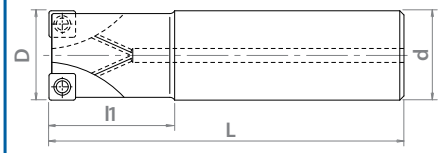


EDP Number		Designation	Type	Diameter D (mm)	Number of Flutes	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Applicable Insert
7803001	▲	PSF09R025SS25-3S	1	25.00	3	35.00	120.00	25.00	SD_T09
7803002	▲	PSF09R032SS32-4S	1	32.00	4	45.00	130.00	32.00	SD_T09
7803003	▲	PSF09R040SS32-5S	2	40.00	5	50.00	140.00	32.00	SD_T09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

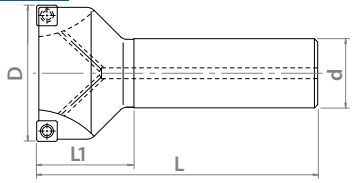
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PSF 09 R 025 SS 25-3-S

Series | Insert Size | Cutting Direction | Diameter | Body Type | Shank Diameter | Number of Flutes | Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52901

SPEED FEED 1527 | INSERTS 1197 | ACCS. 1198 | STEEL | PACKED 1 PIECE

OSG PHOENIX® PSF BORE

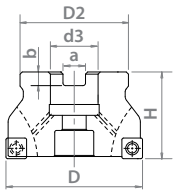


EDP Number		Designation	Type	Diameter D (Inch)	Number of Flutes	Body Height H (Inch)	Flange Diameter D2 (Inch)	Bore Diameter d3 (Inch)	Keyway Width a (Inch)	Keyway Depth b (Inch)	Applicable Insert
52901000	●	PSF09R200A075-6	1	2.000	6	1.575	1.772	0.750	0.315	0.197	SD_T09
52901001	●	PSF09R250A075-7	1	2.500	7	1.575	1.968	0.750	0.315	0.197	SD_T09
52901002	●	PSF09R300A100-9	1	3.000	9	1.968	2.362	1.000	0.375	0.236	SD_T09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



With coolant hole.

DESIGNATION EXPLANATION

PSF 09 R 200 A 075-6

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78130

SPEED FEED 1527 | INSERTS 1197 | ACCS. 1198 | STEEL | PACKED 1 PIECE

OSG PHOENIX® PSF BORE

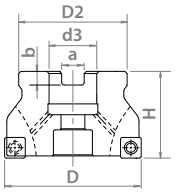


EDP Number		Designation	Type	Diameter D (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7803011	▲	PSF09R050M22-6	1	50.00	6	40.00	45.00	22.00	10.40	6.30	SD_T09
7803012	▲	PSF09R063M22-7	1	63.00	7	40.00	50.00	22.00	10.40	6.30	SD_T09
7803013	▲	PSF09R080M25.4-9	1	80.00	9	50.00	60.00	25.40	9.50	6.00	SD_T09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



With coolant hole.

DESIGNATION EXPLANATION

PSF 09 R 050 M 22-6

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

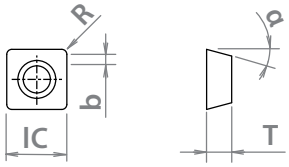
○ Good ◎ Best

List 78PSF

PACKED
10 PIECE

OSG PHOENIX® PSF / PSFL INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size					Grade
				IC (mm)	T (mm)	α (°)	R (mm)	b (mm)	
7811076	●	SDHT09T308FR-NM	4	9.07	3.97	15.00	0.80	2.50	CK010
7812075	●	SDKT09T308SR-GR	4	9.07	3.97	15.00	0.80	2.50	XC1015
7825073	●	SDKT09T308SR-GL	4	9.07	3.97	15.00	0.80	2.50	XC3030
7825074	●	SDKT09T308SR-GM	4	9.07	3.97	15.00	0.80	2.50	XC3030
7816073	●	SDKT09T308SR-GL	4	9.07	3.97	15.00	0.80	2.50	XC5040
7813073	●	SDKT09T308SR-GL	4	9.07	3.97	15.00	0.80	2.50	XP2040
7813074	●	SDKT09T308SR-GM	4	9.07	3.97	15.00	0.80	2.50	XP2040
7814073	●	SDKT09T308SR-GL	4	9.07	3.97	15.00	0.80	2.50	XP3035
7814074	●	SDKT09T308SR-GM	4	9.07	3.97	15.00	0.80	2.50	XP3035
7811625	●	SDHT120508FR-NM	4	12.38	5.00	15.00	0.80	1.20	CK010
7812624	●	SDKT120508SR-GR	4	12.38	5.00	15.00	0.80	1.20	XC1015
7825622	●	SDKT120508SR-GM	4	12.38	5.00	15.00	0.80	1.20	XC3030
7816620	●	SDKT120508SR-GL	4	12.38	5.00	15.00	0.80	1.20	XC5040
7813623	●	SDKT120508SR-GL	4	12.38	5.00	15.00	0.80	1.20	XP2040
7814621	●	SDKT120508SR-GM	4	12.38	5.00	15.00	0.80	1.20	XP3035

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

S D K T 09 T3 08 S R-GL XP3035

Insert Shape | Clearance Angle | Tolerance | Insert Features | Cutting Edge Length | Thickness | Corner Radius | Cutting Edge Type | Cutting Direction | Chip Breaker | Grade

See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GR	N			◎			
XC3030	GM / GL	N	◎		○			
XC5040	GL	Y		○			◎	
XP2040	GM / GL	Y	○	◎			○	○
XP3035	GM / GL	N	◎	○	○			

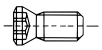
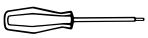
GL:Light Cutting GM:Medium Cutting GR: Rough Cutting NM:Aluminum

○ Good ◎ Best

List 7808H

OSG PHOENIX® PSF ACCESSORIES

PACKED 1 PIECE	PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808110	●	FS30573 (M3 x 7.3, Torx 8)	SD_T09	PSF SA/FA Ø1.000-1.500, PSF BORE Ø2.000-3.000	PSF SS Ø25-40, PSF BORE Ø50-80	1.6 Nm
 Wrench	7808205	●	T8-D (Torx 8)	SD_T09	PSF SA/FA Ø1.000-1.500, PSF BORE Ø2.000-3.000	PSF SS Ø25-40, PSF BORE Ø50-80	

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

PXT

List 53200

OSG PHOENIX® PSFL SA/FA

SPEED FEED 1528 | INSERTS 1203 | ACCS. 1204 | STEEL | PACKED 1 PIECE

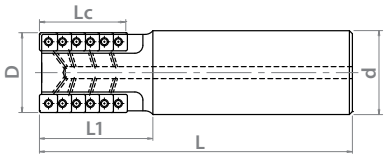


EDP Number		Designation	Body Type	Type	Dia. D (Inch)	Number of Flutes	Number of Inserts per Flute	Total Number of Inserts	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Applicable Insert
53200000	●	PSFL09R125SA125-2-36	Cylindrical Shank	1	1.250	2	5	10	1.417	2.362	5.512	1.250	SD_T09
53200001	●	PSFL09R150SA125-3-43	Cylindrical Shank	2	1.500	3	6	18	1.693	2.362	5.512	1.250	SD_T09
53200002	●	PSFL09R125FA125-2-36	Weldon Shank	1	1.250	2	5	10	1.417	2.362	4.642	1.250	SD_T09
53200003	●	PSFL09R150FA125-3-43	Weldon Shank	2	1.500	3	6	18	1.693	2.362	4.642	1.250	SD_T09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

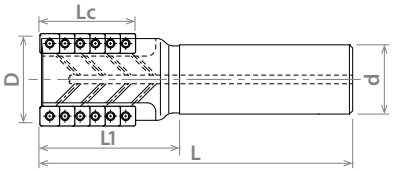
PXT

Type 1



with Coolant Hole

Type 2



with Coolant Hole

DESIGNATION EXPLANATION

PSFL 09 R 125 SA 125-2-36

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes | Length of Cut

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78037

OSG PHOENIX® PSFL SS, Cylindrical Shank

SPEED FEED 1528 | INSERTS 1203 | ACCS. 1204 | STEEL | PACKED 1 PIECE

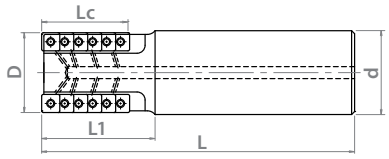


EDP Number		Designation	Type	Dia. D (mm)	Number of Flutes	Number of Inserts per Flute	Total Number of Inserts	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7803700	▲	PSFL09R032SS32-2-36	1	32.00	2	5	10	36.00	60.00	140.00	32.00	SD_T09
7803701	▲	PSFL09R040SS42-3-43	1	40.00	3	6	18	43.00	60.00	140.00	42.00	SD_T09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



with Coolant Hole

DESIGNATION EXPLANATION

PSFL 09 R 032 SS 32-2-36



See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 53201

OSG PHOENIX® PSFL BORE

SPEED FEED 1528 | INSERTS 1203 | ACCS. 1204 | STEEL | PACKED 1 PIECE

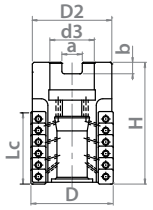


EDP Number		Designation	Type	Dia. D (Inch)	Number of Flutes	Number of Inserts per Flute	Total Number of Inserts	Length of Cut Lc (Inch)	Body Height H (Inch)	Flange Dia. D2 (Inch)	Bore Diameter d3 (Inch)	Keyway Width a (Inch)	Keyway Depth b (Inch)	Applicable Insert
53201000	●	PSFL09R200A075-4-57	1	2.000	4	8	32	2.244	3.000	1.941	0.750	0.315	0.197	SD_T09
53201001	●	PSFL09R200A075-4-78	1	2.000	4	11	44	3.071	4.000	1.941	0.750	0.315	0.197	SD_T09
53201002	●	PSFL12R250A100-4-70	1	2.500	4	7	28	2.756	3.500	2.402	1.000	0.375	0.236	SD_T12
53201003	●	PSFL12R250A100-4-110	1	2.500	4	11	44	4.331	5.000	2.402	1.000	0.375	0.236	SD_T12
53201004	●	PSFL12R300A125-5-80	1	3.000	5	8	40	3.150	4.000	2.890	1.250	0.500	0.315	SD_T12
53201005	●	PSFL12R300A125-5-120	1	3.000	5	12	60	4.724	5.500	2.890	1.250	0.500	0.315	SD_T12
53201006	●	PSFL12R400A125-6-130	1	4.000	6	13	78	5.118	6.000	3.882	1.250	0.500	0.315	SD_T12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



with Coolant Hole

DESIGNATION EXPLANATION

PSFL 09 R 200 A 075-4-57

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes | Length of Cut

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

OSG PHOENIX® PSFL

90° Roughing Cutter

List 78137

OSG PHOENIX® PSFL BORE

SPEED FEED 1528 | INSERTS 1203 | ACCS. 1204 | STEEL | PACKED 1 PIECE

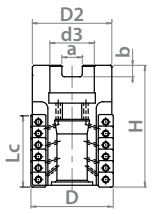


EDP Number		Designation	Type	Dia. D (mm)	Number of Flutes	Number of Inserts per Flute	Total Number of Inserts	Length of Cut Lc (mm)	Body Height H (mm)	Flange Dia. D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7803702	▲	PSFL09R050M22-4-50	1	50.00	4	7	28	50.00	75.00	48.50	22.00	10.40	6.30	SD_T09
7803703	▲	PSFL09R050M22-4-78	1	50.00	4	11	44	78.00	100.00	48.50	22.00	10.40	6.30	SD_T09
7803706	▲	PSFL12R063M27-4-60	1	63.00	4	6	24	60.00	85.00	60.50	27.00	12.40	7.00	SD_T12
7803707	▲	PSFL12R063M27-4-100	1	63.00	4	10	40	100.00	125.00	60.50	27.00	12.40	7.00	SD_T12
7803708	▲	PSFL12R080M32-5-70	1	80.00	5	7	35	70.00	95.00	77.30	32.00	14.40	8.00	SD_T12
7803709	▲	PSFL12R080M32-5-110	1	80.00	5	11	55	110.00	143.00	77.30	32.00	14.40	8.00	SD_T12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



with Coolant Hole

DESIGNATION EXPLANATION

PSFL 09 R 050 M 22-4-50

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes | Length of Cut

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

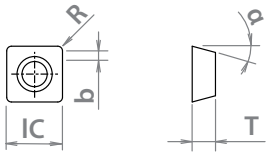
○ Good ◎ Best

List 78PSF

PACKED
10 PIECE

OSG PHOENIX® PSF / PSFL INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size					Grade
				IC (mm)	T (mm)	α (°)	R (mm)	b (mm)	
7811076	●	SDHT09T308FR-NM	4	9.07	3.97	15.00	0.80	2.50	CK010
7812075	●	SDKT09T308SR-GR	4	9.07	3.97	15.00	0.80	2.50	XC1015
7825073	●	SDKT09T308SR-GL	4	9.07	3.97	15.00	0.80	2.50	XC3030
7825074	●	SDKT09T308SR-GM	4	9.07	3.97	15.00	0.80	2.50	XC3030
7816073	●	SDKT09T308SR-GL	4	9.07	3.97	15.00	0.80	2.50	XC5040
7813073	●	SDKT09T308SR-GL	4	9.07	3.97	15.00	0.80	2.50	XP2040
7813074	●	SDKT09T308SR-GM	4	9.07	3.97	15.00	0.80	2.50	XP2040
7814073	●	SDKT09T308SR-GL	4	9.07	3.97	15.00	0.80	2.50	XP3035
7814074	●	SDKT09T308SR-GM	4	9.07	3.97	15.00	0.80	2.50	XP3035
7811625	●	SDHT120508FR-NM	4	12.38	5.00	15.00	0.80	1.20	CK010
7812624	●	SDKT120508SR-GR	4	12.38	5.00	15.00	0.80	1.20	XC1015
7825622	●	SDKT120508SR-GM	4	12.38	5.00	15.00	0.80	1.20	XC3030
7816620	●	SDKT120508SR-GL	4	12.38	5.00	15.00	0.80	1.20	XC5040
7813623	●	SDKT120508SR-GL	4	12.38	5.00	15.00	0.80	1.20	XP2040
7814621	●	SDKT120508SR-GM	4	12.38	5.00	15.00	0.80	1.20	XP3035

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

S D K T 09 T3 08 S R-GL XP3035

Insert Shape | Clearance Angle | Tolerance | Insert Features | Cutting Edge Length | Thickness | Corner Radius | Cutting Edge Type | Cutting Direction | Chip Breaker | Grade

See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GR	N			◎			
XC3030	GM / GL	N	◎		○			
XC5040	GL	Y		○			◎	
XP2040	GM / GL	Y	○	◎			○	○
XP3035	GM / GL	N	◎	○	○			

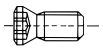
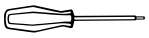
GL:Light Cutting GM:Medium Cutting GR: Rough Cutting NM:Aluminum

○ Good ◎ Best

List 7808H

OSG PHOENIX® PSFL ACCESSORIES

PACKED	PACKED
1 PIECE	10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808110	●	FS30573 (M3 x 7.3, Torx 8)	SD_T09	PSFL SA/FA Ø1.250-1.500, PSFL BORE Ø2.000	PSFL SS Ø32-40, PSFL BORE Ø50	1.6 Nm
	7808129	●	FS40511 (M4 x 11, Torx 15)	SD_T12	PSFL BORE Ø2.500-4.000	PSFL BORE Ø63-80	5.0 Nm
 Coolant Cap Bolt	7808132	●	OCB-M20-08	-	PSFL BORE Ø2.000	PSFL BORE Ø50	-
	7808133	●	OCB-M24-10	-	PSFL BORE Ø2.500	PSFL BORE Ø63	-
	7808134	●	OCB-M30-14	-	PSFL BORE Ø3.000-4.000	PSFL BORE Ø80	-
 Wrench	7808205	●	T8-D (Torx 8)	SD_T09	PSFL SA/FA Ø1.250-1.500, PSFL BORE Ø2.000	PSFL SS Ø32-40, PSFL BORE Ø50	-
	7808208	●	T15-D (Torx 15)	SD_T12	PSFL BORE Ø2.500-4.000	PSFL BORE Ø63-80	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Coolant Cap Bolt - 1 pc.; Wrench = 1 pc.

PXT

List 78013

OSG PHOENIX® PSE SA/FA

NEW SIZES

SPEED FEED 1529 | INSERTS 1213-1215 | ACCS. 1216 | STEEL

PACKED 1 PIECE



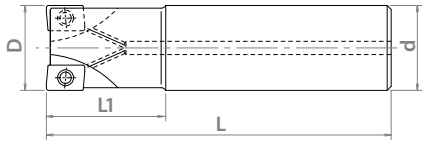
EDP Number		Designation	Body Type	Type	Dia. D (Inch)	Number of Flutes	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7801311	●	PSE07R038SA038-2S	Cylindrical Shank Short	1	0.375	2	0.472	1.969	0.375	ZDKT07
7801312	●	PSE07R050SA050-3S	Cylindrical Shank Short	1	0.500	3	0.472	1.969	0.500	ZDKT07
7801313	●	PSE07R063SA063-3S	Cylindrical Shank Short	1	0.625	3	0.984	3.543	0.625	ZDKT07
7801315	●	PSE07R075SA075-4S	Cylindrical Shank Short	1	0.750	4	1.181	3.937	0.750	ZDKT07
7801317	●	PSE07R100SA100-5S	Cylindrical Shank Short	1	1.000	5	1.378	4.724	1.000	ZDKT07
7801314	●	PSE07R063SA063-4S	Cylindrical Shank Short	1	0.625	4	0.984	3.543	0.625	ZDKT07
7801316	●	PSE07R075SA075-5S	Cylindrical Shank Short	1	0.750	5	1.181	3.937	0.750	ZDKT07
7801318	●	PSE07R100SA100-6S	Cylindrical Shank Short	1	1.000	6	1.378	4.724	1.000	ZDKT07
7801300	●	PSE11R063SA063-2S	Cylindrical Shank Short	1	0.625	2	0.984	3.543	0.625	ZD_T11
7801301	●	PSE11R075SA075-3S	Cylindrical Shank Short	1	0.750	3	1.181	3.937	0.750	ZD_T11
7801302	●	PSE11R100SA100-3S	Cylindrical Shank Short	1	1.000	3	1.378	4.724	1.000	ZD_T11
7801303	●	PSE11R125SA125-3S	Cylindrical Shank Short	1	1.250	3	1.772	5.118	1.250	ZD_T11
7801304	●	PSE11R100SA100-4S	Cylindrical Shank Short	1	1.000	4	1.378	4.724	1.000	ZD_T11
7801305	●	PSE11R125SA125-5S	Cylindrical Shank Short	1	1.250	5	1.772	5.118	1.250	ZD_T11
7801306	●	PSE15R100SA100-2S	Cylindrical Shank Short	1	1.000	2	1.378	4.724	1.000	ZDKT15
7801307	●	PSE15R125SA125-2S	Cylindrical Shank Short	1	1.250	2	1.772	5.118	1.250	ZDKT15
7801308	●	PSE15R150SA125-3S	Cylindrical Shank Short	2	1.500	3	1.969	5.512	1.250	ZDKT15
7801309	●	PSE15R125SA125-3S	Cylindrical Shank Short	1	1.250	3	1.772	5.118	1.250	ZDKT15
7801310	●	PSE15R150SA125-4S	Cylindrical Shank Short	2	1.500	4	1.969	5.512	1.250	ZDKT15
7801319	●	PSE07R038SA038-2L	Cylindrical Shank Long	1	0.375	2	0.984	3.150	0.375	ZDKT07
7801322	●	PSE07R050SA050-2L	Cylindrical Shank Long	1	0.500	2	0.984	3.150	0.500	ZDKT07
7801326	●	PSE07R063SA063-3L	Cylindrical Shank Long	1	0.625	3	1.969	5.906	0.625	ZDKT07
7801327	●	PSE07R075SA075-4L	Cylindrical Shank Long	1	0.750	4	2.362	6.299	0.750	ZDKT07
7801328	●	PSE07R100SA100-5L	Cylindrical Shank Long	1	1.000	5	2.756	6.693	1.000	ZDKT07
7801336	●	PSE11R063SA063-2L	Cylindrical Shank Long	1	0.625	2	1.969	5.906	0.625	ZD_T11
7801337	●	PSE11R075SA075-3L	Cylindrical Shank Long	1	0.750	3	2.362	6.299	0.750	ZD_T11
7801338	●	PSE11R100SA100-3L	Cylindrical Shank Long	1	1.000	3	2.756	6.693	1.000	ZD_T11
7801339	●	PSE11R125SA125-3L	Cylindrical Shank Long	1	1.250	3	3.543	7.480	1.250	ZD_T11
7801340	●	PSE11R100SA100-4L	Cylindrical Shank Long	1	1.000	4	2.756	6.693	1.000	ZD_T11
7801341	●	PSE11R125SA125-5L	Cylindrical Shank Long	1	1.250	5	3.543	7.480	1.250	ZD_T11
7801342	●	PSE15R100SA100-2L	Cylindrical Shank Long	1	1.000	2	2.756	6.693	1.000	ZDKT15
7801343	●	PSE15R125SA125-2L	Cylindrical Shank Long	1	1.250	2	3.543	7.480	1.250	ZDKT15
7801344	●	PSE15R150SA125-3L	Cylindrical Shank Long	2	1.500	3	1.969	7.480	1.250	ZDKT15
7801345	●	PSE15R125SA125-3L	Cylindrical Shank Long	1	1.250	3	3.543	7.480	1.250	ZDKT15
7801346	●	PSE15R150SA125-4L	Cylindrical Shank Long	2	1.500	4	1.969	7.480	1.250	ZDKT15
7801329	●	PSE07R038FA038-2S	Weldon Shank Short	1	0.375	2	0.472	2.035	0.375	ZDKT07
7801331	●	PSE07R050FA050-3S	Weldon Shank Short	1	0.500	3	0.472	2.253	0.500	ZDKT07
7801357	●	PSE07R063FA063-3S	Weldon Shank Short	1	0.625	3	0.984	2.890	0.625	ZDKT07
7801359	●	PSE07R075FA075-4S	Weldon Shank Short	1	0.750	4	1.181	3.212	0.750	ZDKT07

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

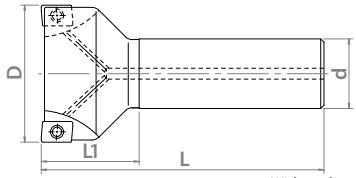
Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

Type 1



With coolant hole.

Type 2



With coolant hole.

CONTINUED ›

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78013 (Continued)

OSG PHOENIX® PSE SA/FA

NEW SIZES

SPEED FEED 1529 | INSERTS 1213-1215 | ACCS. 1216 | STEEL

PACKED 1 PIECE



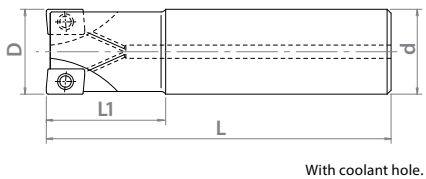
EDP Number		Designation	Body Type	Type	Dia. D (Inch)	Number of Flutes	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7801361	●	PSE07R100FA100-5S	Weldon Shank Short	1	1.000	5	1.378	3.659	1.000	ZDKT07
7801358	●	PSE07R063FA063-4S	Weldon Shank Short	1	0.625	4	0.984	2.890	0.625	ZDKT07
7801360	●	PSE07R075FA075-5S	Weldon Shank Short	1	0.750	5	1.181	3.212	0.750	ZDKT07
7801362	●	PSE07R100FA100-6S	Weldon Shank Short	1	1.000	6	1.378	3.659	1.000	ZDKT07
7801320	●	PSE11R063FA063-2S	Weldon Shank Short	1	0.625	2	1.299	3.205	0.625	ZD_T11
7801321	●	PSE11R075FA075-3S	Weldon Shank Short	1	0.750	3	1.551	3.583	0.750	ZD_T11
7801323	●	PSE11R100FA100-3S	Weldon Shank Short	1	1.000	3	1.551	3.831	1.000	ZD_T11
7801324	●	PSE11R100FA100-4S	Weldon Shank Short	1	1.000	4	1.551	3.831	1.000	ZD_T11
7801325	●	PSE11R125FA125-5S	Weldon Shank Short	1	1.250	5	2.098	4.378	1.250	ZD_T11
7801330	●	PSE15R100FA100-2S	Weldon Shank Short	1	1.000	2	1.550	3.830	1.000	ZDKT15
7801332	●	PSE15R125FA125-2S	Weldon Shank Short	1	1.250	2	2.100	4.380	1.250	ZDKT15
7801334	●	PSE15R150FA125-3S	Weldon Shank Short	2	1.500	3	2.100	4.380	1.250	ZDKT15
7801333	●	PSE15R125FA125-3S	Weldon Shank Short	1	1.250	3	2.100	4.380	1.250	ZDKT15
7801335	●	PSE15R150FA125-4S	Weldon Shank Short	2	1.500	4	2.100	4.380	1.250	ZDKT15
7801363	●	PSE07R038FA038-2L	Weldon Shank Long	1	0.375	2	0.984	2.547	0.375	ZDKT07
7801364	●	PSE07R050FA050-2L	Weldon Shank Long	1	0.500	2	0.984	2.765	0.500	ZDKT07
7801365	●	PSE07R063FA063-3L	Weldon Shank Long	1	0.625	3	1.969	3.874	0.625	ZDKT07
7801366	●	PSE07R075FA075-4L	Weldon Shank Long	1	0.750	4	2.362	4.394	0.750	ZDKT07
7801367	●	PSE07R100FA100-5L	Weldon Shank Long	1	1.000	5	2.756	5.035	1.000	ZDKT07
7801347	●	PSE11R063FA063-2L	Weldon Shank Long	1	0.625	2	1.969	3.874	0.625	ZD_T11
7801348	●	PSE11R075FA075-3L	Weldon Shank Long	1	0.750	3	2.362	4.394	0.750	ZD_T11
7801349	●	PSE11R100FA100-3L	Weldon Shank Long	1	1.000	3	2.756	5.035	1.000	ZD_T11
7801350	●	PSE11R100FA100-4L	Weldon Shank Long	1	1.000	4	2.756	5.035	1.000	ZD_T11
7801351	●	PSE11R125FA125-5L	Weldon Shank Long	1	1.250	5	3.543	5.823	1.250	ZD_T11
7801352	●	PSE15R100FA100-2L	Weldon Shank Long	1	1.000	2	2.756	5.035	1.000	ZDKT15
7801353	●	PSE15R125FA125-2L	Weldon Shank Long	1	1.250	2	3.543	5.823	1.250	ZDKT15
7801355	●	PSE15R150FA125-3L	Weldon Shank Long	2	1.500	3	2.100	5.823	1.250	ZDKT15
7801354	●	PSE15R125FA125-3L	Weldon Shank Long	1	1.250	3	3.543	5.823	1.250	ZDKT15
7801356	●	PSE15R150FA125-4L	Weldon Shank Long	2	1.500	4	2.100	5.823	1.250	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

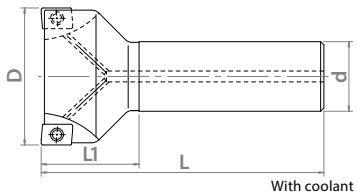
Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

Type 1



With coolant hole.

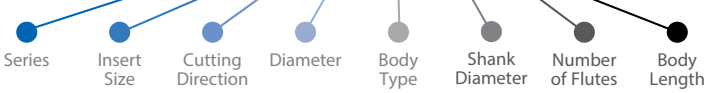
Type 2



With coolant hole.

DESIGNATION EXPLANATION

PSE 11 R 063 SA 063-2 S



See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78011

OSG PHOENIX® PSE SS

SPEED FEED 1529 | INSERTS 1213-1215 | ACCS. 1216 | STEEL | PACKED 1 PIECE



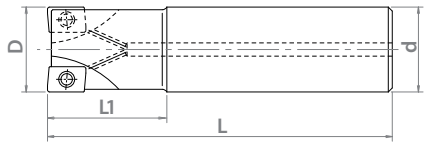
EDP Number		Designation	Body Type	Type	Dia. D (mm)	Number of Flutes	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7803809	▲	PSE07R010SS06-2S	Cylindrical Shank Short	2	10.00	2	15.00	50.00	6.00	ZDKT07
7803810	▲	PSE07R010SS10-2S	Cylindrical Shank Short	1	10.00	2	12.00	50.00	10.00	ZDKT07
7803811	▲	PSE07R012SS12-3S	Cylindrical Shank Short	1	12.00	3	12.00	50.00	12.00	ZDKT07
7803812	▲	PSE07R016SS10-3S	Cylindrical Shank Short	2	16.00	3	10.00	50.00	10.00	ZDKT07
7803813	▲	PSE07R016SS16-3S	Cylindrical Shank Short	1	16.00	3	25.00	90.00	16.00	ZDKT07
7803814	▲	PSE07R016SS16-4S	Cylindrical Shank Short	1	16.00	4	25.00	90.00	16.00	ZDKT07
7803815	▲	PSE07R017SS16-3L	Cylindrical Shank Long	2	17.00	3	25.00	150.00	16.00	ZDKT07
7803816	▲	PSE07R020SS10-4S	Cylindrical Shank Short	2	20.00	4	12.00	50.00	10.00	ZDKT07
7803817	▲	PSE07R020SS20-4S	Cylindrical Shank Short	1	20.00	4	30.00	100.00	20.00	ZDKT07
7803818	▲	PSE07R021SS20-4L	Cylindrical Shank Long	2	21.00	4	30.00	160.00	20.00	ZDKT07
7803819	▲	PSE07R025SS10-4S	Cylindrical Shank Short	2	25.00	4	12.00	50.00	10.00	ZDKT07
7803820	▲	PSE07R025SS25-5S	Cylindrical Shank Short	1	25.00	5	35.00	120.00	25.00	ZDKT07
7803821	▲	PSE07R026SS25-5L	Cylindrical Shank Long	2	26.00	5	35.00	170.00	25.00	ZDKT07
7801100	▲	PSE11R016SS16-2S	Cylindrical Shank Short	1	16.00	2	25.00	90.00	16.00	ZD_T11
7801121	▲	PSE11R016SS16-2L	Cylindrical Shank Long	1	16.00	2	50.00	150.00	16.00	ZD_T11
7801139	▲	PSE11R017SS16-2L	Cylindrical Shank Long	2	17.00	2	25.00	150.00	16.00	ZD_T11
7801116	▲	PSE11R018SS16-2S	Cylindrical Shank Short	2	18.00	2	25.00	90.00	16.00	ZD_T11
7801122	▲	PSE11R018SS16-2L	Cylindrical Shank Long	2	18.00	2	25.00	150.00	16.00	ZD_T11
7801101	▲	PSE11R020SS20-2S	Cylindrical Shank Short	1	20.00	2	30.00	100.00	20.00	ZD_T11
7801115	▲	PSE11R020SS20-3S	Cylindrical Shank Short	1	20.00	3	30.00	100.00	20.00	ZD_T11
7801123	▲	PSE11R020SS20-3L	Cylindrical Shank Long	1	20.00	3	60.00	160.00	20.00	ZD_T11
7801140	▲	PSE11R021SS20-3L	Cylindrical Shank Long	2	21.00	3	30.00	160.00	20.00	ZD_T11
7801117	▲	PSE11R022SS20-3S	Cylindrical Shank Short	2	22.00	3	30.00	110.00	20.00	ZD_T11
7801124	▲	PSE11R022SS20-3L	Cylindrical Shank Long	2	22.00	3	30.00	160.00	20.00	ZD_T11
7801102	▲	PSE11R025SS25-3S	Cylindrical Shank Short	1	25.00	3	35.00	120.00	25.00	ZD_T11
7801125	▲	PSE11R025SS25-3L	Cylindrical Shank Long	1	25.00	3	70.00	170.00	25.00	ZD_T11
7801104	▲	PSE11R025SS25-4S	Cylindrical Shank Short	1	25.00	4	35.00	120.00	25.00	ZD_T11
7801141	▲	PSE11R026SS25-3L	Cylindrical Shank Long	2	26.00	3	35.00	170.00	25.00	ZD_T11
7801126	▲	PSE11R028SS25-3L	Cylindrical Shank Long	2	28.00	3	35.00	170.00	25.00	ZD_T11
7801118	▲	PSE11R028SS25-4S	Cylindrical Shank Short	2	28.00	4	35.00	120.00	25.00	ZD_T11
7801127	▲	PSE11R030SS32-3L	Cylindrical Shank Long	1	30.00	3	90.00	190.00	32.00	ZD_T11
7801119	▲	PSE11R030SS32-4S	Cylindrical Shank Short	1	30.00	4	45.00	130.00	32.00	ZD_T11
7801103	▲	PSE11R032SS32-3S	Cylindrical Shank Short	1	32.00	3	45.00	130.00	32.00	ZD_T11
7801128	▲	PSE11R032SS32-3L	Cylindrical Shank Long	1	32.00	3	90.00	190.00	32.00	ZD_T11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

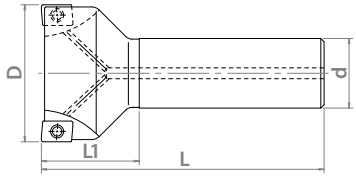
Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

Type 1



With coolant hole.

Type 2



With coolant hole.

CONTINUED ›

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78011 (Continued)

OSG PHOENIX® PSE SS

SPEED FEED 1529 | INSERTS 1213-1215 | ACCS. 1216 | STEEL | PACKED 1 PIECE



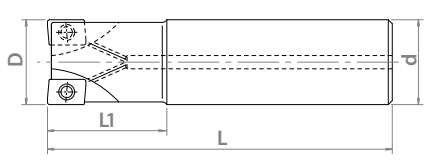
EDP Number		Designation	Body Type	Type	Dia. D (mm)	Number of Flutes	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7801105	▲	PSE11R032SS32-5S	Cylindrical Shank Short	1	32.00	5	40.00	125.00	32.00	ZD_T11
7801142	▲	PSE11R033SS32-3L	Cylindrical Shank Long	2	33.00	3	35.00	190.00	32.00	ZD_T11
7801129	▲	PSE11R035SS32-3L	Cylindrical Shank Long	2	35.00	3	35.00	190.00	32.00	ZD_T11
7801120	▲	PSE11R035SS32-5S	Cylindrical Shank Short	2	35.00	5	35.00	130.00	32.00	ZD_T11
7801106	▲	PSE15R025SS25-2S	Cylindrical Shank Short	1	25.00	2	35.00	120.00	25.00	ZDKT15
7801133	▲	PSE15R025SS25-2L	Cylindrical Shank Long	1	25.00	2	70.00	170.00	25.00	ZDKT15
7801143	▲	PSE15R026SS25-2L	Cylindrical Shank Long	2	26.00	2	35.00	170.00	25.00	ZDKT15
7801130	▲	PSE15R028SS25-2S	Cylindrical Shank Short	2	28.00	2	35.00	120.00	25.00	ZDKT15
7801134	▲	PSE15R028SS25-2L	Cylindrical Shank Long	2	28.00	2	35.00	170.00	25.00	ZDKT15
7801131	▲	PSE15R030SS32-3S	Cylindrical Shank Short	1	30.00	3	45.00	130.00	32.00	ZDKT15
7801135	▲	PSE15R030SS32-3L	Cylindrical Shank Long	1	30.00	3	90.00	190.00	32.00	ZDKT15
7801107	▲	PSE15R032SS32-2S	Cylindrical Shank Short	1	32.00	2	45.00	130.00	32.00	ZDKT15
7801111	▲	PSE15R032SS32-3S	Cylindrical Shank Short	1	32.00	3	45.00	130.00	32.00	ZDKT15
7801136	▲	PSE15R032SS32-3L	Cylindrical Shank Long	1	32.00	3	90.00	190.00	32.00	ZDKT15
7801144	▲	PSE15R033SS32-3L	Cylindrical Shank Long	2	33.00	3	45.00	190.00	32.00	ZDKT15
7801132	▲	PSE15R035SS32-3S	Cylindrical Shank Short	2	35.00	3	35.00	130.00	32.00	ZDKT15
7801137	▲	PSE15R035SS32-3L	Cylindrical Shank Long	2	35.00	3	45.00	190.00	32.00	ZDKT15
7801108	▲	PSE15R040SS32-3S	Cylindrical Shank Short	2	40.00	3	50.00	140.00	32.00	ZDKT15
7801138	▲	PSE15R040SS32-3L	Cylindrical Shank Long	2	40.00	3	45.00	190.00	32.00	ZDKT15
7801112	▲	PSE15R040SS32-4S	Cylindrical Shank Short	2	40.00	4	50.00	140.00	32.00	ZDKT15
7801109	▲	PSE15R050SS32-3S	Cylindrical Shank Short	2	50.00	3	45.00	130.00	32.00	ZDKT15
7801113	▲	PSE15R050SS32-5S	Cylindrical Shank Short	2	50.00	5	45.00	130.00	32.00	ZDKT15
7801110	▲	PSE15R063SS32-4S	Cylindrical Shank Short	2	63.00	4	45.00	130.00	32.00	ZDKT15
7801114	▲	PSE15R063SS32-6S	Cylindrical Shank Short	2	63.00	6	45.00	130.00	32.00	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

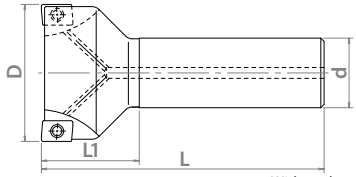
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PSE 11 R 020 SS 20-2 S

- PSE — Series
- 11 — Insert Size
- R — Cutting Direction
- 020 — Diameter
- SS — Body Type
- 20 — Shank Diameter
- 2 — Number of Flutes
- S — Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78012

OSG PHOENIX® PSE BORE

SPEED FEED 1529 | INSERTS 1213-1215 | ACCS. 1216 | STEEL | PACKED 1 PIECE



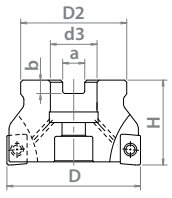
EDP Number		Designation	Type	Dia. D (Inch)	Number of Flutes	Body Height H (Inch)	Flange Diameter D2 (Inch)	Bore Diameter d3 (Inch)	Keyway Width a (Inch)	Keyway Depth b (Inch)	Applicable Insert
7801200	●	PSE11R200A075-5	2	2.000	5	1.575	1.772	0.750	0.315	0.197	ZD_T11
7801201	●	PSE11R250A075-6	2	2.500	6	1.575	1.968	0.750	0.315	0.197	ZD_T11
7801202	●	PSE11R300A100-7	2	3.000	7	1.968	2.362	1.000	0.375	0.236	ZD_T11
7801203	●	PSE11R200A075-7	2	2.000	7	1.575	1.772	0.750	0.315	0.197	ZD_T11
7801204	●	PSE11R250A075-8	2	2.500	8	1.575	1.968	0.750	0.315	0.197	ZD_T11
7801205	●	PSE11R300A100-10	2	3.000	10	1.968	2.362	1.000	0.375	0.236	ZD_T11
7801206	●	PSE15R200A075-3	2	2.000	3	1.575	1.772	0.750	0.315	0.197	ZDKT15
7801207	●	PSE15R250A075-4	2	2.500	4	1.575	1.968	0.750	0.315	0.197	ZDKT15
7801208	●	PSE15R300A100-5	2	3.000	5	1.968	2.362	1.000	0.375	0.236	ZDKT15
7801209	●	PSE15R400A150-7	3	4.000	7	1.968	2.756	1.500	0.625	0.394	ZDKT15
7801210	●	PSE15R500A150-8	3	5.000	8	2.480	3.543	1.500	0.625	0.394	ZDKT15
7801211	●	PSE15R200A075-5	2	2.000	5	1.575	1.772	0.750	0.315	0.197	ZDKT15
7801212	●	PSE15R250A075-6	2	2.500	6	1.575	1.968	0.750	0.315	0.197	ZDKT15
7801213	●	PSE15R300A100-8	2	3.000	8	1.968	2.362	1.000	0.375	0.236	ZDKT15
7801214	●	PSE15R400A150-10	3	4.000	10	1.968	2.756	1.500	0.625	0.394	ZDKT15
7801215	●	PSE15R500A150-11	3	5.000	11	2.480	3.543	1.500	0.625	0.394	ZDKT15
7801216	●	PSE15R600A150-10	3	6.000	10	2.480	3.740	1.500	0.625	0.394	ZDKT15
7801217	●	PSE15R600A150-12	3	6.000	12	2.480	3.740	1.500	0.625	0.394	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

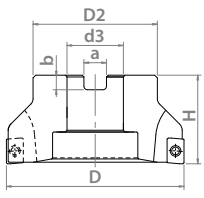
PXT

Type 2



With coolant hole.

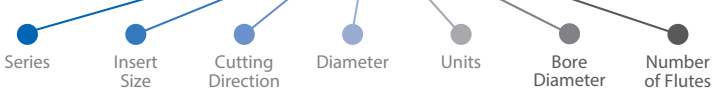
Type 3



Without coolant hole.

DESIGNATION EXPLANATION

PSE 11 R 200 A 075-5



See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78010

OSG PHOENIX® PSE BORE



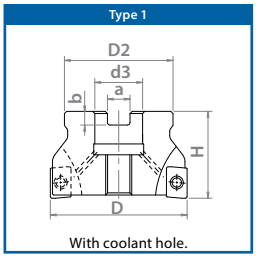
SPEED FEED 1529 | INSERTS 1213-1215 | ACCS. 1216 | STEEL | PACKED 1 PIECE

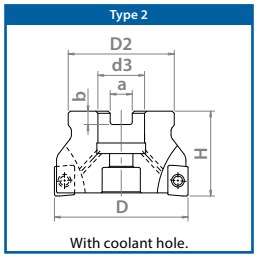
EDP Number		Designation	Type	Dia. D (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7801000	▲	PSE11R040M16-4	1	40.00	4	40.00	38.00	16.00	8.40	5.60	ZD_T11
7801001	▲	PSE11R050M22-5	1	50.00	5	40.00	45.00	22.00	10.40	6.30	ZD_T11
7801002	▲	PSE11R063M22-6	2	63.00	6	40.00	50.00	22.00	10.40	6.30	ZD_T11
7801003	▲	PSE11R080M27-7	2	80.00	7	50.00	60.00	27.00	12.40	7.00	ZD_T11
7801020	▲	PSE11R080M25.4-7	2	80.00	7	50.00	60.00	25.40	9.50	6.00	ZD_T11
7801004	▲	PSE11R040M16-6	1	40.00	6	40.00	38.00	16.00	8.40	5.60	ZD_T11
7801005	▲	PSE11R050M22-7	1	50.00	7	40.00	45.00	22.00	10.40	6.30	ZD_T11
7801006	▲	PSE11R063M22-8	2	63.00	8	40.00	50.00	22.00	10.40	6.30	ZD_T11
7801007	▲	PSE11R080M27-10	2	80.00	10	50.00	60.00	27.00	12.40	7.00	ZD_T11
7801021	▲	PSE11R080M25.4-10	2	80.00	10	50.00	60.00	25.40	9.50	6.00	ZD_T11
7801008	▲	PSE15R040M16-3	1	40.00	3	40.00	38.00	16.00	8.40	5.60	ZDKT15
7801009	▲	PSE15R050M22-3	1	50.00	3	40.00	45.00	22.00	10.40	6.30	ZDKT15
7801010	▲	PSE15R063M22-4	2	63.00	4	40.00	50.00	22.00	10.40	6.30	ZDKT15
7801011	▲	PSE15R080M27-5	2	80.00	5	50.00	60.00	27.00	12.40	7.00	ZDKT15
7801022	▲	PSE15R080M25.4-5	2	80.00	5	50.00	60.00	25.40	9.50	6.00	ZDKT15
7801012	▲	PSE15R100M32-7	2	100.00	7	50.00	70.00	32.00	14.40	8.00	ZDKT15
7801023	▲	PSE15R100M31.7-7	3	100.00	7	50.00	70.00	31.75	12.70	8.00	ZDKT15
7801024	▲	PSE15R125M38.1-8	3	125.00	8	63.00	90.00	38.10	15.90	10.00	ZDKT15
7801014	▲	PSE15R040M16-4	1	40.00	4	40.00	38.00	16.00	8.40	5.60	ZDKT15
7801015	▲	PSE15R050M22-5	1	50.00	5	40.00	45.00	22.00	10.40	6.30	ZDKT15
7801016	▲	PSE15R063M22-6	2	63.00	6	40.00	50.00	22.00	10.40	6.30	ZDKT15
7801017	▲	PSE15R080M27-8	2	80.00	8	50.00	60.00	27.00	12.40	7.00	ZDKT15
7801025	▲	PSE15R080M25.4-8	2	80.00	8	50.00	60.00	25.40	9.50	6.00	ZDKT15
7801018	▲	PSE15R100M32-10	2	100.00	10	50.00	70.00	32.00	14.40	8.00	ZDKT15
7801026	▲	PSE15R100M31.7-10	3	100.00	10	50.00	70.00	31.75	12.70	8.00	ZDKT15
7801027	▲	PSE15R125M38.1-11	3	125.00	11	63.00	90.00	38.10	15.90	10.00	ZDKT15

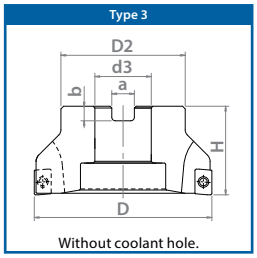
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).







DESIGNATION EXPLANATION

PSE 11 R 050 M 22-5

- PSE — Series
- 11 — Insert Size
- R — Cutting Direction
- 050 — Diameter
- M — Units
- 22 — Bore Diameter
- 5 — Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

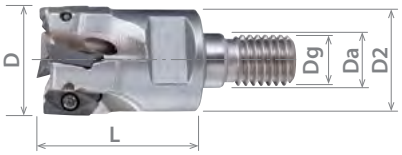
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52601

OSG PHOENIX® PSE ASF, Screw Fit Head

SPEED FEED 1529 | INSERTS 1213-1215 | ACCS. 1216 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (Inch)	Number of Flutes	Pilot Diameter Da (Inch)	Thread Size Dg (mm)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Insert
52601007	○	PSE07R038ASF6-2	0.375	2	0.256	M6	0.354	1.024	7	ZDKT07
52601008	○	PSE07R050ASF6-3	0.500	3	0.256	M6	0.433	1.024	7	ZDKT07
52601000	●	PSE11R063ASF8-2	0.625	2	0.335	M8	0.571	1.063	10	ZD_T11
52601009	○	PSE07R063ASF8-4	0.625	4	0.335	M8	0.571	1.063	10	ZDKT07
52601001	●	PSE11R075ASF10-3	0.750	3	0.413	M10	0.709	1.299	14	ZD_T11
52601010	○	PSE07R075ASF10-4	0.750	4	0.413	M10	0.709	1.299	14	ZDKT07
52601004	●	PSE15R100ASF12-2	1.000	2	0.492	M12	0.905	1.378	17	ZDKT15
52601002	●	PSE11R100ASF12-3	1.000	3	0.492	M12	0.905	1.378	17	ZD_T11
52601011	○	PSE07R100ASF12-5	1.000	5	0.492	M12	0.905	1.378	17	ZDKT07
52601003	●	PSE11R125ASF16-3	1.250	3	0.669	M16	1.102	1.575	22	ZD_T11
52601005	●	PSE15R125ASF16-3	1.250	3	0.669	M16	1.102	1.575	22	ZDKT15
52601012	○	PSE07R125ASF16-6	1.250	6	0.669	M16	1.102	1.575	22	ZDKT07
52601006	●	PSE15R150ASF16-4	1.500	4	0.669	M16	1.102	1.575	22	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

PXT

DESIGNATION EXPLANATION

PSE 11 R 063 ASF 8-2

- PSE — Series
- 11 — Insert Size
- R — Cutting Direction
- 063 — Diameter
- ASF — Body Type
- 8 — Thread Size
- 2 — Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

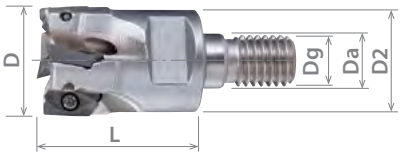
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78016

OSG PHOENIX® PSE SF, Screw Fit Head

SPEED FEED 1529 | INSERTS 1213-1215 | ACCS. 1216 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Number of Flutes	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7803822	▲	PSE07R010SF6-2	10.00	2	6.50	M6	9.00	26.00	7	ZDKT07
7803823	▲	PSE07R012SF6-3	12.00	3	6.50	M6	11.00	26.00	7	ZDKT07
7801600	▲	PSE11R016SF8-2	16.00	2	8.50	M8	14.50	27.00	10	ZD_T11
7803824	▲	PSE07R016SF8-4	16.00	4	8.50	M8	14.50	27.00	10	ZDKT07
7801612	▲	PSE11R017SF8-2	17.00	2	8.50	M8	14.50	27.00	10	ZD_T11
7801613	▲	PSE11R018SF8-2	18.00	2	8.50	M8	14.50	27.00	10	ZD_T11
7801601	▲	PSE11R020SF10-3	20.00	3	10.50	M10	18.00	33.00	14	ZD_T11
7803825	▲	PSE07R020SF10-4	20.00	4	10.50	M10	18.00	33.00	14	ZDKT07
7801614	▲	PSE11R021SF10-3	21.00	3	10.50	M10	18.00	33.00	14	ZD_T11
7801615	▲	PSE11R022SF10-3	22.00	3	10.50	M10	18.00	33.00	14	ZD_T11
7801607	▲	PSE15R025SF12-2	25.00	2	12.50	M12	23.00	35.00	17	ZDKT15
7801602	▲	PSE11R025SF12-4	25.00	4	12.50	M12	23.00	35.00	17	ZD_T11
7803826	▲	PSE07R025SF12-5	25.00	5	12.50	M12	23.00	35.00	17	ZDKT07
7801618	▲	PSE15R026SF12-2	26.00	2	12.50	M12	23.00	35.00	17	ZDKT15
7801616	▲	PSE11R026SF12-3	26.00	3	12.50	M12	23.00	35.00	17	ZD_T11
7801608	▲	PSE15R028SF12-2	28.00	2	12.50	M12	23.00	35.00	17	ZDKT15
7801603	▲	PSE11R028SF12-4	28.00	4	12.50	M12	23.00	35.00	17	ZD_T11
7801609	▲	PSE15R032SF16-3	32.00	3	17.00	M16	28.00	40.00	22	ZDKT15
7801604	▲	PSE11R032SF16-5	32.00	5	17.00	M16	28.00	40.00	22	ZD_T11
7803827	▲	PSE07R032SF17-6	32.00	6	17.00	M16	28.00	35.00	22	ZDKT07
7801617	▲	PSE11R033SF16-3	33.00	3	17.00	M16	28.00	40.00	22	ZD_T11
7801619	▲	PSE15R033SF16-3	33.00	3	17.00	M16	28.00	40.00	22	ZDKT15
7801610	▲	PSE15R035SF16-3	35.00	3	17.00	M16	28.00	40.00	22	ZDKT15
7801605	▲	PSE11R035SF16-5	35.00	5	17.00	M16	28.00	40.00	22	ZD_T11
7801611	▲	PSE15R040SF16-4	40.00	4	17.00	M16	28.00	40.00	22	ZDKT15
7801606	▲	PSE11R040SF16-6	40.00	6	17.00	M16	28.00	40.00	22	ZD_T11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

PXT

DESIGNATION EXPLANATION

PSE 11 R 016 SF 8-2

- PSE — Series
- 11 — Insert Size
- R — Cutting Direction
- 016 — Diameter
- SF — Body Type
- 8 — Thread Size
- 2 — Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

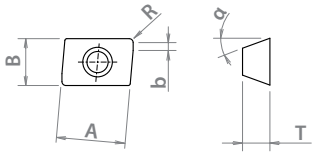
○ Good ◎ Best

List 78PSE

PACKED
10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7811112	●	ZDKT070302FR-NM	2	8.2 x 4	2.54	15.00	0.20	1.10	6.00	CK010
7811113	●	ZDKT070304FR-NM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	CK010
7812114	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XC1015
7812115	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XC1015
7825127	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XC3030
7825129	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XC3030
7825128	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XC3030
7825130	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XC3030
7826121	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP2025
7826122	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP2025
7813117	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP2040
7813119	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP2040
7813116	●	ZDKT070302SR-GM	2	8.2 x 4	2.54	15.00	0.20	1.10	6.00	XP2040
7813118	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP2040
7813120	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP2040
7814123	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP3035
7814125	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP3035
7814124	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP3035
7814126	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP3035
7811010	●	ZDHT11T302FR-NM	2	11 x 6.8	3.50	15.00	0.20	2.00	10.00	CK010
7811024	●	ZDHT11T304FR-NM	2	11 x 6.8	3.50	15.00	0.40	1.80	10.00	CK010
7811014	●	ZDHT11T308FR-NM	2	11 x 6.8	3.50	15.00	0.80	1.40	10.00	CK010
7811015	●	ZDHT11T312FR-NM	2	11 x 6.8	3.50	15.00	1.20	1.40	10.00	CK010
7811017	●	ZDHT11T316FR-NM	2	11 x 6.8	3.50	15.00	1.60	1.40	10.00	CK010
7811018	●	ZDHT11T320FR-NM	2	11 x 6.8	3.50	15.00	2.00	1.40	10.00	CK010
7811019	●	ZDHT11T325FR-NM	2	11 x 6.8	3.50	15.00	2.50	1.40	10.00	CK010
7811020	●	ZDHT11T332FR-NM	2	11 x 6.8	3.50	15.00	3.20	0.80	10.00	CK010
7811021	●	ZDHT11T340FR-NM	2	11 x 6.8	3.50	15.00	4.00	-	10.00	CK010
7811022	●	ZDHT11T350FR-NM	2	11 x 6.8	3.50	15.00	5.00	-	10.00	CK010
7811048	●	ZDKT11T302FR-NM	2	11 x 6.8	3.80	15.00	0.20	2.00	10.00	CK010
7811049	●	ZDKT11T304FR-NM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	CK010
7811023	●	ZDKT11T308FR-NM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	CK010
7812025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC1015
7812033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC1015
7827026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3020

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

CONTINUED ❯

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GM / GR	N			◎			
XC3020	GL / GM / GR	N	◎		○			
XC3030	GL / GM / GR	N	◎		○			
XC5035	SM	Y		◎			○	
XC5040	SM	Y		○			◎	
XP2025	GL / GM	Y	○	◎			○	
XP2040	GL / GM / GR	Y	○	◎			○	○
XP3025	GL / GM / GR	Y	◎		○			
XP3035	GL / GM / GR	N	◎	○	○			
XP6015	HR	N	○		○			◎

GL:Light Cutting GM:Medium Cutting GR: Rough Cutting NM:Aluminum SM:Heat Resistant Alloy HR: Hardened Steel

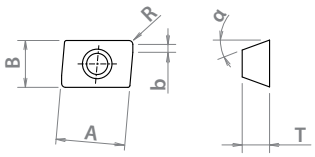
○ Good ◎ Best

List 78PSE (Continued)

PACKED 10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7827025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC3020
7827032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3020
7827033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3020
7825024	●	ZDKT11T304SR-GL	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC3030
7825026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3030
7825035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XC3030
7825025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC3030
7825032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3030
7825039	●	ZDKT11T325SR-GM	2	11 x 6.8	3.80	15.00	2.50	1.60	10.00	XC3030
7825033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3030
7815027	●	ZDKT11T316ER-SM	2	11 x 6.8	3.80	15.00	1.60	0.80	10.00	XC5035
7815031	●	ZDKT11T308ER-SM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC5035
7816027	●	ZDKT11T316ER-SM	2	11 x 6.8	3.80	15.00	1.60	0.80	10.00	XC5040
7816031	●	ZDKT11T308ER-SM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC5040
7816034	●	ZDKT11T304ER-SM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC5040
7816040	●	ZDKT11T312ER-SM	2	11 x 6.8	3.80	15.00	1.20	1.10	10.00	XC5040
7816041	●	ZDKT11T320ER-SM	2	11 x 6.8	3.80	15.00	2.00	0.30	10.00	XC5040
7816042	●	ZDKT11T325ER-SM	2	11 x 6.8	3.80	15.00	2.50	-	10.00	XC5040
7816043	●	ZDKT11T332ER-SM	2	11 x 6.8	3.80	15.00	3.20	-	10.00	XC5040
7816044	●	ZDKT11T340ER-SM	2	11 x 6.8	3.80	15.00	4.00	-	10.00	XC5040
7826026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2025
7826025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP2025
7826032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2025
7813026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2040
7813034	●	ZDKT11T312SR-GL	2	11 x 6.8	3.80	15.00	1.20	1.00	10.00	XP2040
7813035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XP2040
7813036	●	ZDKT11T332SR-GL	2	11 x 6.8	3.80	15.00	3.20	1.50	10.00	XP2040
7813025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP2040
7813032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2040
7813053	●	ZDKT11T312SR-GM	2	11 x 6.8	3.80	15.00	1.20	1.00	10.00	XP2040
7813038	●	ZDKT11T320SR-GM	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XP2040
7813054	●	ZDKT11T330SR-GM	2	11 x 6.8	3.80	15.00	3.00	1.50	10.00	XP2040
7813055	●	ZDKT11T340SR-GM	2	11 x 6.8	3.80	15.00	4.00	-	10.00	XP2040
7813033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2040
7828026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3025
7828025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP3025
7828032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3025
7828033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3025
7814024	●	ZDKT11T304SR-GL	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP3035
7814026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3035
7814035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XP3035
7814025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP3035
7814032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3035
7814053	●	ZDKT11T312SR-GM	2	11 x 6.8	3.80	15.00	1.20	1.00	10.00	XP3035
7814038	●	ZDKT11T320SR-GM	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XP3035
7814039	●	ZDKT11T325SR-GM	2	11 x 6.8	3.80	15.00	2.50	1.60	10.00	XP3035
7814054	●	ZDKT11T330SR-GM	2	11 x 6.8	3.80	15.00	3.00	1.50	10.00	XP3035
7814055	●	ZDKT11T340SR-GM	2	11 x 6.8	3.80	15.00	4.00	-	10.00	XP3035
7814033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3035
7824035	●	ZDKT11T308SR-HR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP6015
7811046	●	ZDKT150508FR-NM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	CK010
7812058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC1015
7812029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC1015

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PSE (Continued)

PACKED 10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS

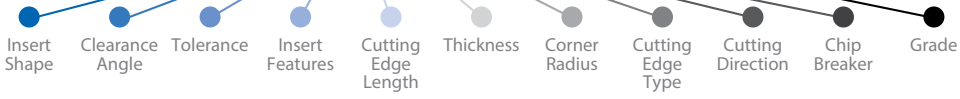
EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7827057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3020
7827028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3020
7827058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3020
7825057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3030
7825029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3030
7825058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3030
7815056	●	ZDKT150508ER-SM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC5035
7816056	●	ZDKT150508ER-SM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC5040
7826057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2025
7826029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2025
7813057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2040
7813028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2040
7813077	●	ZDKT150512SR-GM	2	15 x 9.3	5.56	15.00	1.20	1.20	14.00	XP2040
7813078	●	ZDKT150516SR-GM	2	15 x 9.3	5.56	15.00	1.60	0.80	14.00	XP2040
7813079	●	ZDKT150520SR-GM	2	15 x 9.3	5.56	15.00	2.00	2.10	14.00	XP2040
7813080	●	ZDKT150530SR-GM	2	15 x 9.3	5.56	15.00	3.00	1.90	14.00	XP2040
7813081	●	ZDKT150540SR-GM	2	15 x 9.3	5.56	15.00	4.00	1.10	14.00	XP2040
7813082	●	ZDKT150550SR-GM	2	15 x 9.3	5.56	15.00	5.00	0.70	14.00	XP2040
7813058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2040
7828057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3025
7828028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3025
7828058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3025
7814057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3035
7814029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3035
7814077	●	ZDKT150512SR-GM	2	15 x 9.3	5.56	15.00	1.20	1.20	14.00	XP3035
7814078	●	ZDKT150516SR-GM	2	15 x 9.3	5.56	15.00	1.60	0.80	14.00	XP3035
7814079	●	ZDKT150520SR-GM	2	15 x 9.3	5.56	15.00	2.00	2.10	14.00	XP3035
7814080	●	ZDKT150530SR-GM	2	15 x 9.3	5.56	15.00	3.00	1.90	14.00	XP3035
7814081	●	ZDKT150540SR-GM	2	15 x 9.3	5.56	15.00	4.00	1.10	14.00	XP3035
7814082	●	ZDKT150550SR-GM	2	15 x 9.3	5.56	15.00	5.00	0.70	14.00	XP3035
7814058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3035
7824036	●	ZDKT150508SR-HR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP6015

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

Z D K T 11 T3 08 S R-GL XP3035



See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GM / GR	N			◎			
XC3020	GL / GM / GR	N	◎		○			
XC3030	GL / GM / GR	N	◎		○			
XC5035	SM	Y		◎			○	
XC5040	SM	Y		○			◎	
XP2025	GL / GM	Y	○	◎			○	
XP2040	GL / GM / GR	Y	○	◎			○	○
XP3025	GL / GM / GR	Y	◎		○			
XP3035	GL / GM / GR	N	◎	○	○			
XP6015	HR	N	○		○			◎

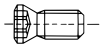
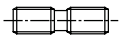
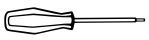
GL:Light Cutting GM:Medium Cutting GR: Rough Cutting NM:Aluminum SM:Heat Resistant Alloy HR: Hardened Steel

○ Good ◎ Best

List 7808H

OSG PHOENIX® PSE ACCESSORIES

PACKED 1 PIECE | PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808098	●	FS18634P (M1.8 x 3.4, Torx 6IP)	ZDKT07	PSE SA/SF/ASF Ø0.375-0.500	PSE SS/SF Ø10-12	0.5 Nm
	7808099	●	FS18637P (M1.8 x 3.7, Torx 6IP)	ZDKT07	PSE SA/SF/ASF Ø0.625-1.250	PSE SS/SF Ø16-32	0.5 Nm
	7808107	●	FS25656P (M2.5 x 5.6, Torx 8IP)	ZD_T11	PSE SA/FA/ASF Ø0.625-1.250	PSE SS/SF Ø16-35	1.6 Nm
	7808109	●	FS25673P (M2.5 x 7.3, Torx 8IP)	ZD_T11	PSE BORE Ø2.000-3.000	PSE BORE Ø40-80	1.6 Nm
	7808115	●	FS35686P (M3.5 x 8.6, Torx 15IP)	ZDKT15	PSE SA/FA/ASF Ø1.000-1.500, PSE BORE Ø2.000-6.000	PSE SS/SF Ø25-63, PSE BORE Ø40-125	3.2 Nm
 Power Screw	7808150	●	PS0830 (M8x30)	-	-	PSE BORE Ø40	15.0 Nm
	7808151	●	PS1031 (M10x31)	-	-	PSE BORE Ø50	20.0 Nm
 Wrench	7808223	●	6IP-D (Torx 6IP)	ZDKT07	PSE SA/SF/ASF Ø0.375-1.250	PSE SS/SF Ø10-32	-
	7808225	●	8IP-D (Torx 8IP)	ZD_T11	PSE SA/FA/ASF Ø0.625-1.250, PSE BORE Ø2.000-3.000	PSE SS/SF Ø16-35, PSE BORE Ø40-80	-
	7808228	●	15IP-D (Torx 15IP)	ZDKT15	PSE SA/FA/ASF Ø1.000-1.500, PSE BORE Ø2.000-6.000	PSE SS/SF Ø25-63, PSE BORE Ø40-125	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Power Screw = 1 pc.; Wrench = 1 pc.

PXT

List 53000

OSG PHOENIX® PSEL SA/FA

SPEED FEED 1530 | INSERTS 1221-1223 | ACCS. 1224 | STEEL | PACKED 1 PIECE



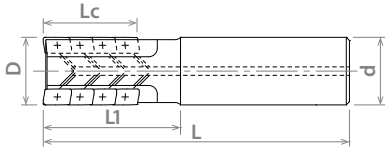
EDP Number		Designation	Body Type	Type	Dia. D (Inch)	Number of Flutes	Number of Inserts per Flute	Total Number of Inserts	Length of Cut Lc (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Applicable Insert
53000000	●	PSEL11R100SA100-2-27	Cylindrical Shank	1	1.000	2	3	6	1.063	1.968	4.921	1.000	ZD_T11
53000001	●	PSEL11R125SA125-2-37	Cylindrical Shank	1	1.250	2	4	8	1.457	2.362	5.512	1.250	ZD_T11
53000002	●	PSEL11R125SA125-3-45	Cylindrical Shank	1	1.250	3	5	15	1.791	2.362	5.512	1.250	ZD_T11
53000003	●	PSEL11R150SA125-3-37	Cylindrical Shank	2	1.500	3	4	12	1.457	2.362	5.512	1.250	ZD_T11
53000004	●	PSEL11R150SA125-4-45	Cylindrical Shank	2	1.500	4	5	20	1.791	2.362	5.512	1.250	ZD_T11
53000005	●	PSEL15R150SA125-2-38	Cylindrical Shank	2	1.500	2	3	6	1.496	2.362	5.512	1.250	ZDKT15
53000006	●	PSEL11R100FA100-2-27	Weldon Shank	1	1.000	2	3	6	1.063	1.968	4.248	1.000	ZD_T11
53000007	●	PSEL11R125FA125-2-37	Weldon Shank	1	1.250	2	4	8	1.457	2.362	4.642	1.250	ZD_T11
53000008	●	PSEL11R125FA125-3-45	Weldon Shank	1	1.250	3	5	15	1.791	2.362	4.642	1.250	ZD_T11
53000009	●	PSEL11R150FA125-3-37	Weldon Shank	2	1.500	3	4	12	1.457	2.362	4.642	1.250	ZD_T11
53000010	●	PSEL11R150FA125-4-45	Weldon Shank	2	1.500	4	5	20	1.791	2.362	4.642	1.250	ZD_T11
53000011	●	PSEL15R150FA125-2-38	Weldon Shank	2	1.500	2	3	6	1.496	2.362	4.642	1.250	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

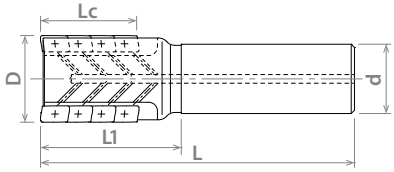
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PSEL 11 R 100 SA 100-2-27

Series | Insert Size | Cutting Direction | Diameter | Body Type | Shank Diameter | Number of Flutes | Length of Cut

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78029



SPEED FEED 1530 | INSERTS 1221-1223 | ACCS. 1224 | STEEL | PACKED 1 PIECE

OSG PHOENIX® PSEL SS, Cylindrical Shank

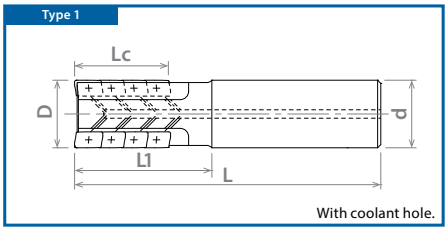


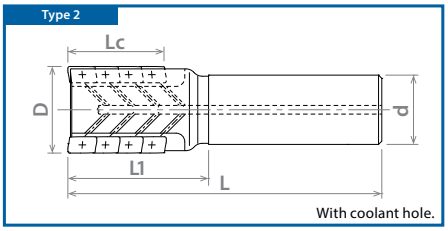
EDP Number		Designation	Type	Dia. D (mm)	Number of Flutes	Number of Inserts per Flute	Total Number of Inserts	Length of Cut Lc (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7802900	▲	PSEL11R025SS25-2-27	1	25.00	2	3	6	27.00	50.00	125.00	25.00	ZD_T11
7802901	▲	PSEL11R032SS32-2-37	1	32.00	2	4	8	37.00	60.00	140.00	32.00	ZD_T11
7802902	▲	PSEL11R032SS32-3-45	1	32.00	3	5	15	45.50	60.00	140.00	32.00	ZD_T11
7802903	▲	PSEL11R040SS42-3-37	1	40.00	3	4	12	37.00	60.00	140.00	42.00	ZD_T11
7802904	▲	PSEL11R040SS42-4-45	1	40.00	4	5	20	45.50	60.00	140.00	42.00	ZD_T11
7802905	▲	PSEL15R040SS42-2-38	1	40.00	2	3	6	38.00	60.00	140.00	42.00	ZDKT15
7802906	▲	PSEL15R050SS42-3-50	2	50.00	3	4	12	50.50	64.00	144.00	42.00	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).





DESIGNATION EXPLANATION

PSEL 11 R 025 SS 25-2-27

Series	Insert Size	Cutting Direction	Diameter	Body Type	Shank Diameter	Number of Flutes	Length of Cut

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 53001

OSG PHOENIX® PSEL BORE



SPEED FEED	INSERTS	ACCS.	STEEL	PACKED
1530	1221-1223	1224		1 PIECE

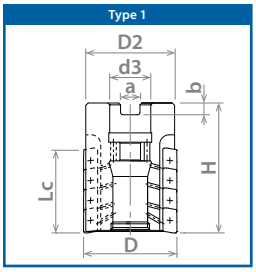
EDP Number		Designation	Type	Dia. D (Inch)	Number of Flutes	Number of Inserts per Flute	Total Number of Inserts	Length of Cut Lc (Inch)	Body Height H (Inch)	Flange Dia. D2 (Inch)	Bore Dia. d3 (Inch)	Keyway Width a (Inch)	Keyway Depth b (Inch)	Applicable Insert
53001000	●	PSEL15R200A075-3-50	1	2.000	3	4	12	1.988	2.913	1.772	0.750	0.315	0.197	ZDKT15
53001001	●	PSEL15R250A100-4-50	1	2.500	4	4	16	1.988	2.913	2.362	1.000	0.375	0.236	ZDKT15
53001002	●	PSEL15R300A100-4-63	1	3.000	4	5	20	2.480	3.464	2.362	1.000	0.375	0.236	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

PXT

Type 1



DESIGNATION EXPLANATION

PSEL 15 R 200 A 075-3-50

Series	Insert Size	Cutting Direction	Diameter	Units	Bore Diameter	Number of Flutes	Length of Cut

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78028

SPEED FEED 1530 | INSERTS 1221-1223 | ACCS. 1224 | STEEL | PACKED 1 PIECE

OSG PHOENIX® PSEL BORE



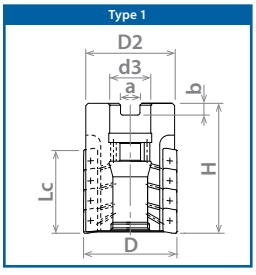
EDP Number		Designation	Type	Dia. D (mm)	Number of Flutes	Number of Inserts per Flute	Total Number of Inserts	Length of Cut Lc (mm)	Body Height H (mm)	Flange Dia. D2 (mm)	Bore Dia. d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7802850	▲	PSEL15R050M22-3-50	1	50.00	3	4	12	50.50	74.00	45.00	22.00	10.40	6.30	ZDKT15
7802851	▲	PSEL15R063M27-3-50	1	63.00	3	4	12	50.50	74.00	60.00	27.00	12.40	7.00	ZDKT15
7802852	▲	PSEL15R080M32-4-63	1	80.00	4	5	20	63.00	88.00	76.00	32.00	14.40	8.00	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

PXT

Type 1



DESIGNATION EXPLANATION

PSEL 15 R 050 M 22-3-50

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes | Length of Cut

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

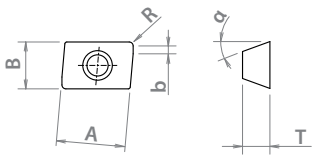
○ Good ◎ Best

List 78PSE

PACKED
10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7811112	●	ZDKT070302FR-NM	2	8.2 x 4	2.54	15.00	0.20	1.10	6.00	CK010
7811113	●	ZDKT070304FR-NM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	CK010
7812114	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XC1015
7812115	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XC1015
7825127	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XC3030
7825129	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XC3030
7825128	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XC3030
7825130	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XC3030
7826121	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP2025
7826122	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP2025
7813117	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP2040
7813119	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP2040
7813116	●	ZDKT070302SR-GM	2	8.2 x 4	2.54	15.00	0.20	1.10	6.00	XP2040
7813118	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP2040
7813120	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP2040
7814123	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP3035
7814125	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP3035
7814124	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15.00	0.40	0.90	6.00	XP3035
7814126	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15.00	0.80	0.50	6.00	XP3035
7811010	●	ZDHT11T302FR-NM	2	11 x 6.8	3.50	15.00	0.20	2.00	10.00	CK010
7811024	●	ZDHT11T304FR-NM	2	11 x 6.8	3.50	15.00	0.40	1.80	10.00	CK010
7811014	●	ZDHT11T308FR-NM	2	11 x 6.8	3.50	15.00	0.80	1.40	10.00	CK010
7811015	●	ZDHT11T312FR-NM	2	11 x 6.8	3.50	15.00	1.20	1.40	10.00	CK010
7811017	●	ZDHT11T316FR-NM	2	11 x 6.8	3.50	15.00	1.60	1.40	10.00	CK010
7811018	●	ZDHT11T320FR-NM	2	11 x 6.8	3.50	15.00	2.00	1.40	10.00	CK010
7811019	●	ZDHT11T325FR-NM	2	11 x 6.8	3.50	15.00	2.50	1.40	10.00	CK010
7811020	●	ZDHT11T332FR-NM	2	11 x 6.8	3.50	15.00	3.20	0.80	10.00	CK010
7811021	●	ZDHT11T340FR-NM	2	11 x 6.8	3.50	15.00	4.00	-	10.00	CK010
7811022	●	ZDHT11T350FR-NM	2	11 x 6.8	3.50	15.00	5.00	-	10.00	CK010
7811048	●	ZDKT11T302FR-NM	2	11 x 6.8	3.80	15.00	0.20	2.00	10.00	CK010
7811049	●	ZDKT11T304FR-NM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	CK010
7811023	●	ZDKT11T308FR-NM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	CK010
7812025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC1015
7812033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC1015
7827026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3020

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

CONTINUED ›

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GM / GR	N			◎			
XC3020	GL / GM / GR	N	◎		○			
XC3030	GL / GM / GR	N	◎		○			
XC5035	SM	Y		◎			○	
XC5040	SM	Y		○			◎	
XP2025	GL / GM	Y	○	◎			○	
XP2040	GL / GM / GR	Y	○	◎			○	○
XP3025	GL / GM / GR	Y	◎		○			
XP3035	GL / GM / GR	N	◎	○	○			
XP6015	HR	N	○		○			◎

GL:Light Cutting GM:Medium Cutting GR: Rough Cutting NM:Aluminum SM:Heat Resistant Alloy HR: Hardened Steel

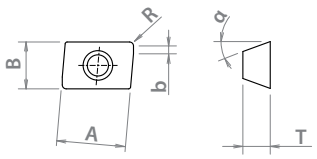
○ Good ◎ Best

List 78PSE (Continued)

PACKED
10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7827025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC3020
7827032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3020
7827033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3020
7825024	●	ZDKT11T304SR-GL	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC3030
7825026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3030
7825035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XC3030
7825025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC3030
7825032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3030
7825039	●	ZDKT11T325SR-GM	2	11 x 6.8	3.80	15.00	2.50	1.60	10.00	XC3030
7825033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC3030
7815027	●	ZDKT11T316ER-SM	2	11 x 6.8	3.80	15.00	1.60	0.80	10.00	XC5035
7815031	●	ZDKT11T308ER-SM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC5035
7816027	●	ZDKT11T316ER-SM	2	11 x 6.8	3.80	15.00	1.60	0.80	10.00	XC5040
7816031	●	ZDKT11T308ER-SM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XC5040
7816034	●	ZDKT11T304ER-SM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XC5040
7816040	●	ZDKT11T312ER-SM	2	11 x 6.8	3.80	15.00	1.20	1.10	10.00	XC5040
7816041	●	ZDKT11T320ER-SM	2	11 x 6.8	3.80	15.00	2.00	0.30	10.00	XC5040
7816042	●	ZDKT11T325ER-SM	2	11 x 6.8	3.80	15.00	2.50	-	10.00	XC5040
7816043	●	ZDKT11T332ER-SM	2	11 x 6.8	3.80	15.00	3.20	-	10.00	XC5040
7816044	●	ZDKT11T340ER-SM	2	11 x 6.8	3.80	15.00	4.00	-	10.00	XC5040
7826026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2025
7826025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP2025
7826032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2025
7813026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2040
7813034	●	ZDKT11T312SR-GL	2	11 x 6.8	3.80	15.00	1.20	1.00	10.00	XP2040
7813035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XP2040
7813036	●	ZDKT11T332SR-GL	2	11 x 6.8	3.80	15.00	3.20	1.50	10.00	XP2040
7813025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP2040
7813032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2040
7813053	●	ZDKT11T312SR-GM	2	11 x 6.8	3.80	15.00	1.20	1.00	10.00	XP2040
7813038	●	ZDKT11T320SR-GM	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XP2040
7813054	●	ZDKT11T330SR-GM	2	11 x 6.8	3.80	15.00	3.00	1.50	10.00	XP2040
7813055	●	ZDKT11T340SR-GM	2	11 x 6.8	3.80	15.00	4.00	-	10.00	XP2040
7813033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP2040
7828026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3025
7828025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP3025
7828032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3025
7828033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3025
7814024	●	ZDKT11T304SR-GL	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP3035
7814026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3035
7814035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XP3035
7814025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15.00	0.40	1.80	10.00	XP3035
7814032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3035
7814053	●	ZDKT11T312SR-GM	2	11 x 6.8	3.80	15.00	1.20	1.00	10.00	XP3035
7814038	●	ZDKT11T320SR-GM	2	11 x 6.8	3.80	15.00	2.00	2.10	10.00	XP3035
7814039	●	ZDKT11T325SR-GM	2	11 x 6.8	3.80	15.00	2.50	1.60	10.00	XP3035
7814054	●	ZDKT11T330SR-GM	2	11 x 6.8	3.80	15.00	3.00	1.50	10.00	XP3035
7814055	●	ZDKT11T340SR-GM	2	11 x 6.8	3.80	15.00	4.00	-	10.00	XP3035
7814033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP3035
7824035	●	ZDKT11T308SR-HR	2	11 x 6.8	3.80	15.00	0.80	1.40	10.00	XP6015
7811046	●	ZDKT150508FR-NM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	CK010
7812058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC1015
7812029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC1015

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PSE (Continued)

PACKED 10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS

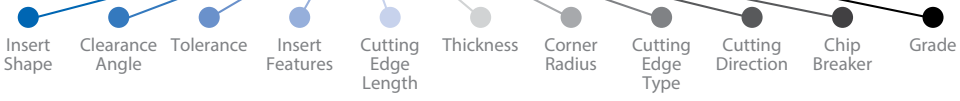
EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7827057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3020
7827028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3020
7827058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3020
7825057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3030
7825029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3030
7825058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC3030
7815056	●	ZDKT150508ER-SM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC5035
7816056	●	ZDKT150508ER-SM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XC5040
7826057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2025
7826029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2025
7813057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2040
7813028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2040
7813077	●	ZDKT150512SR-GM	2	15 x 9.3	5.56	15.00	1.20	1.20	14.00	XP2040
7813078	●	ZDKT150516SR-GM	2	15 x 9.3	5.56	15.00	1.60	0.80	14.00	XP2040
7813079	●	ZDKT150520SR-GM	2	15 x 9.3	5.56	15.00	2.00	2.10	14.00	XP2040
7813080	●	ZDKT150530SR-GM	2	15 x 9.3	5.56	15.00	3.00	1.90	14.00	XP2040
7813081	●	ZDKT150540SR-GM	2	15 x 9.3	5.56	15.00	4.00	1.10	14.00	XP2040
7813082	●	ZDKT150550SR-GM	2	15 x 9.3	5.56	15.00	5.00	0.70	14.00	XP2040
7813058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP2040
7828057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3025
7828028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3025
7828058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3025
7814057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3035
7814029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3035
7814077	●	ZDKT150512SR-GM	2	15 x 9.3	5.56	15.00	1.20	1.20	14.00	XP3035
7814078	●	ZDKT150516SR-GM	2	15 x 9.3	5.56	15.00	1.60	0.80	14.00	XP3035
7814079	●	ZDKT150520SR-GM	2	15 x 9.3	5.56	15.00	2.00	2.10	14.00	XP3035
7814080	●	ZDKT150530SR-GM	2	15 x 9.3	5.56	15.00	3.00	1.90	14.00	XP3035
7814081	●	ZDKT150540SR-GM	2	15 x 9.3	5.56	15.00	4.00	1.10	14.00	XP3035
7814082	●	ZDKT150550SR-GM	2	15 x 9.3	5.56	15.00	5.00	0.70	14.00	XP3035
7814058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP3035
7824036	●	ZDKT150508SR-HR	2	15 x 9.3	5.56	15.00	0.80	1.60	14.00	XP6015

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

Z D K T 11 T3 08 S R-GL XP3035



See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GM / GR	N			◎			
XC3020	GL / GM / GR	N	◎		○			
XC3030	GL / GM / GR	N	◎		○			
XC5035	SM	Y		◎			○	
XC5040	SM	Y		○			◎	
XP2025	GL / GM	Y	○	◎			○	
XP2040	GL / GM / GR	Y	○	◎			○	○
XP3025	GL / GM / GR	Y	◎		○			
XP3035	GL / GM / GR	N	◎	○	○			
XP6015	HR	N	○		○			◎

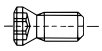
GL:Light Cutting GM:Medium Cutting GR: Rough Cutting NM:Aluminum SM:Heat Resistant Alloy HR: Hardened Steel

○ Good ◎ Best

List 7808H

OSG PHOENIX® PSEL ACCESSORIES

PACKED 1 PIECE | PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808107	●	FS25656P (M2.5 x 5.6, Torx 8IP)	ZD_T11	PSEL SA/FA Ø1.000	PSEL SS Ø25	1.6 Nm
	7808109	●	FS25673P (M2.5 x 7.3, Torx 8IP)	ZD_T11	PSEL SA/FA Ø1.250-1.500	PSEL SS Ø32-40	1.6 Nm
	7808115	●	FS35686P (M3.5 x 8.6, Torx 15IP)	ZDKT15	PSEL15 SA/FA Ø1.500, PSEL BORE Ø2.000-3.000	PSEL SS Ø40-50, PSEL BORE Ø50-80	3.2 Nm
 Coolant Cap Bolt	7808132	●	OCB-M20-08	-	PSEL BORE Ø2.000	PSEL BORE Ø50	-
	7808133	●	OCB-M24-10	-	PSEL BORE Ø2.500	PSEL BORE Ø63	-
	7808134	●	OCB-M30-14	-	PSEL BORE Ø3.000	PSEL BORE Ø80	-
 Wrench	7808225	●	8IP-D (Torx 8IP)	ZD_T11	PSEL SA/FA Ø1.000-1.500	PSEL SS Ø25-40	-
	7808228	●	15IP-D (Torx 15IP)	ZDKT15	PSEL SA/FA Ø1.500, PSEL BORE Ø2.000-3.000	PSEL SS Ø40-50, PSEL BORE Ø50-80	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Coolant Cap Bolt = 1 pc.; Wrench = 1 pc.

PXT

List 53100

OSG PHOENIX® PSTW BORE

SPEED FEED 1531 | INSERTS 1227 | ACCS. 1228 | STEEL | PACKED 1 PIECE

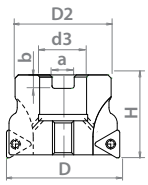


EDP Number		Designation	Type	Diameter D (Inch)	Number of Flutes	Body Height H (Inch)	Flange Diameter D2 (Inch)	Bore Diameter d3 (Inch)	Keyway Width a (Inch)	Keyway Depth b (Inch)	Applicable Insert
53100000	●	PSTW12R200A075-3	1	2.000	3	1.575	1.772	0.750	0.315	0.197	TNKU12
53100001	●	PSTW12R250A075-3	2	2.500	3	1.575	1.968	0.750	0.315	0.197	TNKU12
53100002	●	PSTW12R300A100-5	2	3.000	5	1.968	2.362	1.000	0.375	0.236	TNKU12
53100003	●	PSTW12R400A125-5	3	4.000	5	1.968	2.756	1.250	0.500	0.315	TNKU12
53100004	●	PSTW12R500A150-7	3	5.000	7	2.480	3.543	1.500	0.625	0.394	TNKU12
53100010	●	PSTW12R600A150-8	3	6.000	8	2.480	3.740	1.500	0.625	0.394	TNKU12
53100005	●	PSTW12R200A075-4	1	2.000	4	1.575	1.772	0.750	0.315	0.197	TNKU12
53100006	●	PSTW12R250A075-5	2	2.500	5	1.575	1.968	0.750	0.315	0.197	TNKU12
53100007	●	PSTW12R300A100-6	2	3.000	6	1.968	2.362	1.000	0.375	0.236	TNKU12
53100008	●	PSTW12R400A125-7	3	4.000	7	1.968	2.756	1.250	0.500	0.315	TNKU12
53100009	●	PSTW12R500A150-9	3	5.000	9	2.480	3.543	1.500	0.625	0.394	TNKU12
53100011	●	PSTW12R600A150-10	3	6.000	10	2.480	3.740	1.500	0.625	0.394	TNKU12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

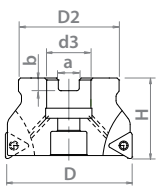
PXT

Type 1



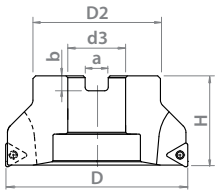
Power Screw Type
With coolant hole.

Type 2



With coolant hole.

Type 3



Without coolant hole.

DESIGNATION EXPLANATION

PSTW 12 R 200 A 075-3

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78131

OSG PHOENIX® PSTW BORE

SPEED FEED 1531 | INSERTS 1227 | ACCS. 1228 | STEEL | PACKED 1 PIECE

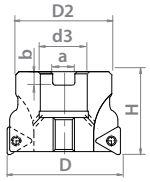


EDP Number		Designation	Type	Diameter D (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7803100	▲	PSTW12R050M22-3	1	50.00	3	40.00	45.00	22.00	10.40	6.30	TNKU12
7803101	▲	PSTW12R050M22-4	1	50.00	4	40.00	45.00	22.00	10.40	6.30	TNKU12
7803102	▲	PSTW12R063M22-3	2	63.00	3	40.00	50.00	22.00	10.40	6.30	TNKU12
7803103	▲	PSTW12R063M22-5	2	63.00	5	40.00	50.00	22.00	10.40	6.30	TNKU12
7803104	▲	PSTW12R080M25.4-5	2	80.00	5	50.00	60.00	25.40	9.50	6.00	TNKU12
7803105	▲	PSTW12R080M25.4-6	2	80.00	6	50.00	60.00	25.40	9.50	6.00	TNKU12
7803106	▲	PSTW12R100M31.7-5	3	100.00	5	50.00	70.00	31.75	12.70	8.00	TNKU12
7803107	▲	PSTW12R100M31.7-7	3	100.00	7	50.00	70.00	31.75	12.70	8.00	TNKU12
7803108	▲	PSTW12R125M38.1-7	3	125.00	7	63.00	90.00	38.10	15.90	10.00	TNKU12
7803109	▲	PSTW12R125M38.1-9	3	125.00	9	63.00	90.00	38.10	15.90	10.00	TNKU12
7803110	▲	PSTW12R080M27-5	2	80.00	5	50.00	60.00	27.00	12.40	7.00	TNKU12
7803111	▲	PSTW12R080M27-6	2	80.00	6	50.00	60.00	27.00	12.40	7.00	TNKU12
7803112	▲	PSTW12R100M32-5	2	100.00	5	50.00	70.00	32.00	14.40	8.00	TNKU12
7803113	▲	PSTW12R100M32-7	2	100.00	7	50.00	70.00	32.00	14.40	8.00	TNKU12
7803114	▲	PSTW12R125M40-7	2	125.00	7	63.00	90.00	40.00	16.40	9.00	TNKU12
7803115	▲	PSTW12R125M40-9	2	125.00	9	63.00	90.00	40.00	16.40	9.00	TNKU12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

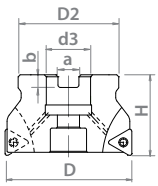
PXT

Type 1



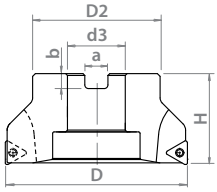
Power Screw Type
With coolant hole.

Type 2



With coolant hole.

Type 3



Without coolant hole.

DESIGNATION EXPLANATION

PSTW 12 R 050 M 22-3

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	○

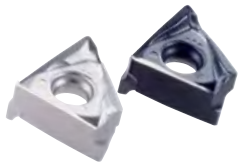
Material recommendation based on inserts compatible with this tool body.

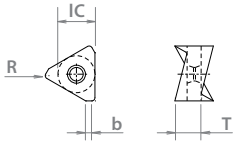
○ Good ◎ Best

List 78PSTW

PACKED
10 PIECE

OSG PHOENIX® PSTW INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size					Grade
				IC (mm)	T (mm)	R (mm)	b (mm)	Aa Max (mm)	
7811087	●	TNKU120608ER-NM	6	10.80	6.55	0.80	1.25	12.00	CK010
7812088	●	TNKU120608ER-GM	6	10.80	6.55	0.80	1.50	12.00	XC1015
7812090	●	TNKU120608ER-GR	6	10.80	6.55	0.80	1.50	12.00	XC1015
7827088	●	TNKU120608ER-GM	6	10.80	6.55	0.80	1.50	12.00	XC3020
7825089	●	TNKU120608ER-GL	6	10.80	6.55	0.80	1.50	12.00	XC3030
7825088	●	TNKU120608ER-GM	6	10.80	6.55	0.80	1.50	12.00	XC3030
7816091	●	TNKU120608ER-SM	6	10.80	6.55	0.80	1.50	12.00	XC5040
7821088	●	TNKU120608ER-GM	6	10.80	6.55	0.80	1.50	12.00	XP1020
7821090	●	TNKU120608ER-GR	6	10.80	6.55	0.80	1.50	12.00	XP1020
7813089	●	TNKU120608ER-GL	6	10.80	6.55	0.80	1.50	12.00	XP2040
7813088	●	TNKU120608ER-GM	6	10.80	6.55	0.80	1.50	12.00	XP2040
7813094	●	TNKU120612ER-GM	6	10.80	6.55	1.20	1.00	12.00	XP2040
7813095	●	TNKU120616ER-GM	6	10.80	6.55	1.60	0.75	12.00	XP2040
7813096	●	TNKU120620ER-GM	6	10.80	6.55	2.00	0.60	12.00	XP2040
7828088	●	TNKU120608ER-GM	6	10.80	6.55	0.80	1.50	12.00	XP3025
7814089	●	TNKU120608ER-GL	6	10.80	6.55	0.80	1.50	12.00	XP3035
7814088	●	TNKU120608ER-GM	6	10.80	6.55	0.80	1.50	12.00	XP3035
7814094	●	TNKU120612ER-GM	6	10.80	6.55	1.20	1.00	12.00	XP3035
7814095	●	TNKU120616ER-GM	6	10.80	6.55	1.60	0.75	12.00	XP3035
7814096	●	TNKU120620ER-GM	6	10.80	6.55	2.00	0.60	12.00	XP3035

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

T N K U 12 06 08 E R-GL XP3035

Insert Shape	Clearance Angle	Tolerance	Insert Features	Cutting Edge Length	Thickness	Corner Radius	Cutting Edge Type	Cutting Direction	Chip Breaker	Grade

See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GM	N			◎			
XC1015	GR	N			◎			
XC3020	GM	N	◎		○			
XC3030	GL / GM	N	◎		○			
XC5040	SM	Y		○			◎	
XP1020	GM / GR	N			◎			
XP2040	GL / GM	Y	○	◎			○	○
XP3025	GM	Y	◎		○			
XP3035	GL / GM	N	◎	○	○			

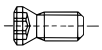
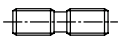
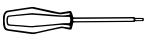
GL: Light Cutting GM: Medium Cutting GR: Rough Cutting SM: Heat Resistant Alloy
*: XC1015 best recommended for grey cast iron
**: XP1020 best recommended for ductile cast iron

○ Good ◎ Best

List 7808H

OSG PHOENIX® PSTW ACCESSORIES

PACKED 1 PIECE | PACKED 10 PIECE

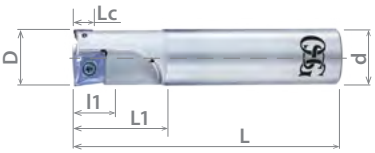
Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808129	●	FS40511 (M4 x 11, Torx 15)	TNKU12	PSTW BORE Ø2.000-5.000	PSTW BORE Ø50-125	5.0 Nm
 Power Screw	7808151	●	PS1031 (M10x31)	TNKU12	PSTW BORE Ø2.000	PSTW BORE Ø50	20.0 Nm
 Wrench	7808208	●	T15-D (Torx 15)	TNKU12	PSTW BORE Ø2.000-5.000	PSTW BORE Ø50-125	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Power Screw = 1 pc.; Wrench = 1 pc.

PXT

List 53400

OSG PHOENIX® PMD SA



SPEED FEED 1532-1533 | INSERTS 1233-1236 | ACCS. 1237 | STEEL | 2 FLUTE | PACKED 1 PIECE

EDP Number		Designation	Body Type	Dia. D (Inch)	Number of Effective Flutes	Length of Cut Lc (Inch)	Drilling Depth l1 (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Center Insert	Peripheral Insert
53400001	●	PMD11R100SA100-1S	Cylindrical Shank Short	1.000	1	0.394	1.000	1.750	5.500	1.000	ZPNT13	ZDKT11
53400002	●	PMD11R125SA125-1S	Cylindrical Shank Short	1.250	1	0.394	1.250	2.000	6.000	1.250	ZPNT17	ZDKT11
53400004	●	PMD11R100SA100-1L	Cylindrical Shank Long	1.000	1	0.394	1.000	4.000	8.000	1.000	ZPNT13	ZDKT11
53400005	●	PMD11R125SA125-1L	Cylindrical Shank Long	1.250	1	0.394	1.250	5.000	9.000	1.250	ZPNT17	ZDKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PMD 11 R 100 SA 100-1S

- PMD — Series
- 11 — Insert Size
- R — Cutting Direction
- 100 — Diameter
- SA — Body Type
- 100 — Shank Diameter
- 1 — Number of Effective Flutes
- S — Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
○	◎	◎	◎	◎	◎

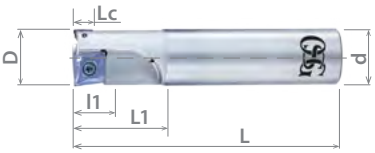
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78234

OSG PHOENIX® PMD SS

SPEED FEED 1532-1533 | INSERTS 1233-1236 | ACCS. 1237 | STEEL | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Body Type	Dia. D (mm)	Number of Effective Flutes	Length of Cut Lc (mm)	Drilling Depth l1 (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Center Insert	Peripheral Insert
7803410	▲	PMD11R020SS020-1S	Cylindrical Shank Short	20.00	1	10.00	20.00	35.00	130.00	20.00	ZPNT10	ZDKT11
7803411	▲	PMD11R025SS025-1S	Cylindrical Shank Short	25.00	1	10.00	25.00	45.00	140.00	25.00	ZPNT13	ZDKT11
7803412	▲	PMD11R032SS032-1S	Cylindrical Shank Short	32.00	1	10.00	28.00	50.00	150.00	32.00	ZPNT17	ZDKT11
7803413	▲	PMD11R020SS020-1L	Cylindrical Shank Long	20.00	1	10.00	20.00	60.00	185.00	20.00	ZPNT10	ZDKT11
7803414	▲	PMD11R025SS025-1L	Cylindrical Shank Long	25.00	1	10.00	25.00	75.00	220.00	25.00	ZPNT13	ZDKT11
7803415	▲	PMD11R032SS032-1L	Cylindrical Shank Long	32.00	1	10.00	28.00	90.00	230.00	32.00	ZPNT17	ZDKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PMD 11 R 020 SS 20-1S

Series | Insert Size | Cutting Direction | Diameter | Body Type | Shank Diameter | Number of Effective Flutes | Body Length

See Full Detail on Page 1524

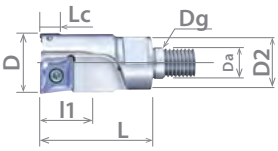
P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
○	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52606

OSG PHOENIX® PMD ASF, Screw Fit Head



SPEED FEED 1532-1533 | INSERTS 1233-1236 | ACCS. 1237 | STEEL | 2 FLUTE | PACKED 1 PIECE

EDP Number		Designation	Dia. D (Inch)	Number of Effective Flutes	Pilot Dia. Da (Inch)	Thread Size Dg (mm)	Flange Dia. D2 (Inch)	Length of Cut Lc (Inch)	Drilling Depth l1 (Inch)	Overall Length L (Inch)	Spanner Wrench	Center Insert	Peripheral Insert
52606001	▲	PMD11R100ASF12-1	1.000	1	0.492	M12	0.905	0.394	1.000	1.890	17	ZPNT13	ZDKT11
52606002	▲	PMD11R125ASF16-1	1.250	1	0.669	M16	1.102	0.394	1.250	2.087	22	ZPNT17	ZDKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PMD 11 R 100 ASF 12-1

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Diameter | Number of Effective Flutes

See Full Detail on Page 1524

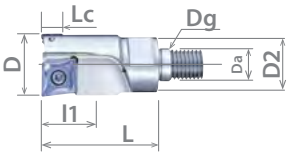
P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
○	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78334

OSG PHOENIX® PMD SF, Screw Fit Head



SPEED FEED 1532-1533 | INSERTS 1233-1236 | ACCS. 1237 | STEEL | 2 FLUTE | PACKED 1 PIECE

EDP Number		Designation	Dia. D (mm)	Number of Effective Flutes	Pilot Dia. Da (mm)	Thread Size Dg (mm)	Flange Dia. D2 (mm)	Length of Cut Lc (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Spanner Wrench	Center Insert	Peripheral Insert
7803416	▲	PMD11R020SF10-1	20.00	1	10.50	M10	18.00	10.00	20.00	48.00	14	ZPNT10	ZDKT11
7803417	▲	PMD11R025SF12-1	25.00	1	12.50	M12	23.00	10.00	25.00	48.00	17	ZPNT13	ZDKT11
7803418	▲	PMD11R032SF16-1	32.00	1	17.00	M16	28.00	10.00	28.00	58.00	22	ZPNT17	ZDKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PMD 11 R 020 SF 10-1

- PMD — Series
- 11 — Insert Size
- R — Cutting Direction
- 020 — Diameter
- SF — Body Type
- 10 — Thread Diameter
- 1 — Number of Effective Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
○	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

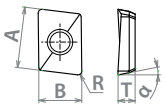
○ Good ◎ Best

List 78PZAG

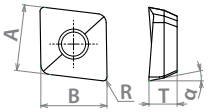
PACKED
10 PIECE

OSG PHOENIX® PZAG / PDZ / PMD INSERTS





Type 1



Type 2

EDP Number		Designation	Number of Cutting Edges	Insert Size				Type	Grade
				AxB (mm)	T (mm)	α (°)	R (mm)		
7815101	●	ZPNT040104ER	2	6.35 x 4.45	1.76	11	0.40	1	XC8035
7815102	●	ZPNT050204EN	2	5.9 x 5.9	2.25	11	0.40	2	XC8035
7815103	●	ZPNT060204EN	2	6.95 x 6.95	2.93	11	0.40	2	XC8035
7815104	●	ZPNT070304EN	2	7.84 x 7.84	3.87	11	0.40	2	XC8035
7815105	●	ZPNT080304EN	2	8.85 x 8.85	3.92	11	0.40	2	XC8035
7815106	●	ZPNT090404EN	2	9.94 x 9.94	4.65	11	0.40	2	XC8035
7815108	●	ZPNT100408EN	2	10.95 x 10.95	4.65	11	0.80	2	XC8035
7815109	●	ZPNT130504EN	2	13.92 x 13.92	5.46	11	0.40	2	XC8035
7815110	●	ZPNT130508EN	2	13.92 x 13.92	5.46	11	0.80	2	XC8035
7815111	●	ZPNT170608EN	2	17.85 x 17.85	6.31	11	0.80	2	XC8035
7814101	●	ZPNT040104ER	2	6.35 x 4.45	1.76	11	0.40	1	XP8030
7814102	●	ZPNT050204EN	2	5.9 x 5.9	2.25	11	0.40	2	XP8030
7814103	●	ZPNT060204EN	2	6.95 x 6.95	2.93	11	0.40	2	XP8030
7814104	●	ZPNT070304EN	2	7.84 x 7.84	3.87	11	0.40	2	XP8030
7814105	●	ZPNT080304EN	2	8.85 x 8.85	3.92	11	0.40	2	XP8030
7814106	●	ZPNT090404EN	2	9.94 x 9.94	4.65	11	0.40	2	XP8030
7814108	●	ZPNT100408EN	2	10.95 x 10.95	4.65	11	0.80	2	XP8030
7814109	●	ZPNT130504EN	2	13.92 x 13.92	5.46	11	0.40	2	XP8030
7814110	●	ZPNT130508EN	2	13.92 x 13.92	5.46	11	0.80	2	XP8030
7814111	●	ZPNT170608EN	2	17.85 x 17.85	6.31	11	0.80	2	XP8030

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

Z P N T 04 02 04 E R XC8035

Insert Shape · Clearance Angle · Tolerance · Insert Features · Cutting Edge Length · Thickness · Corner Radius · Cutting Edge Type · Cutting Direction · Grade

See Full Detail on Pages 1522-1523

Insert Grade	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC8035	Y	○	○	◎			
XP8030	Y	◎	◎	○	○	○	○

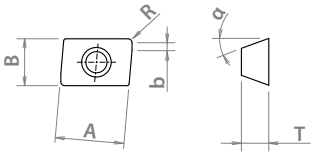
○ Good ◎ Best

List 78PSE

PACKED
10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7811112	●	ZDKT070302FR-NM	2	8.2 x 4	2.54	15	0.20	1.10	6.00	CK010
7811113	●	ZDKT070304FR-NM	2	8.2 x 4	2.54	15	0.40	0.90	6.00	CK010
7812114	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15	0.40	0.90	6.00	XC1015
7812115	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15	0.80	0.50	6.00	XC1015
7825127	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15	0.40	0.90	6.00	XC3030
7825129	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15	0.80	0.50	6.00	XC3030
7825128	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15	0.40	0.90	6.00	XC3030
7825130	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15	0.80	0.50	6.00	XC3030
7826121	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15	0.40	0.90	6.00	XP2025
7826122	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15	0.80	0.50	6.00	XP2025
7813117	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15	0.40	0.90	6.00	XP2040
7813119	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15	0.80	0.50	6.00	XP2040
7813116	●	ZDKT070302SR-GM	2	8.2 x 4	2.54	15	0.20	1.10	6.00	XP2040
7813118	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15	0.40	0.90	6.00	XP2040
7813120	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15	0.80	0.50	6.00	XP2040
7814123	●	ZDKT070304SR-GL	2	8.2 x 4	2.54	15	0.40	0.90	6.00	XP3035
7814125	●	ZDKT070308SR-GL	2	8.2 x 4	2.54	15	0.80	0.50	6.00	XP3035
7814124	●	ZDKT070304SR-GM	2	8.2 x 4	2.54	15	0.40	0.90	6.00	XP3035
7814126	●	ZDKT070308SR-GM	2	8.2 x 4	2.54	15	0.80	0.50	6.00	XP3035
7811010	●	ZDHT11T302FR-NM	2	11 x 6.8	3.50	15	0.20	2.00	10.00	CK010
7811024	●	ZDHT11T304FR-NM	2	11 x 6.8	3.50	15	0.40	1.80	10.00	CK010
7811014	●	ZDHT11T308FR-NM	2	11 x 6.8	3.50	15	0.80	1.40	10.00	CK010
7811015	●	ZDHT11T312FR-NM	2	11 x 6.8	3.50	15	1.20	1.40	10.00	CK010
7811017	●	ZDHT11T316FR-NM	2	11 x 6.8	3.50	15	1.60	1.40	10.00	CK010
7811018	●	ZDHT11T320FR-NM	2	11 x 6.8	3.50	15	2.00	1.40	10.00	CK010
7811019	●	ZDHT11T325FR-NM	2	11 x 6.8	3.50	15	2.50	1.40	10.00	CK010
7811020	●	ZDHT11T332FR-NM	2	11 x 6.8	3.50	15	3.20	0.80	10.00	CK010
7811021	●	ZDHT11T340FR-NM	2	11 x 6.8	3.50	15	4.00	-	10.00	CK010
7811022	●	ZDHT11T350FR-NM	2	11 x 6.8	3.50	15	5.00	-	10.00	CK010
7811048	●	ZDKT11T302FR-NM	2	11 x 6.8	3.80	15	0.20	2.00	10.00	CK010
7811049	●	ZDKT11T304FR-NM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	CK010
7811023	●	ZDKT11T308FR-NM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	CK010
7812025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XC1015
7812033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC1015
7827026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC3020
7827025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XC3020
7827032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC3020
7827033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC3020
7825024	●	ZDKT11T304SR-GL	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XC3030
7825026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC3030
7825035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15	2.00	2.10	10.00	XC3030
7825025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XC3030
7825032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC3030
7825039	●	ZDKT11T325SR-GM	2	11 x 6.8	3.80	15	2.50	1.60	10.00	XC3030
7825033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC3030
7815027	●	ZDKT11T316ER-SM	2	11 x 6.8	3.80	15	1.60	0.80	10.00	XC5035
7815031	●	ZDKT11T308ER-SM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC5035
7816027	●	ZDKT11T316ER-SM	2	11 x 6.8	3.80	15	1.60	0.80	10.00	XC5040
7816031	●	ZDKT11T308ER-SM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XC5040
7816034	●	ZDKT11T304ER-SM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XC5040
7816040	●	ZDKT11T312ER-SM	2	11 x 6.8	3.80	15	1.20	1.10	10.00	XC5040
7816041	●	ZDKT11T320ER-SM	2	11 x 6.8	3.80	15	2.00	0.30	10.00	XC5040
7816042	●	ZDKT11T325ER-SM	2	11 x 6.8	3.80	15	2.50	-	10.00	XC5040

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PSE (Continued)

PACKED 10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS

EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7816043	●	ZDKT11T332ER-SM	2	11 x 6.8	3.80	15	3.20	-	10.00	XC5040
7816044	●	ZDKT11T340ER-SM	2	11 x 6.8	3.80	15	4.00	-	10.00	XC5040
7826026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP2025
7826025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XP2025
7826032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP2025
7813026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP2040
7813034	●	ZDKT11T312SR-GL	2	11 x 6.8	3.80	15	1.20	1.00	10.00	XP2040
7813035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15	2.00	2.10	10.00	XP2040
7813036	●	ZDKT11T332SR-GL	2	11 x 6.8	3.80	15	3.20	1.50	10.00	XP2040
7813025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XP2040
7813032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP2040
7813053	●	ZDKT11T312SR-GM	2	11 x 6.8	3.80	15	1.20	1.00	10.00	XP2040
7813038	●	ZDKT11T320SR-GM	2	11 x 6.8	3.80	15	2.00	2.10	10.00	XP2040
7813054	●	ZDKT11T330SR-GM	2	11 x 6.8	3.80	15	3.00	1.50	10.00	XP2040
7813055	●	ZDKT11T340SR-GM	2	11 x 6.8	3.80	15	4.00	-	10.00	XP2040
7813033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP2040
7828026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP3025
7828025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XP3025
7828032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP3025
7828033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP3025
7814024	●	ZDKT11T304SR-GL	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XP3035
7814026	●	ZDKT11T308SR-GL	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP3035
7814035	●	ZDKT11T320SR-GL	2	11 x 6.8	3.80	15	2.00	2.10	10.00	XP3035
7814025	●	ZDKT11T304SR-GM	2	11 x 6.8	3.80	15	0.40	1.80	10.00	XP3035
7814032	●	ZDKT11T308SR-GM	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP3035
7814053	●	ZDKT11T312SR-GM	2	11 x 6.8	3.80	15	1.20	1.00	10.00	XP3035
7814038	●	ZDKT11T320SR-GM	2	11 x 6.8	3.80	15	2.00	2.10	10.00	XP3035
7814039	●	ZDKT11T325SR-GM	2	11 x 6.8	3.80	15	2.50	1.60	10.00	XP3035
7814054	●	ZDKT11T330SR-GM	2	11 x 6.8	3.80	15	3.00	1.50	10.00	XP3035
7814055	●	ZDKT11T340SR-GM	2	11 x 6.8	3.80	15	4.00	-	10.00	XP3035
7814033	●	ZDKT11T308SR-GR	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP3035
7824035	●	ZDKT11T308SR-HR	2	11 x 6.8	3.80	15	0.80	1.40	10.00	XP6015
7811046	●	ZDKT150508FR-NM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	CK010
7812058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC1015
7812029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC1015
7827057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC3020
7827028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC3020
7827058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC3020
7825057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC3030
7825029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC3030
7825058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC3030

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

CONTINUED ›

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GM / GR	N			◎			
XC3020	GL / GM / GR	N	◎		○			
XC3030	GL / GM / GR	N	◎		○			
XC5035	SM	Y		◎			○	
XC5040	SM	Y		○			◎	
XP2025	GL / GM	Y	○	◎			○	
XP2040	GL / GM / GR	Y	○	◎			○	○
XP3025	GL / GM / GR	Y	◎		○			
XP3035	GL / GM / GR	N	◎	○	○			
XP6015	HR	N	○		○			◎

GL:Light Cutting GM:Medium Cutting GR: Rough Cutting NM:Aluminum SM:Heat Resistant Alloy HR: Hardened Steel

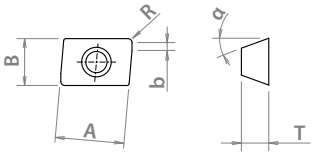
○ Good ◎ Best

List 78PSE (Continued)

PACKED
10 PIECE

OSG PHOENIX® PSE / PSEL / PMD INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	Aa Max (mm)	
7815056	●	ZDKT150508ER-SM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC5035
7816056	●	ZDKT150508ER-SM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XC5040
7826057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP2025
7826029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP2025
7813057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP2040
7813028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP2040
7813077	●	ZDKT150512SR-GM	2	15 x 9.3	5.56	15	1.20	1.20	14.00	XP2040
7813078	●	ZDKT150516SR-GM	2	15 x 9.3	5.56	15	1.60	0.80	14.00	XP2040
7813079	●	ZDKT150520SR-GM	2	15 x 9.3	5.56	15	2.00	2.10	14.00	XP2040
7813080	●	ZDKT150530SR-GM	2	15 x 9.3	5.56	15	3.00	1.90	14.00	XP2040
7813081	●	ZDKT150540SR-GM	2	15 x 9.3	5.56	15	4.00	1.10	14.00	XP2040
7813082	●	ZDKT150550SR-GM	2	15 x 9.3	5.56	15	5.00	0.70	14.00	XP2040
7813058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP2040
7828057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP3025
7828028	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP3025
7828058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP3025
7814057	●	ZDKT150508SR-GL	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP3035
7814029	●	ZDKT150508SR-GM	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP3035
7814077	●	ZDKT150512SR-GM	2	15 x 9.3	5.56	15	1.20	1.20	14.00	XP3035
7814078	●	ZDKT150516SR-GM	2	15 x 9.3	5.56	15	1.60	0.80	14.00	XP3035
7814079	●	ZDKT150520SR-GM	2	15 x 9.3	5.56	15	2.00	2.10	14.00	XP3035
7814080	●	ZDKT150530SR-GM	2	15 x 9.3	5.56	15	3.00	1.90	14.00	XP3035
7814081	●	ZDKT150540SR-GM	2	15 x 9.3	5.56	15	4.00	1.10	14.00	XP3035
7814082	●	ZDKT150550SR-GM	2	15 x 9.3	5.56	15	5.00	0.70	14.00	XP3035
7814058	●	ZDKT150508SR-GR	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP3035
7824036	●	ZDKT150508SR-HR	2	15 x 9.3	5.56	15	0.80	1.60	14.00	XP6015

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

Z D K T 11 T3 08 S R-GL XP3035

Insert Shape	Clearance Angle	Tolerance	Insert Features	Cutting Edge Length	Thickness	Corner Radius	Cutting Edge Type	Cutting Direction	Chip Breaker	Grade

See Full Detail on Pages 1522-1523

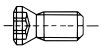
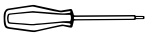
Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	GM / GR	N			◎			
XC3020	GL / GM / GR	N	◎		○			
XC3030	GL / GM / GR	N	◎		○			
XC5035	SM	Y		◎			○	
XC5040	SM	Y		○			◎	
XP2025	GL / GM	Y	○	◎			○	
XP2040	GL / GM / GR	Y	○	◎			○	○
XP3025	GL / GM / GR	Y	◎		○			
XP3035	GL / GM / GR	N	◎	○	○			
XP6015	HR	N	○		○			◎

GL:Light Cutting GM:Medium Cutting GR: Rough Cutting NM:Aluminum SM:Heat Resistant Alloy HR: Hardened Steel ○ Good ◎ Best

List 7808H

OSG PHOENIX® PMD ACCESSORIES

PACKED 1 PIECE | PACKED 10 PIECE

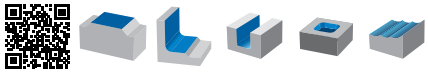
Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808107	●	FS25656P (M2.5 x 5.6, Torx 8IP)	ZD_T11	PMD SA/ASF Ø1.000-1.250	PMD SS/SF Ø20-32	1.6 Nm
	7808115	●	FS35686P (M3.5 x 8.6, Torx 15IP)	ZPNT10	-	PMD SS/SF Ø20	3.2 Nm
	7808114	●	FS45510P (M4.5 x 10, Torx 20IP)	ZPNT13, ZPNT17	PMD SA/ASF Ø1.000, PMD SA/ASF Ø1.250	PMD SS/SF Ø25, PMD SS/SF Ø32	5.0 Nm
 Wrench	7808225	●	8IP-D (Torx 8IP)	ZD_T11	PMD SF/ASF Ø1.000-1.250	PMD SS/SF Ø20-32	-
	7808228	●	15IP-D (Torx 15IP)	ZPNT10	-	PMD SS/SF Ø20	-
	7808229	●	20IP-D (Torx 20IP)	ZPNT13	PMD SA/ASF Ø1.000	PMD SS/SF Ø25	-
				ZPNT17	PMD SA/ASF Ø1.250	PMD SS/SF Ø32	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

PXT

List 78009

OSG PHOENIX® PHC SA/FA



SPEED FEED	INSERTS	ACCS.	STEEL	PACKED
1534-1535	1246	1247		1 PIECE



EDP Number		Designation	Body Type	Type	Dia. D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Applicable Insert
7800905	●	PHC07R063SA063-2S	Cylindrical Shank Short	1	0.625	0.286	2	1.181	3.937	0.625	SPMT07
7800906	●	PHC07R075SA075-3S	Cylindrical Shank Short	1	0.750	0.411	3	1.968	5.118	0.750	SPMT07
7800900	●	PHC09R100SA100-2S	Cylindrical Shank Short	1	1.000	0.535	2	2.362	5.512	1.000	SDMT09
7800901	●	PHC09R100SA100-3S	Cylindrical Shank Short	1	1.000	0.535	3	2.362	5.512	1.000	SDMT09
7800907	●	PHC07R100SA100-4S	Cylindrical Shank Short	1	1.000	0.661	4	2.362	5.512	1.000	SPMT07
7800902	●	PHC09R125SA125-3S	Cylindrical Shank Short	1	1.250	0.785	3	2.756	5.906	1.250	SDMT09
7800903	●	PHC12R125SA125-2S	Cylindrical Shank Short	1	1.250	0.596	2	2.756	5.906	1.250	SXMT12
7800908	●	PHC07R125SA125-5S	Cylindrical Shank Short	1	1.250	0.911	5	2.756	5.905	1.250	SPMT07
7800904	●	PHC12R150SA125-3S	Cylindrical Shank Short	2	1.500	0.846	3	1.969	5.906	1.250	SXMT12
7800909	●	PHC07R063SA063-2L	Cylindrical Shank Long	1	0.625	0.286	2	1.968	5.905	0.625	SPMT07
7800913	●	PHC07R075SA075-3L	Cylindrical Shank Long	1	0.750	0.411	3	3.150	6.299	0.750	SPMT07
7800914	●	PHC07R100SA100-4L	Cylindrical Shank Long	1	1.000	0.661	4	3.937	7.874	1.000	SPMT07
7800922	●	PHC09R100SA100-2L	Cylindrical Shank Long	1	1.000	0.535	2	4.724	7.874	1.000	SDMT09
7800923	●	PHC09R100SA100-3L	Cylindrical Shank Long	1	1.000	0.535	3	4.724	7.874	1.000	SDMT09
7800915	●	PHC07R125SA125-5L	Cylindrical Shank Long	1	1.250	0.911	5	4.724	7.874	1.250	SPMT07
7800924	●	PHC09R125SA125-3L	Cylindrical Shank Long	1	1.250	0.785	3	4.724	7.874	1.250	SDMT09
7800925	●	PHC12R125SA125-2L	Cylindrical Shank Long	1	1.250	0.596	2	4.724	7.874	1.250	SXMT12
7800926	●	PHC12R150SA125-3L	Cylindrical Shank Long	2	1.500	0.846	3	2.756	9.843	1.250	SXMT12
7800927	●	PHC09R100SA100-2LL	Cylindrical Shank Extra-Long	1	1.000	0.535	2	7.087	11.811	1.000	SDMT09
7800928	●	PHC09R100SA100-3LL	Cylindrical Shank Extra-Long	1	1.000	0.535	3	7.087	11.811	1.000	SDMT09
7800929	●	PHC09R125SA125-3LL	Cylindrical Shank Extra-Long	1	1.250	0.785	3	7.087	11.811	1.250	SDMT09
7800930	●	PHC12R125SA125-2LL	Cylindrical Shank Extra-Long	1	1.250	0.596	2	7.087	11.811	1.250	SXMT12
7800931	●	PHC12R150SA125-3LL	Cylindrical Shank Extra-Long	2	1.500	0.846	3	2.756	11.811	1.250	SXMT12
7800916	●	PHC07R063FA063-2S	Weldon Shank Short	1	0.625	0.286	2	1.181	3.937	0.625	SPMT07
7800917	●	PHC07R075FA075-3S	Weldon Shank Short	1	0.750	0.411	3	1.968	5.118	0.750	SPMT07
7800910	●	PHC09R100FA100-2S	Weldon Shank Short	1	1.000	0.535	2	1.551	3.831	1.000	SDMT09
7800911	●	PHC09R100FA100-3S	Weldon Shank Short	1	1.000	0.535	3	1.551	3.831	1.000	SDMT09
7800918	●	PHC07R100FA100-4S	Weldon Shank Short	1	1.000	0.661	4	2.362	5.512	1.000	SPMT07
7800912	●	PHC09R125FA125-3S	Weldon Shank Short	1	1.250	0.785	3	2.098	4.378	1.250	SDMT09
7800919	●	PHC07R125FA125-5S	Weldon Shank Short	1	1.250	0.911	5	2.756	5.905	1.250	SPMT07
7800920	●	PHC12R125FA125-2S	Weldon Shank Short	1	1.250	0.596	2	2.098	4.378	1.250	SXMT12
7800921	●	PHC12R150FA125-3S	Weldon Shank Short	2	1.500	0.846	3	2.098	4.378	1.250	SXMT12
7800942	●	PHC07R063FA063-2L	Weldon Shank Long	1	0.625	0.286	2	1.968	5.905	0.625	SPMT07
7800943	●	PHC07R075FA075-3L	Weldon Shank Long	1	0.750	0.411	3	3.150	6.299	0.750	SPMT07
7800932	●	PHC09R100FA100-2L	Weldon Shank Long	1	1.000	0.535	2	4.724	7.004	1.000	SDMT09
7800933	●	PHC09R100FA100-3L	Weldon Shank Long	1	1.000	0.535	3	4.724	7.004	1.000	SDMT09
7800944	●	PHC07R100FA100-4L	Weldon Shank Long	1	1.000	0.661	4	3.937	7.874	1.000	SPMT07
7800934	●	PHC09R125FA125-3L	Weldon Shank Long	1	1.250	0.785	3	4.724	7.004	1.250	SDMT09
7800935	●	PHC12R125FA125-2L	Weldon Shank Long	1	1.250	0.596	2	4.724	7.004	1.250	SXMT12
7800945	●	PHC07R125FA125-5L	Weldon Shank Long	1	1.250	0.911	5	4.724	7.874	1.250	SPMT07
7800936	●	PHC12R150FA125-3L	Weldon Shank Long	2	1.500	0.846	3	4.724	7.004	1.250	SXMT12
7800937	●	PHC09R100FA100-2LL	Weldon Shank Extra-Long	1	1.000	0.535	2	7.087	9.366	1.000	SDMT09
7800938	●	PHC09R100FA100-3LL	Weldon Shank Extra-Long	1	1.000	0.535	3	7.087	9.366	1.000	SDMT09
7800939	●	PHC09R125FA125-3LL	Weldon Shank Extra-Long	1	1.250	0.785	3	7.087	9.366	1.250	SDMT09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

List 78009 (Continued)

OSG PHOENIX® PHC SA/FA

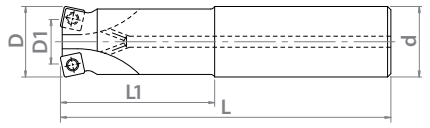
SPEED FEED 1534-1535 | INSERTS 1246 | ACCS. 1247 | STEEL | PACKED 1 PIECE

EDP Number		Designation	Body Type	Type	Dia. D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Applicable Insert
7800940	●	PHC12R125FA125-2LL	Weldon Shank Extra-Long	1	1.250	0.596	2	7.087	9.366	1.250	SXMT12
7800941	●	PHC12R150FA125-3LL	Weldon Shank Extra-Long	2	1.500	0.846	3	7.087	9.366	1.250	SXMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

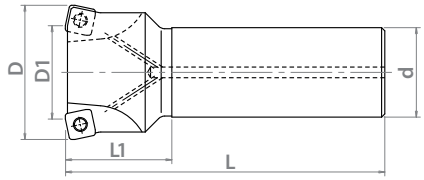
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PHC 07 R 063 SA 063-2 S

Series | Insert Size | Cutting Direction | Diameter | Body Type | Shank Diameter | Number of Flutes | Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78007

OSG PHOENIX® PHC SS

SPEED FEED 1534-1535 | INSERTS 1246 | ACCS. 1247 | STEEL | PACKED 1 PIECE



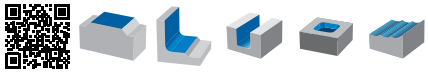
EDP Number		Designation	Body Type	Type	Dia. D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7800750	▲	PHC07R016SS16-2S	Cylindrical Shank Short	1	16.00	7.40	2	30.00	100.00	16.00	SPMT07
7800751	▲	PHC07R020SS20-3S	Cylindrical Shank Short	1	20.00	11.40	3	50.00	130.00	20.00	SPMT07
7800700	▲	PHC09R025SS25-2S	Cylindrical Shank Short	1	25.00	13.20	2	60.00	140.00	25.00	SDMT09
7800701	▲	PHC09R025SS25-3S	Cylindrical Shank Short	1	25.00	13.20	3	60.00	140.00	25.00	SDMT09
7800752	▲	PHC07R025SS25-4S	Cylindrical Shank Short	1	25.00	16.40	4	60.00	140.00	25.00	SPMT07
7800716	▲	PHC09R028SS25-3S	Cylindrical Shank Short	2	28.00	16.20	3	40.00	140.00	25.00	SDMT09
7800717	▲	PHC09R030SS32-3S	Cylindrical Shank Short	1	30.00	18.20	3	70.00	150.00	32.00	SDMT09
7800730	▲	PHC12R030SS32-2S	Cylindrical Shank Short	1	30.00	13.40	2	70.00	150.00	32.00	SXMT12
7800753	▲	PHC07R030SS32-4S	Cylindrical Shank Short	1	30.00	21.40	4	70.00	150.00	32.00	SPMT07
7800702	▲	PHC09R032SS32-3S	Cylindrical Shank Short	1	32.00	20.20	3	70.00	150.00	32.00	SDMT09
7800708	▲	PHC12R032SS32-2S	Cylindrical Shank Short	1	32.00	15.40	2	70.00	150.00	32.00	SXMT12
7800754	▲	PHC07R032SS32-5S	Cylindrical Shank Short	1	32.00	23.40	5	70.00	150.00	32.00	SPMT07
7800718	▲	PHC09R035SS32-3S	Cylindrical Shank Short	2	35.00	23.20	3	50.00	150.00	32.00	SDMT09
7800731	▲	PHC12R035SS32-3S	Cylindrical Shank Short	2	35.00	18.40	3	50.00	150.00	32.00	SXMT12
7800703	▲	PHC09R040SS32-4S	Cylindrical Shank Short	2	40.00	28.20	4	50.00	150.00	32.00	SDMT09
7800709	▲	PHC12R040SS32-3S	Cylindrical Shank Short	2	40.00	23.40	3	50.00	150.00	32.00	SXMT12
7800719	▲	PHC09R040SS42-4S	Cylindrical Shank Short	1	40.00	28.20	4	50.00	150.00	42.00	SDMT09
7800732	▲	PHC12R040SS42-3S	Cylindrical Shank Short	1	40.00	23.40	3	50.00	150.00	42.00	SXMT12
7800710	▲	PHC12R050SS42-4S	Cylindrical Shank Short	2	50.00	33.40	4	50.00	150.00	42.00	SXMT12
7800711	▲	PHC12R063SS42-5S	Cylindrical Shank Short	2	63.00	46.40	5	50.00	150.00	42.00	SXMT12
7800755	▲	PHC07R016SS16-2L	Cylindrical Shank Long	1	16.00	7.40	2	50.00	150.00	16.00	SPMT07
7800756	▲	PHC07R017SS16-2L	Cylindrical Shank Long	2	17.00	8.40	2	25.00	150.00	16.00	SPMT07
7800757	▲	PHC07R018SS16-2L	Cylindrical Shank Long	2	18.00	9.40	2	25.00	150.00	16.00	SPMT07
7800758	▲	PHC07R020SS20-3L	Cylindrical Shank Long	1	20.00	11.40	3	80.00	160.00	20.00	SPMT07
7800759	▲	PHC07R021SS20-3L	Cylindrical Shank Long	2	21.00	12.40	3	30.00	160.00	20.00	SPMT07
7800760	▲	PHC07R022SS20-3L	Cylindrical Shank Long	2	22.00	13.40	3	30.00	160.00	20.00	SPMT07
7800704	▲	PHC09R025SS25-2L	Cylindrical Shank Long	1	25.00	13.20	2	120.00	200.00	25.00	SDMT09
7800705	▲	PHC09R025SS25-3L	Cylindrical Shank Long	1	25.00	13.20	3	120.00	200.00	25.00	SDMT09
7800761	▲	PHC07R025SS25-4L	Cylindrical Shank Long	1	25.00	16.40	4	100.00	200.00	25.00	SPMT07
7800740	▲	PHC09R026SS25-3L	Cylindrical Shank Long	2	26.00	14.20	3	40.00	200.00	25.00	SDMT09
7800762	▲	PHC07R026SS25-4L	Cylindrical Shank Long	2	26.00	17.40	4	40.00	200.00	25.00	SPMT07
7800720	▲	PHC09R028SS25-3L	Cylindrical Shank Long	2	28.00	16.20	3	40.00	200.00	25.00	SDMT09
7800763	▲	PHC07R028SS25-4L	Cylindrical Shank Long	2	28.00	19.40	4	40.00	200.00	25.00	SPMT07
7800721	▲	PHC09R030SS32-3L	Cylindrical Shank Long	1	30.00	18.20	3	120.00	200.00	32.00	SDMT09
7800733	▲	PHC12R030SS32-2L	Cylindrical Shank Long	1	30.00	13.40	2	120.00	200.00	32.00	SXMT12
7800764	▲	PHC07R030SS32-4L	Cylindrical Shank Long	1	30.00	21.40	4	120.00	200.00	32.00	SPMT07
7800706	▲	PHC09R032SS32-3L	Cylindrical Shank Long	1	32.00	20.20	3	120.00	200.00	32.00	SDMT09
7800712	▲	PHC12R032SS32-2L	Cylindrical Shank Long	1	32.00	15.40	2	120.00	200.00	32.00	SXMT12
7800765	▲	PHC07R032SS32-5L	Cylindrical Shank Long	1	32.00	23.40	5	120.00	200.00	32.00	SPMT07
7800741	▲	PHC09R033SS32-3L	Cylindrical Shank Long	2	33.00	21.20	3	50.00	200.00	32.00	SDMT09
7800744	▲	PHC12R033SS32-2L	Cylindrical Shank Long	2	33.00	16.40	2	50.00	200.00	32.00	SXMT12
7800766	▲	PHC07R033SS32-5L	Cylindrical Shank Long	2	33.00	24.40	5	50.00	200.00	32.00	SPMT07
7800722	▲	PHC09R035SS32-3L	Cylindrical Shank Long	2	35.00	23.20	3	50.00	200.00	32.00	SDMT09
7800734	▲	PHC12R035SS32-3L	Cylindrical Shank Long	2	35.00	18.40	3	50.00	200.00	32.00	SXMT12
7800767	▲	PHC07R035SS32-5L	Cylindrical Shank Long	2	35.00	26.40	5	50.00	200.00	32.00	SPMT07
7800707	▲	PHC09R040SS32-4L	Cylindrical Shank Long	2	40.00	28.20	4	50.00	250.00	32.00	SDMT09
7800713	▲	PHC12R040SS32-3L	Cylindrical Shank Long	2	40.00	23.40	3	50.00	250.00	32.00	SXMT12
7800723	▲	PHC09R040SS42-3L	Cylindrical Shank Long	1	40.00	28.20	3	70.00	250.00	42.00	SDMT09
7800735	▲	PHC12R040SS42-3L	Cylindrical Shank Long	1	40.00	23.40	3	70.00	250.00	42.00	SXMT12
7800714	▲	PHC12R050SS42-4L	Cylindrical Shank Long	2	50.00	33.40	4	50.00	250.00	42.00	SXMT12
7800715	▲	PHC12R063SS42-5L	Cylindrical Shank Long	2	63.00	46.40	5	50.00	250.00	42.00	SXMT12
7800724	▲	PHC09R025SS25-2LL	Cylindrical Shank Extra-Long	1	25.00	13.20	2	180.00	300.00	25.00	SDMT09
7800742	▲	PHC09R026SS25-2LL	Cylindrical Shank Extra-Long	2	26.00	14.20	2	40.00	300.00	25.00	SDMT09

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

List 78007 (Continued)

OSG PHOENIX® PHC SS



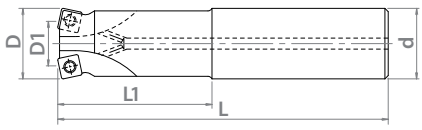
SPEED FEED 1534-1535 | INSERTS 1246 | ACCS. 1247 | STEEL | PACKED 1 PIECE

EDP Number		Designation	Body Type	Type	Dia. D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7800725	▲	PHC09R028SS25-2LL	Cylindrical Shank Extra-Long	2	28.00	16.20	2	40.00	300.00	25.00	SDMT09
7800726	▲	PHC09R030SS32-2LL	Cylindrical Shank Extra-Long	1	30.00	18.20	2	180.00	300.00	32.00	SDMT09
7800736	▲	PHC12R030SS32-2LL	Cylindrical Shank Extra-Long	1	30.00	13.40	2	180.00	300.00	32.00	SXMT12
7800727	▲	PHC09R032SS32-2LL	Cylindrical Shank Extra-Long	1	32.00	20.20	2	180.00	300.00	32.00	SDMT09
7800737	▲	PHC12R032SS32-2LL	Cylindrical Shank Extra-Long	1	32.00	15.40	2	180.00	300.00	32.00	SXMT12
7800743	▲	PHC09R033SS32-2LL	Cylindrical Shank Extra-Long	2	33.00	21.20	2	50.00	300.00	32.00	SDMT09
7800745	▲	PHC12R033SS32-2LL	Cylindrical Shank Extra-Long	2	33.00	16.40	2	50.00	300.00	32.00	SXMT12
7800728	▲	PHC09R035SS32-2LL	Cylindrical Shank Extra-Long	2	35.00	23.20	2	50.00	300.00	32.00	SDMT09
7800738	▲	PHC12R035SS32-2LL	Cylindrical Shank Extra-Long	2	35.00	18.40	2	50.00	300.00	32.00	SXMT12
7800729	▲	PHC09R040SS42-2LL	Cylindrical Shank Extra-Long	1	40.00	28.20	2	70.00	300.00	42.00	SDMT09
7800739	▲	PHC12R040SS42-2LL	Cylindrical Shank Extra-Long	1	40.00	23.40	2	70.00	300.00	42.00	SXMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

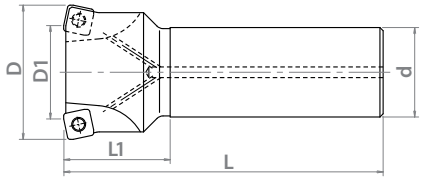
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PHC 07 R 016 SS 16-2 S

Series	Insert Size	Cutting Direction	Diameter	Body Type	Shank Diameter	Number of Flutes	Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78008

OSG PHOENIX® PHC BORE

SPEED FEED 1534-1535 | INSERTS 1246 | ACCS. 1247 | STEEL | PACKED 1 PIECE

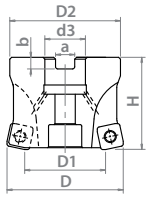


EDP Number		Designation	Type	Diameter D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Body Height H (Inch)	Flange Diameter D2 (Inch)	Bore Diameter d3 (Inch)	Keyway Width a (Inch)	Keyway Depth b (Inch)	Applicable Insert
7800802	●	PHC12R200A075-4	2	2.000	1.346	4	1.968	1.850	0.750	0.315	0.197	SXMT12
7800800	●	PHC09R200A075-5	2	2.000	1.535	5	1.968	1.850	0.750	0.315	0.197	SDMT09
7800803	●	PHC12R250A075-5	2	2.500	1.846	5	1.968	2.362	0.750	0.315	0.197	SXMT12
7800807	●	PHC12R250A075-4	2	2.500	1.846	4	1.968	2.362	0.750	0.315	0.197	SXMT12
7800801	●	PHC09R250A075-6	2	2.500	2.035	6	1.968	2.362	0.750	0.315	0.197	SDMT09
7800804	●	PHC12R300A100-7	2	3.000	2.346	7	2.480	2.835	1.000	0.375	0.236	SXMT12
7800808	●	PHC12R300A100-5	2	3.000	2.346	5	2.480	2.835	1.000	0.375	0.236	SXMT12
7800806	●	PHC09R300A100-8	2	3.000	2.535	8	2.480	2.835	1.000	0.375	0.236	SDMT09
7800805	●	PHC12R400A150-8	3	4.000	3.346	8	2.480	3.779	1.500	0.625	0.394	SXMT12
7800809	●	PHC12R400A150-6	3	4.000	3.346	6	2.480	3.779	1.500	0.625	0.394	SXMT12
7800810	●	PHC12R500A150-10	3	5.000	4.346	10	2.480	3.779	1.500	0.625	0.394	SXMT12
7800811	●	PHC12R600A150-12	3	6.000	5.346	12	2.480	3.779	1.500	0.625	0.394	SXMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

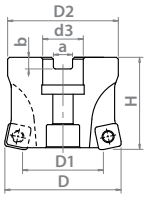
PXT

Type 2



With coolant hole.

Type 3



Without coolant hole.

DESIGNATION EXPLANATION

PHC 09 R 200 A 075-5

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		○	○

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78006

OSG PHOENIX® PHC BORE



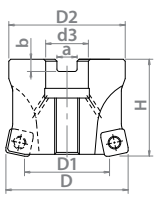
SPEED FEED 1534-1535 | INSERTS 1246 | ACCS. 1247 | STEEL | PACKED 1 PIECE

EDP Number		Designation	Type	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7800600	▲	PHC09R040M16-4	1	40.00	28.20	4	40.00	38.00	16.00	8.40	5.60	SDMT09
7800607	▲	PHC12R040M16-3	1	40.00	23.40	3	40.00	38.00	16.00	8.40	5.60	SXMT12
7800601	▲	PHC09R050M22-5	2	50.00	38.20	5	50.00	47.00	22.00	10.40	6.30	SDMT09
7800605	▲	PHC09R050M22.2-5	2	50.00	38.20	5	50.00	47.00	22.23	8.40	5.00	SDMT09
7800608	▲	PHC12R050M22-4	2	50.00	33.40	4	50.00	47.00	22.00	10.40	6.30	SXMT12
7800614	▲	PHC12R050M22.2-4	2	50.00	33.40	4	50.00	47.00	22.23	8.40	5.00	SXMT12
7800603	▲	PHC09R063M22-6	2	63.00	51.20	6	50.00	60.00	22.00	10.40	6.30	SDMT09
7800606	▲	PHC09R063M22.2-6	2	63.00	51.20	6	50.00	60.00	22.23	8.40	5.00	SDMT09
7800610	▲	PHC12R063M22-5	2	63.00	46.40	5	50.00	60.00	22.00	10.40	6.30	SXMT12
7800615	▲	PHC12R063M22.2-5	2	63.00	46.40	5	50.00	60.00	22.23	8.40	5.00	SXMT12
7800612	▲	PHC12R080M27-7	2	80.00	63.40	7	50.00	76.00	27.00	12.40	7.00	SXMT12
7800616	▲	PHC12R080M31.7-7	2	80.00	63.40	7	63.00	76.00	31.75	12.70	8.00	SXMT12
7800618	▲	PHC12R080M31.7-5	2	80.00	63.40	5	63.00	76.00	31.75	12.70	8.00	SXMT12
7800613	▲	PHC12R100M32-8	2	100.00	83.40	8	63.00	96.00	32.00	14.40	8.00	SXMT12
7800617	▲	PHC12R100M31.7-8	2	100.00	83.40	8	63.00	96.00	37.75	12.70	8.00	SXMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

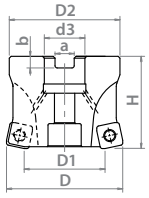
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PHC 09 R 050 M 22-5

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		○	○

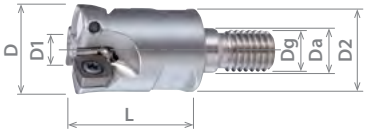
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52603

OSG PHOENIX® PHC ASF

SPEED FEED 1534-1535 | INSERTS 1246 | ACCS. 1247 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Pilot Diameter Da (Inch)	Thread Size Dg (mm)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Insert
52603004	●	PHC07R063ASF8-2	0.625	0.286	2	0.334	M8	0.571	1.063	10	SPMT07
52603005	●	PHC07R075ASF10-3	0.750	0.411	3	0.413	M10	0.709	1.300	14	SPMT07
52603000	●	PHC09R100ASF12-2	1.000	0.535	2	0.492	M12	0.905	1.378	17	SDMT09
52603006	●	PHC07R100ASF12-4	1.000	0.661	4	0.492	M12	0.905	1.378	17	SPMT07
52603001	●	PHC09R125ASF16-3	1.250	0.785	3	0.669	M16	1.102	1.575	22	SDMT09
52603002	●	PHC12R125ASF16-2	1.250	0.596	2	0.669	M16	1.102	1.575	22	SXMT12
52603007	●	PHC07R125ASF16-5	1.250	0.911	5	0.669	M16	1.102	1.575	22	SPMT07
52603003	●	PHC12R150ASF16-3	1.500	0.846	3	0.669	M16	1.102	1.575	22	SXMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PHC 07 R 063 ASF 8-3

- PHC — Series
- 07 — Insert Size
- R — Cutting Direction
- 063 — Diameter
- ASF — Body Type
- 8 — Thread Size
- 3 — Number of Flutes

See Full Detail on Page 1524

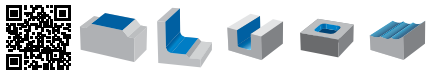
P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		○	○

Material recommendation based on inserts compatible with this tool body.

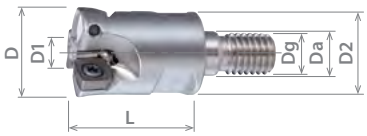
○ Good ◎ Best

List 78015

OSG PHOENIX® PHC SF



SPEED FEED 1534-1535 | INSERTS 1246 | ACCS. 1247 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7801520	▲	PHC07R016SF8-2	16.00	7.40	2	8.50	M8	14.50	27.00	10	SPMT07
7801521	▲	PHC07R017SF8-2	17.00	8.40	2	8.50	M8	14.50	27.00	10	SPMT07
7801522	▲	PHC07R018SF8-2	18.00	9.40	2	8.50	M8	14.50	27.00	10	SPMT07
7801523	▲	PHC07R020SF10-3	20.00	11.40	3	10.50	M10	18.00	33.00	14	SPMT07
7801524	▲	PHC07R021SF10-3	21.00	12.40	3	10.50	M10	18.00	33.00	14	SPMT07
7801525	▲	PHC07R022SF10-3	22.00	13.40	3	10.50	M10	18.00	33.00	14	SPMT07
7801500	▲	PHC09R025SF12-3	25.00	13.20	3	12.50	M12	23.00	35.00	17	SDMT09
7801526	▲	PHC07R025SF12-4	25.00	16.40	4	12.50	M12	23.00	35.00	17	SPMT07
7801510	▲	PHC09R026SF12-3	26.00	14.20	3	12.50	M12	23.00	35.00	17	SDMT09
7801527	▲	PHC07R026SF12-4	26.00	17.40	4	12.50	M12	23.00	35.00	17	SPMT07
7801501	▲	PHC09R028SF12-3	28.00	16.20	3	12.50	M12	23.00	35.00	17	SDMT09
7801528	▲	PHC07R028SF12-4	28.00	19.40	4	12.50	M12	23.00	35.00	17	SPMT07
7801502	▲	PHC09R030SF16-3	30.00	18.20	3	17.00	M16	28.00	40.00	22	SDMT09
7801506	▲	PHC12R030SF16-2	30.00	13.40	2	17.00	M16	28.00	40.00	22	SXMT12
7801529	▲	PHC07R030SF16-4	30.00	21.40	4	17.00	M16	28.00	40.00	22	SPMT07
7801503	▲	PHC09R032SF16-3	32.00	20.20	3	17.00	M16	28.00	40.00	22	SDMT09
7801507	▲	PHC12R032SF16-2	32.00	15.40	2	17.00	M16	28.00	40.00	22	SXMT12
7801530	▲	PHC07R032SF16-5	32.00	23.40	5	17.00	M16	28.00	40.00	22	SPMT07
7801511	▲	PHC09R033SF16-3	33.00	21.20	3	17.00	M16	28.00	40.00	22	SDMT09
7801512	▲	PCH12R033SF16-2	33.00	16.40	2	17.00	M16	28.00	40.00	22	SXMT12
7801531	▲	PHC07R033SF16-5	33.00	24.40	5	17.00	M16	28.00	40.00	22	SPMT07
7801504	▲	PHC09R035SF16-3	35.00	23.20	3	17.00	M16	28.00	40.00	22	SDMT09
7801508	▲	PHC12R035SF16-3	35.00	18.40	3	17.00	M16	28.00	40.00	22	SXMT12
7801532	▲	PHC07R035SF16-5	35.00	26.40	5	17.00	M16	28.00	40.00	22	SPMT07
7801505	▲	PHC09R040SF16-4	40.00	28.20	4	17.00	M16	28.00	40.00	22	SDMT09
7801509	▲	PHC12R040SF16-3	40.00	23.40	3	17.00	M16	28.00	40.00	22	SXMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PHC 07 R 016 SF 8-2

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Size | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		○	○

Material recommendation based on inserts compatible with this tool body.

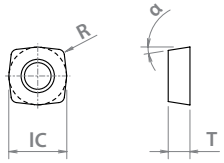
○ Good ◎ Best

List 78PHC

PACKED
10 PIECE

OSG PHOENIX® PHC INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size					Grade
				IC (mm)	T (mm)	α (°)	R (mm)	Aa Max (mm)	
7812092	●	SPMT070305SR-GM	4	7.00	2.75	11.00	0.50	0.80	XC1015
7827092	●	SPMT070305SR-GM	4	7.00	2.75	11.00	0.50	0.80	XC3020
7825092	●	SPMT070305SR-GM	4	7.00	2.75	11.00	0.50	0.80	XC3030
7816093	●	SPMT070305ER-SM	4	7.00	2.75	11.00	0.50	0.80	XC5040
7826092	●	SPMT070305SR-GM	4	7.00	2.75	11.00	0.50	0.80	XP2025
7813092	●	SPMT070305SR-GM	4	7.00	2.75	11.00	0.50	0.80	XP2040
7828092	●	SPMT070305SR-GM	4	7.00	2.75	11.00	0.50	0.80	XP3025
7814092	●	SPMT070305SR-GM	4	7.00	2.75	11.00	0.50	0.80	XP3035
7812020	●	SDMT09T308SR-GM	4	9.52	3.97	15.00	0.80	1.00	XC1015
7827020	●	SDMT09T308SR-GM	4	9.52	3.97	15.00	0.80	1.00	XC3020
7825020	●	SDMT09T308SR-GM	4	9.52	3.97	15.00	0.80	1.00	XC3030
7815021	●	SDMT09T308ER-SM	4	9.52	3.97	15.00	0.80	1.00	XC5035
7816021	●	SDMT09T308ER-SM	4	9.52	3.97	15.00	0.80	1.00	XC5040
7826020	●	SDMT09T308SR-GM	4	9.52	3.97	15.00	0.80	1.00	XP2025
7813020	●	SDMT09T308SR-GM	4	9.52	3.97	15.00	0.80	1.00	XP2040
7828020	●	SDMT09T308SR-GM	4	9.52	3.97	15.00	0.80	1.00	XP3025
7814020	●	SDMT09T308SR-GM	4	9.52	3.97	15.00	0.80	1.00	XP3035
7812022	●	SXMT120410SR-GM	4	12.70	4.76	9.00	1.00	2.00	XC1015
7827022	●	SXMT120410SR-GM	4	12.70	4.76	9.00	1.00	2.00	XC3020
7825022	●	SXMT120410SR-GM	4	12.70	4.76	9.00	1.00	2.00	XC3030
7815023	●	SXMT120410ER-SM	4	12.70	4.76	9.00	1.00	2.00	XC5035
7816023	●	SXMT120410ER-SM	4	12.70	4.76	9.00	1.00	2.00	XC5040
7826022	●	SXMT120410SR-GM	4	12.70	4.76	9.00	1.00	2.00	XP2025
7813022	●	SXMT120410SR-GM	4	12.70	4.76	9.00	1.00	2.00	XP2040
7828022	●	SXMT120410SR-GM	4	12.70	4.76	9.00	1.00	2.00	XP3025
7814022	●	SXMT120410SR-GM	4	12.70	4.76	9.00	1.00	2.00	XP3035

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

S D M T 09 T3 08 S R-GM XP3035

Insert Shape · Clearance Angle · Tolerance · Insert Features · Cutting Edge Length · Thickness · Corner Radius · Cutting Edge Type · Cutting Direction · Chip Breaker · Grade

See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC1015	GM	N			◎			
XC3020	GM	N	◎		○			
XC3030	GM	N	◎		○			
XC5035	SM	Y		◎			○	
XC5040	SM	Y		○			◎	
XP2025	GM	Y	○	◎			○	
XP2040	GM	Y	○	◎			○	○
XP3025	GM	Y	◎		○			
XP3035	GM	N	◎	○	○			

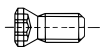
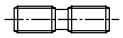
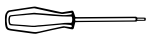
GM:Medium Cutting SM:Heat Resistant Alloy

○ Good ◎ Best

List 7808H

OSG PHOENIX® PHC ACCESSORIES

PACKED 1 PIECE | PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808105	●	FS25550 (M2.5 x 5, Torx 8)	SPMT07	PHC SA/FA/ASF Ø0.625-1.250	PHC SS/SF Ø16-35	1.6 Nm
	7808111	●	FS35572 (M3.5 x 7.2, Torx 15)	SDMT09	PHC SA/FA/ASF Ø1.000-1.250	PHC SS/SF Ø25-35	3.2 Nm
	7808112	●	FS35586 (M3.5 x 8.6, Torx 15)	SDMT09	PHC SA/FA/ASF Ø1.500, PHC BORE Ø2.000-3.000	PHC SS/SF Ø40, PHC BORE Ø40-63	3.2 Nm
	7808113	●	FS45510 (M4.5 x 10.5, Torx 20)	SXMT12	PHC SA/FA/ASF Ø1.250-1.500, PHC BORE Ø2.000-6.000	PHC SS/SF Ø32-63, PHC BORE Ø40-100	5.0 Nm
 Power Screw	7808150	●	PS0830 (M8x30)	-	-	PHC BORE Ø40	15.0 Nm
 Wrench	7808205	●	T8-D (Torx 8)	SPMT07	PHC SA/FA/ASF Ø0.625-1.250	PHC SS/SF Ø16-35	-
	7808208	●	T15-D (Torx 15)	SDMT09	PHC SA/FA/ASF Ø1.000-1.500, PHC BORE Ø2.000-3.000	PHC SS/SF Ø25-40, PHC BORE Ø40-63	-
	7808209	●	T20-D (Torx 20)	SXMT12	PHC SA/FA/ASF Ø1.250-1.500, PHC BORE Ø2.000-6.000	PHC SS/SF Ø32-63, PHC BORE Ø40-100	-
				ZPNT17	PMD SA/ASF Ø1.250	PMD SS/SF Ø32	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Power Screw = 1 pc.; Wrench = 1 pc.

PXT

List 78005

OSG PHOENIX® PRC SA

SPEED FEED 1536-1537 | INSERTS 1254 | ACCS. 1255 | STEEL | PACKED 1 PIECE

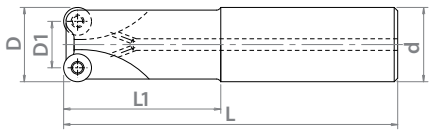


EDP Number		Designation	Body Type	Type	Diameter D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Diameter d (Inch)	Applicable Insert
7800500	●	PRC10R100SA100-3S	Cylindrical Shank Short	1	1.000	0.606	3	2.362	5.512	1.000	RPH_10
7800501	●	PRC10R125SA125-4S	Cylindrical Shank Short	1	1.250	0.856	4	2.756	5.905	1.250	RPH_10
7800502	●	PRC12R125SA125-2S	Cylindrical Shank Short	1	1.250	0.778	2	2.756	5.905	1.250	RPH_12
7800503	●	PRC12R150SA125-3S	Cylindrical Shank Short	2	1.500	1.028	3	1.968	5.905	1.250	RPH_12
7800504	●	PRC16R150SA125-2S	Cylindrical Shank Short	2	1.500	0.870	2	1.968	5.905	1.250	RPH_16
7800505	●	PRC10R100SA100-3L	Cylindrical Shank Long	1	1.000	0.606	3	4.724	7.874	1.000	RPH_10
7800506	●	PRC10R125SA125-4L	Cylindrical Shank Long	1	1.250	0.856	4	4.724	7.874	1.250	RPH_10
7800507	●	PRC12R125SA125-2L	Cylindrical Shank Long	1	1.250	0.778	2	4.724	7.874	1.250	RPH_12
7800508	●	PRC12R150SA125-3L	Cylindrical Shank Long	2	1.500	1.028	3	1.968	9.842	1.250	RPH_12
7800509	●	PRC16R150SA125-2L	Cylindrical Shank Long	2	1.500	0.087	2	1.968	9.842	1.250	RPH_16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

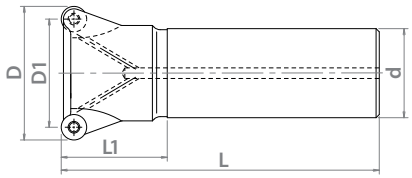
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PRC 10 R 100 SA 100-3 S

Series	Insert Size	Cutting Direction	Diameter	Body Type	Shank Diameter	Number of Flutes	Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78003

OSG PHOENIX® PRC SS

SPEED FEED 1536-1537 | INSERTS 1254 | ACCS. 1255 | STEEL | PACKED 1 PIECE

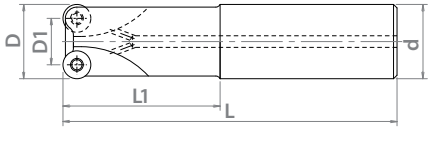


EDP Number		Designation	Body Type	Type	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Neck Length L1 (mm)	Overall Length L (mm)	Shank Diameter d (mm)	Applicable Insert
7800300	▲	PRC10R020SS20-2S	Cylindrical Shank Short	1	20.00	10.00	2	50.00	130.00	20.00	RPH_10
7800322	▲	PRC12R024SS25-2S	Cylindrical Shank Short	1	24.00	12.00	2	60.00	140.00	25.00	RPH_12
7800301	▲	PRC10R025SS25-3S	Cylindrical Shank Short	1	25.00	15.00	3	60.00	140.00	25.00	RPH_10
7800318	▲	PRC12R030SS32-2S	Cylindrical Shank Short	1	30.00	18.00	2	70.00	150.00	32.00	RPH_12
7800302	▲	PRC10R032SS32-4S	Cylindrical Shank Short	1	32.00	22.00	4	70.00	150.00	32.00	RPH_10
7800306	▲	PRC12R032S032-2S	Cylindrical Shank Short	1	32.00	20.00	2	70.00	150.00	32.00	RPH_12
7800320	▲	PRC12R032SS32-3S	Cylindrical Shank Short	1	32.00	20.00	3	70.00	150.00	32.00	RPH_12
7800324	▲	PRC16R033SS32-2S	Cylindrical Shank Short	1	32.00	16.00	2	70.00	150.00	32.00	RPH_16
7800307	▲	PRC12R040SS32-3S	Cylindrical Shank Short	2	40.00	28.00	3	50.00	150.00	32.00	RPH_12
7800312	▲	PRC16R040SS32-2S	Cylindrical Shank Short	2	40.00	24.00	2	50.00	150.00	32.00	RPH_16
7800308	▲	PRC12R050SS42-4S	Cylindrical Shank Short	2	50.00	38.00	4	50.00	150.00	42.00	RPH_12
7800313	▲	PRC16R050SS42-3S	Cylindrical Shank Short	2	50.00	34.00	3	50.00	150.00	42.00	RPH_16
7800314	▲	PRC16R063SS042-4S	Cylindrical Shank Short	2	63.00	47.00	4	50.00	150.00	42.00	RPH_16
7800303	▲	PRC10R020SS20-2L	Cylindrical Shank Long	1	20.00	10.00	2	80.00	180.00	20.00	RPH_10
7800323	▲	PRC12R024SS25-2L	Cylindrical Shank Long	1	24.00	12.00	2	100.00	180.00	25.00	RPH_12
7800304	▲	PRC10R025SS25-3L	Cylindrical Shank Long	1	25.00	15.00	3	120.00	200.00	25.00	RPH_10
7800319	▲	PRC12R030SS32-2L	Cylindrical Shank Long	1	30.00	18.00	2	120.00	200.00	32.00	RPH_12
7800305	▲	PRC10R032SS32-4L	Cylindrical Shank Long	1	32.00	22.00	4	120.00	200.00	32.00	RPH_10
7800309	▲	PRC12R032SS32-2L	Cylindrical Shank Long	1	32.00	20.00	2	120.00	200.00	32.00	RPH_12
7800321	▲	PRC12R032SS32-3L	Cylindrical Shank Long	1	32.00	20.00	3	120.00	200.00	32.00	RPH_12
7800325	▲	PRC16R033SS32-2L	Cylindrical Shank Long	1	32.00	16.00	2	120.00	200.00	32.00	RPH_16
7800310	▲	PRC12R040SS32-3L	Cylindrical Shank Long	2	40.00	28.00	3	50.00	250.00	32.00	RPH_12
7800315	▲	PRC16R040SS32-2L	Cylindrical Shank Long	2	40.00	24.00	2	50.00	250.00	32.00	RPH_16
7800311	▲	PRC12R050SS42-4L	Cylindrical Shank Long	2	50.00	38.00	4	50.00	250.00	42.00	RPH_12
7800316	▲	PRC16R050SS42-3L	Cylindrical Shank Long	2	50.00	34.00	3	50.00	250.00	42.00	RPH_16
7800317	▲	PRC16R063SS42-4L	Cylindrical Shank Long	2	63.00	47.00	4	50.00	250.00	42.00	RPH_16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

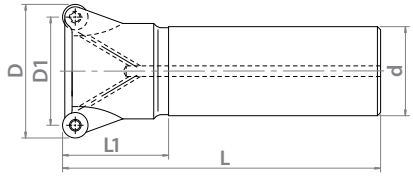
PXT

Type 1



With coolant hole.

Type 2



With coolant hole.

DESIGNATION EXPLANATION

PRC 10 R 020 SS 20-2 S

Series | Insert Size | Cutting Direction | Diameter | Body Type | Shank Diameter | Number of Flutes | Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78004

OSG PHOENIX® PRC BORE

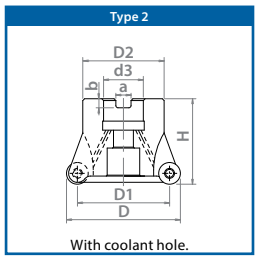
SPEED FEED 1536-1537 | INSERTS 1254 | ACCS. 1255 | STEEL | PACKED 1 PIECE

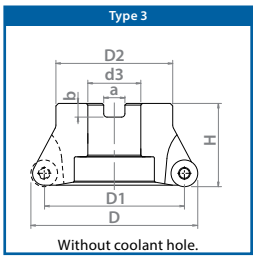


EDP Number		Designation	Type	Diameter D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Body Height H (Inch)	Flange Diameter D2 (Inch)	Bore Diameter d3 (Inch)	Keyway Width a (Inch)	Keyway Depth b (Inch)	Applicable Insert
7800400	●	PRC12R200A075-4	2	2.000	1.528	4	1.575	1.772	0.750	0.315	0.197	RPH_12
7800401	●	PRC12R250A075-4	2	2.500	2.028	4	1.575	1.968	0.750	0.315	0.197	RPH_12
7800402	●	PRC12R300A100-5	2	3.000	2.528	5	1.968	2.362	1.000	0.375	0.236	RPH_12
7800403	●	PRC12R400A150-6	3	4.000	3.528	6	1.968	2.756	1.500	0.625	0.394	RPH_12
7800404	●	PRC12R200A075-5	2	2.000	1.528	5	1.575	1.772	0.750	0.315	0.197	RPH_12
7800405	●	PRC12R250A075-6	2	2.500	2.028	6	1.575	1.968	0.750	0.315	0.197	RPH_12
7800406	●	PRC12R300A100-8	2	3.000	2.528	8	1.968	2.362	1.000	0.375	0.236	RPH_12
7800407	●	PRC12R400A150-10	3	4.000	3.528	10	1.968	2.756	1.500	0.625	0.394	RPH_12
7800408	●	PRC16R200A075-3	2	2.000	1.370	3	1.575	1.772	0.750	0.315	0.197	RPH_16
7800409	●	PRC16R250A075-5	2	2.500	1.870	5	1.575	1.968	0.750	0.315	0.197	RPH_16
7800410	●	PRC16R300A100-6	2	3.000	2.370	6	1.968	2.362	1.000	0.375	0.236	RPH_16
7800411	●	PRC16R400A150-7	3	4.000	3.370	7	1.968	2.756	1.500	0.625	0.394	RPH_16
7800412	●	PRC10R200A075-5	2	2.000	1.606	5	1.575	1.772	0.750	0.315	0.197	RPH_10
7800413	●	PRC10R250A075-6	2	2.500	2.106	6	1.575	1.968	0.750	0.315	0.197	RPH_10
7800414	●	PRC12R500A150-12	3	5.000	4.528	12	2.480	3.543	1.500	0.625	0.394	RPH_12
7800415	●	PRC16R500A150-8	3	5.000	4.370	8	2.480	3.543	1.500	0.625	0.394	RPH_16
7800416	●	PRC16R600A150-10	3	6.000	5.370	10	2.480	3.740	1.500	0.625	0.394	RPH_16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT





DESIGNATION EXPLANATION

PRC 10 R 200 A 075-5

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78002

OSG PHOENIX® PRC BORE

SPEED FEED 1536-1537 | INSERTS 1254 | ACCS. 1255 | STEEL | PACKED 1 PIECE

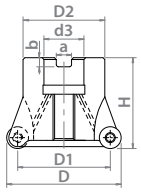


EDP Number		Designation	Type	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7800213	▲	PRC16R050M22-3	1	50.00	34.00	3	40.00	45.00	22.00	10.40	6.30	RPH_16
7800200	▲	PRC12R050M22-4	2	50.00	38.00	4	40.00	45.00	22.00	10.40	6.30	RPH_12
7800204	▲	PRC12R050M22-5	2	50.00	38.00	5	40.00	45.00	22.00	10.40	6.30	RPH_12
7800214	▲	PRC16R063M22-5	2	63.00	47.00	5	40.00	50.00	22.00	10.40	6.30	RPH_16
7800201	▲	PRC12R063M22-4	2	63.00	51.00	4	40.00	50.00	22.00	10.40	6.30	RPH_12
7800206	▲	PRC12R063M22-6	2	63.00	51.00	6	40.00	50.00	22.00	10.40	6.30	RPH_12
7800216	▲	PRC16R080M27-6	2	80.00	64.00	6	50.00	60.00	27.00	12.40	7.00	RPH_16
7800218	▲	PRC16R080M25.4-6	2	80.00	64.00	6	50.00	60.00	25.40	9.50	6.00	RPH_16
7800202	▲	PRC12R080M27-5	2	80.00	68.00	5	50.00	60.00	27.00	12.40	7.00	RPH_12
7800207	▲	PRC12R080M27-8	2	80.00	68.00	8	50.00	60.00	27.00	12.40	7.00	RPH_12
7800209	▲	PRC12R080M25.4-5	2	80.00	68.00	5	50.00	60.00	25.40	9.50	6.00	RPH_12
7800211	▲	PRC12R080M25.4-8	2	80.00	68.00	8	50.00	60.00	25.40	9.50	6.00	RPH_12
7800217	▲	PRC16R100M32-7	2	100.00	84.00	7	50.00	70.00	32.00	14.40	8.00	RPH_16
7800219	▲	PRC16R0100M31.7-7	3	100.00	84.00	7	50.00	70.00	31.75	12.70	8.00	RPH_16
7800203	▲	PRC12R100M32-6	2	100.00	88.00	6	50.00	70.00	32.00	14.40	8.00	RPH_12
7800208	▲	PRC12R100M32-10	2	100.00	88.00	10	50.00	70.00	32.00	14.40	8.00	RPH_12
7800210	▲	PRC12R100M31.7-6	3	100.00	88.00	6	50.00	70.00	31.75	12.70	8.00	RPH_12
7800212	▲	PRC12R100M31.7-10	3	100.00	88.00	10	50.00	70.00	31.75	12.70	8.00	RPH_12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

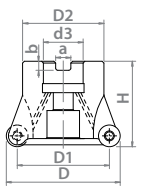
PXT

Type 1



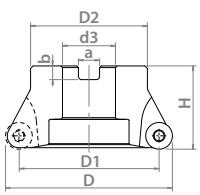
With coolant hole.

Type 2



With coolant hole.

Type 3



Without coolant hole.

DESIGNATION EXPLANATION

PRC 12 R 050 M 22-4

- PRC — Series
- 12 — Insert Size
- R — Cutting Direction
- 050 — Diameter
- M — Units
- 22 — Bore Diameter
- 4 — Number of Flutes

See Full Detail on Page 1524

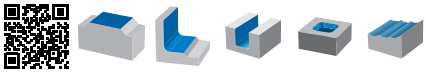
P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

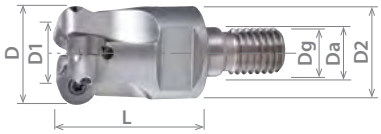
○ Good ◎ Best

List 52602

OSG PHOENIX® PRC ASF, Screw Fit Head



SPEED FEED 1536-1537 | INSERTS 1254 | ACCS. 1255 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Pilot Diameter Da (Inch)	Thread Size Dg (Inch)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Insert
52602000	●	PRC10R100ASF12-3	1.000	0.606	3	0.492	M12	0.905	1.378	17	RPH_10
52602001	●	PRC10R125ASF16-4	1.250	0.856	4	0.669	M16	1.102	1.575	22	RPH_10
52602002	●	PRC12R125ASF16-2	1.250	0.778	2	0.669	M16	1.102	1.575	22	RPH_12
52602003	●	PRC12R150ASF16-3	1.500	1.028	3	0.669	M16	1.102	1.575	22	RPH_12
52602004	●	PRC16R150ASF16-2	1.500	0.870	2	0.669	M16	1.102	1.575	22	RPH_16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PRC 10 R 100 ASF 12-3

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Size | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

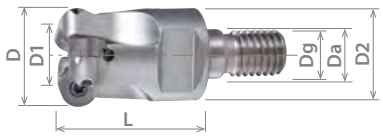
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78017

OSG PHOENIX® PRC SF, Screw Fit Head

SPEED FEED 1536-1537 | INSERTS 1254 | ACCS. 1255 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7801700	▲	PRC10R020SF10-2	20.00	10.00	2	10.50	M10	18.00	33.00	14	RPH_10
7801701	▲	PRC10R025SF12-3	25.00	15.00	3	12.50	M12	23.00	35.00	17	RPH_10
7801702	▲	PRC10R030SF16-3	30.00	20.00	3	17.00	M16	28.00	40.00	22	RPH_10
7801703	▲	PRC10R032SF16-4	32.00	22.00	4	17.00	M16	28.00	40.00	22	RPH_10
7801704	▲	PRC10R040SF16-4	40.00	30.00	4	17.00	M16	28.00	40.00	22	RPH_10
7801705	▲	PRC12R030SF16-2	30.00	18.00	2	17.00	M16	28.00	40.00	22	RPH_12
7801706	▲	PRC12R032SF16-3	32.00	20.00	3	17.00	M16	28.00	40.00	22	RPH_12
7801707	▲	PRC12R040SF16-3	40.00	28.00	3	17.00	M16	28.00	40.00	22	RPH_12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PRC 10 R 020 SF 10-2

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Size | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

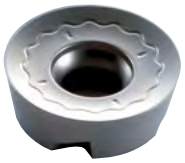
Material recommendation based on inserts compatible with this tool body.

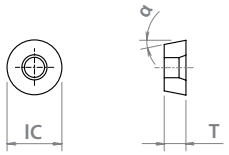
○ Good ◎ Best

List 78PRC

PACKED
10 PIECE

OSG PHOENIX® PRC INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size			Grade
				IC (mm)	T (mm)	α (°)	
7811009	●	RPHT10T3MOFN-NM	8	10.00	3.97	11.00	CK010
7812017	●	RPHW10T3MOEN	8	10.00	3.97	11.00	XC1015
7825008	●	RPHT10T3MOEN-GL	8	10.00	3.97	11.00	XC3030
7825017	●	RPHW10T3MOSN	8	10.00	3.97	11.00	XC3030
7825009	●	RPHT10T3MOEN-GM	8	10.00	3.97	11.00	XC3030
7815010	●	RPHT10T3MOEN-SM	4	10.00	3.97	11.00	XC5035
7815050	●	RPHT10T3M8EN-SM	8	10.00	3.97	11.00	XC5035
7816050	●	RPHT10T3M8EN-SM	8	10.00	3.97	11.00	XC5040
7826008	●	RPHT10T3MOEN-GL	8	10.00	3.97	11.00	XP2025
7813008	●	RPHT10T3MOEN-GL	8	10.00	3.97	11.00	XP2040
7814008	●	RPHT10T3MOEN-GL	8	10.00	3.97	11.00	XP3035
7814030	●	RPHW10T3MOSN	8	10.00	3.97	11.00	XP3035
7814009	●	RPHT10T3MOEN-GM	8	10.00	3.97	11.00	XP3035
7824083	●	RPMT10T3M8EN-HR	8	10.00	3.97	11.00	XP6015
7811013	●	RPHT1204MOFN-NM	8	12.00	4.76	11.00	CK010
7812018	●	RPHW1204MOSN	8	12.00	4.76	11.00	XC1015
7825018	●	RPHW1204MOSN	8	12.00	4.76	11.00	XC3030
7825011	●	RPHT1204MOEN-GM	8	12.00	4.76	11.00	XC3030
7815012	●	RPHT1204MOEN-SM	4	12.00	4.76	11.00	XC5035
7815051	●	RPHT1204M8EN-SM	8	12.00	4.76	11.00	XC5035
7816051	●	RPHT1204M8EN-SM	8	12.00	4.76	11.00	XC5040
7826011	●	RPHT1204MOEN-GL	8	12.00	4.76	11.00	XP2025
7813011	●	RPHT1204MOEN-GL	8	12.00	4.76	11.00	XP2040
7814018	●	RPHW1204MOSN	8	12.00	4.76	11.00	XP3035
7814011	●	RPHT1204MOEN-GM	8	12.00	4.76	11.00	XP3035
7824084	●	RPMT1204M8EN-HR	8	12.00	4.76	11.00	XP6015
7811016	●	RPHT1605MOFN-NM	8	16.00	5.56	11.00	CK010
7812019	●	RPHW1605MOSN	8	16.00	5.56	11.00	XC1015
7825019	●	RPHW1605MOSN	8	16.00	5.56	11.00	XC3030
7815015	●	RPHT1605MOEN-SM	4	16.00	5.56	11.00	XC5035
7815052	●	RPHT1605M8EN-SM	8	16.00	5.56	11.00	XC5035
7816052	●	RPHT1605M8EN-SM	8	16.00	5.56	11.00	XC5040
7826014	●	RPHT1605MOEN-GL	8	16.00	5.56	11.00	XP2025
7813014	●	RPHT1605MOEN-GL	8	16.00	5.56	11.00	XP2040
7814019		RPHW1605MOSN	8	16.00	5.56	11.00	XP3035

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

R P H T 10 T3 MO E N-GL XP3035

- R — Insert Shape
- P — Clearance Angle
- H — Tolerance
- T — Insert Features
- 10 — Cutting Edge Length
- T3 — Thickness
- MO — Corner Radius
- E — Cutting Edge Type
- N — Cutting Direction
- GL — Chip Breaker
- XP3035 — Grade

See Full Detail on Pages 1522-1523

Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
CK010	NM	Y				◎		
XC1015	-	N			◎			
XC3030	- / GL / GM	N	◎		○			
XC5035	SM	Y		◎			○	
XC5040	SM	Y		○			◎	
XP2025	GL	Y	○	◎			○	
XP2040	GL	Y	○	◎			○	○
XP3035	- / GL / GM	N	◎	○	○		○	○
XP6015	HR	N	○		○			◎

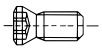
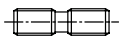
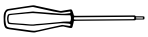
GL:Light Cutting NM:Aluminum SM: Heat Resistant Alloy HR: Hardened Steel

○ Good ◎ Best

List 7808H

OSG PHOENIX® PRC ACCESSORIES

PACKED	PACKED
1 PIECE	10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808116	●	FS30573A (M3 x 7.3, Torx 10)	RPH_10	PRC SA/ASF Ø1.000-1.250, PRC BORE Ø2.000-2.500	PRC SS/SF Ø20-32	2.0 Nm
	7808112	●	FS35586 (M3.5 x 8.6, Torx 15)	RPH_12	PRC SA/ASF Ø1.250-1.500, PRC BORE Ø2.000-4.000	PRC SS/SF Ø32-50, PRC BORE Ø32-63	3.2 Nm
	7808113	●	FS45510 (M4.5 x 10.5, Torx 20)	RPH_16	PRC SA/ASF Ø1.500, PRC BORE Ø2.000-6.000	PRC SS/SF Ø40-63, PRC BORE Ø50-100	5.0 Nm
 Power Screw	7808151	●	PS1031 (M10x31)	-	-	PRC BORE Ø50	20.0 Nm
 Wrench	7808207	●	T10-D (Torx 10)	RPH_10	PRC SA/ASF Ø1.000-1.250, PRC BORE Ø2.000-2.500	PRC SS/SF Ø20-32	-
	7808208	●	T15-D (Torx 15)	RPH_12	PRC SA/ASF Ø1.250-1.500, PRC BORE Ø2.000-4.000	PRC SS/SF Ø32-50, PRC BORE Ø32-63	-
	7808209	●	T20-D (Torx 20)	RPH_16	PRC SA/ASF Ø1.500, PRC BORE Ø2.000-6.000	PRC SS/SF Ø40-63, PRC BORE Ø50-100	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Power Screw = 1 pc.; Wrench = 1 pc.

PXT

List 6420

OSG PHOENIX® PDR SS

SPEED FEED 1538 | INSERTS 1258 | ACCS. 1259 | STEEL | PACKED 1 PIECE

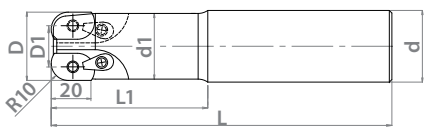


EDP Number		Designation	Body Type	Type	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Neck Dia. d1 (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Applicable Insert
7800000	●	PDR20R040SS42-2S	Cylindrical Shank Short	1	40.00	20.00	2	38.90	50.00	150.00	42.00	ADMT20
7800004	●	PDR20R050SS42-3S	Cylindrical Shank Short	1	50.00	30.00	3	48.50	50.00	150.00	42.00	ADMT20
7800009	●	PDR20R040SS42-2L	Cylindrical Shank Long	1	40.00	20.00	2	38.90	150.00	250.00	42.00	ADMT20
7800013	●	PDR20R050SS42-3L	Cylindrical Shank Long	1	50.00	30.00	3	48.50	150.00	250.00	42.00	ADMT20

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



Without coolant hole.

DESIGNATION EXPLANATION

PDR 20 R 040 SS 42-2 S

Series | Insert Size | Cutting Direction | Diameter | Body Type | Shank Diameter | Number of Flutes | Body Length

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎		◎			

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 6450

OSG PHOENIX® PDR BORE

SPEED FEED 1538 | INSERTS 1258 | ACCS. 1259 | STEEL | PACKED 1 PIECE

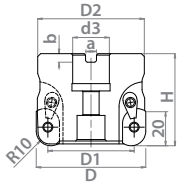


EDP Number		Designation	Type	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
6450001	●	PDR20R063M25.4-3	2	63.00	43.00	3	70.00	60.00	25.40	8.00	5.00	ADMT20
6450002	●	PDR20R063M25.4-4	2	63.00	43.00	4	70.00	60.00	25.40	8.00	5.00	ADMT20
7800052	●	PDR20R080M31.7-4	2	80.00	60.00	4	63.00	76.00	31.75	12.70	8.00	ADMT20
7800053	●	PDR20R080M31.7-5	2	80.00	60.00	5	63.00	76.00	31.75	12.70	8.00	ADMT20
7800054	●	PDR20R100M31.7-5	2	100.00	80.00	5	63.00	90.00	31.75	12.70	8.00	ADMT20
7800055	●	PDR20R100M31.7-6	2	100.00	80.00	6	63.00	90.00	31.75	12.70	8.00	ADMT20
7800056	●	PDR20R125M31.7-6	2	125.00	105.00	6	63.00	100.00	31.75	12.70	8.00	ADMT20
7800057	●	PDR20R063M22-3	2	63.00	43.00	3	63.00	60.00	22.00	10.40	6.30	ADMT20
7800058	●	PDR20R063M22-4	2	63.00	43.00	4	63.00	60.00	22.00	10.40	6.30	ADMT20
7800059	●	PDR20R080M27-4	2	80.00	60.00	4	63.00	76.00	27.00	12.40	7.00	ADMT20
7800060	●	PDR20R080M27-5	2	80.00	60.00	5	63.00	76.00	27.00	12.40	7.00	ADMT20
7800061	●	PDR20R100M32-5	2	100.00	80.00	5	63.00	96.00	32.00	14.40	8.00	ADMT20
7800062	●	PDR20R100M32-6	2	100.00	80.00	6	63.00	96.00	32.00	14.40	8.00	ADMT20
7800063	●	PDR20R125M40-6	2	125.00	105.00	6	63.00	100.00	40.00	16.40	9.00	ADMT20

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 2



Without coolant hole.

DESIGNATION EXPLANATION

PDR 20 R 063 M 25.4-3

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎		◎			

Material recommendation based on inserts compatible with this tool body.

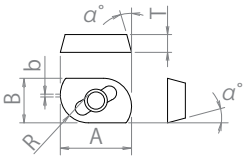
○ Good ◎ Best

List 78PDR

PACKED
10 PIECE

OSG PHOENIX® PDR INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size					Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	
7810000	●	ADMT2006100PDR-GM	2	24.18 x 16	6.35	15.00	10.00	1.00	XP3930

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

A D M T 20 06 100 PD R-GM XP3930

Insert Shape	Clearance Angle	Tolerance	Insert Features	Cutting Edge Length	Thickness	Corner Radius	Cutting Edge Type	Cutting Direction	Chip Breaker	Grade

See Full Detail on Pages 1522-1523

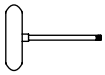
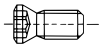
Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
GM	N	◎		◎			

○ Good ◎ Best

List 7808H

OSG PHOENIX® PDR ACCESSORIES

PACKED	PACKED
1 PIECE	10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 T-Handle Wrench	7808000	●	20IP-T (Torx 20IP)	ADMT20	-	PDR SS Ø40-50, PDR BORE Ø63-125	-
 Clamping Screw	7808001	●	CSPB-5 (Torx 20IP)	ADMT20	-	PDR SS Ø40-50, PDR BORE Ø63-125	5.0 Nm
Metal Weight Set Washer	7808002	●	CSY-20	ADMT20	-	PDR SS Ø40-50, PDR BORE Ø63-125	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Weight Set = 1 pc.; T-Handle Wrench = 1 pc.

PXT

List 78036

SPEED FEED 1539-1541 | INSERTS 1261 | ACCS. 1262 | STEEL | PACKED 1 PIECE

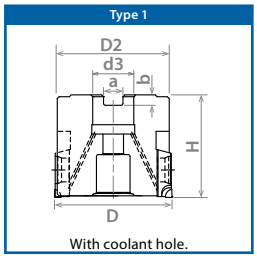
OSG PHOENIX® PFAL BORE

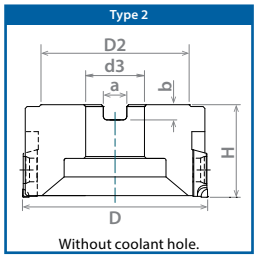


EDP Number		Designation	Type	Diameter D (mm)	Number of Flutes	Body Height H (mm)	Flange Diameter D2 (mm)	Bore Diameter d3 (mm)	Keyway Width a (mm)	Keyway Depth b (mm)	Applicable Insert
7803600	▲	PFAL04R050M16-5	1	50.00	5	55.00	40.00	16.00	8.40	5.60	FR120_ / -W
7803601	▲	PFAL04R063M22-6	1	63.00	6	55.00	45.00	22.00	10.40	6.30	FR120_ / -W
7803602	▲	PFAL04R063M22-8	1	63.00	8	55.00	45.00	22.00	10.40	6.30	FR120_ / -W
7803603	▲	PFAL04R080M25.4-8	2	80.00	8	50.00	70.00	25.40	9.50	6.00	FR120_ / -W
7803604	▲	PFAL04R080M27-8	2	80.00	8	50.00	70.00	27.00	12.40	7.00	FR120_ / -W
7803605	▲	PFAL04R080M25.4-10	2	80.00	10	50.00	70.00	25.40	9.50	6.00	FR120_ / -W
7803606	▲	PFAL04R080M27-10	2	80.00	10	50.00	70.00	27.00	12.40	7.00	FR120_ / -W
7803607	▲	PFAL04R100M25.4-8	2	100.00	8	50.00	80.00	25.40	9.50	6.00	FR120_ / -W
7803608	▲	PFAL04R100M27-8	2	100.00	8	50.00	80.00	27.00	12.40	7.00	FR120_ / -W
7803609	▲	PFAL04R100M31.7-8	2	100.00	8	50.00	80.00	31.75	12.70	8.00	FR120_ / -W
7803610	▲	PFAL04R100M32-8	2	100.00	8	50.00	80.00	32.00	14.40	8.20	FR120_ / -W
7803611	▲	PFAL04R100M25.4-12	2	100.00	12	50.00	80.00	25.40	9.50	6.00	FR120_ / -W
7803612	▲	PFAL04R100M27-12	2	100.00	12	50.00	80.00	27.00	12.40	7.00	FR120_ / -W
7803613	▲	PFAL04R100M31.7-12	2	100.00	12	50.00	80.00	31.75	12.70	8.00	FR120_ / -W
7803614	▲	PFAL04R100M32-12	2	100.00	12	50.00	80.00	32.00	14.40	8.20	FR120_ / -W
7803615	▲	PFAL04R125M25.4-10	2	125.00	10	50.00	80.00	25.40	9.50	6.00	FR120_ / -W
7803616	▲	PFAL04R125M27-10	2	125.00	10	50.00	80.00	27.00	12.40	7.00	FR120_ / -W
7803617	▲	PFAL04R125M38.1-10	2	125.00	10	63.00	80.00	38.10	15.90	10.00	FR120_ / -W
7803618	▲	PFAL04R125M40-10	2	125.00	10	63.00	85.00	40.00	16.40	9.20	FR120_ / -W
7803619	▲	PFAL04R125M25.4-16	2	125.00	16	50.00	80.00	25.40	9.50	6.00	FR120_ / -W
7803620	▲	PFAL04R125M27-16	2	125.00	16	50.00	80.00	27.00	12.40	7.00	FR120_ / -W
7803621	▲	PFAL04R125M38.1-16	2	125.00	16	63.00	80.00	38.10	15.90	10.00	FR120_ / -W
7803622	▲	PFAL04R125M40-16	2	125.00	16	63.00	85.00	40.00	16.40	9.20	FR120_ / -W
7803623	▲	PFAL04R160M25.4-12	2	160.00	12	50.00	80.00	25.40	9.50	6.00	FR120_ / -W
7803624	▲	PFAL04R160M27-12	2	160.00	12	50.00	80.00	27.00	12.40	7.00	FR120_ / -W
7803625	▲	PFAL04R160M40-12	2	160.00	12	63.00	85.00	40.00	16.40	9.20	FR120_ / -W
7803626	▲	PFAL04R160M50.8-12	2	160.00	12	63.00	100.00	50.80	19.10	11.00	FR120_ / -W
7803629	▲	PFAL04R160M25.4-20	2	160.00	20	50.00	80.00	25.40	9.50	6.00	FR120_ / -W
7803630	▲	PFAL04R160M27-20	2	160.00	20	50.00	80.00	27.00	12.40	7.00	FR120_ / -W
7803627	▲	PFAL04R160M40-20	2	160.00	20	63.00	85.00	40.00	16.40	9.20	FR120_ / -W
7803628	▲	PFAL04R160M50.8-20	2	160.00	20	63.00	100.00	50.80	19.10	11.00	FR120_ / -W

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT





For the use of internal coolant, please use a clamping bolt with coolant holes sold in the market.

DESIGNATION EXPLANATION

PFAL 04 R 050 M 16-5

Series | Insert Size | Cutting Direction | Diameter | Units | Bore Diameter | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
			◎		

Material recommendation based on inserts compatible with this tool body.

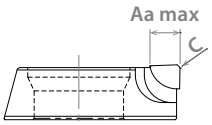
○ Good ◎ Best

List 78PFAL

PACKED
1 PIECE

OSG PHOENIX® PFAL INSERTS





EDP Number		Designation	Number of Cutting Edges	Insert Size		Grade
				C (mm)	Aa Max (mm)	
7820500	●	FR1204	1	0.40	4.00	DP010
7820501	●	FR1204-W	1	0.40	-	DP010
7820502	●	FR1206	1	0.40	6.00	DP010

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: One wiper blade is required per cutter body and should be mounted in the designated position. The FR1204-W wiper blade can be used with both FR1204 & FR1206 normal blades.

PXI

DESIGNATION EXPLANATION

FR 12 04-W DP010

- FR 12 — Thickness
- 04 — Length of Cut
- -W — Wiper
- DP010 — Grade

See Full Detail on Pages 1522-1523

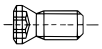
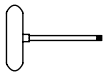
Insert Grade	Chip Breaker	Coolant	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
DP010	–	Y				◎		

○ Good ◎ Best

List 7808H

OSG PHOENIX® PFAL ACCESSORIES

PACKED 1 PIECE	PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Insert	Applicable Cutter		Recommended Tightening Torque
					Inch	mm	
 Clamping Screw	7808125	●	FS60620 (M6 x 17, Torx 25)	FR120_ / -W	-	PFAL BORE Ø50-160	10.0 Nm
 Wedge Clamping Screw	7808142	●	WS0617	-	-	PFAL BORE Ø50-160	-
 Wedge	7808143	●	W12-06	-	-	PFAL BORE Ø50-160	-
 T-Handle Wrench	7808211	●	T25-T (Torx 25)	FR120_ / -W	-	PFAL BORE Ø50-160	-
 Hex Wrench	7808231	●	3MM-L	-	-	PFAL BORE Ø50-160	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 10 pcs.; Weight Set = 1 pc.; T-Handle Wrench = 1 pc.

PXT

List 52100

OSG PHOENIX® PFB SA

SPEED FEED 1542-1543 | INSERTS 1268-1272 | ACCS. 1273 | STEEL | CARBIDE | 2 FLUTE | PACKED 1 PIECE



Steel Shank



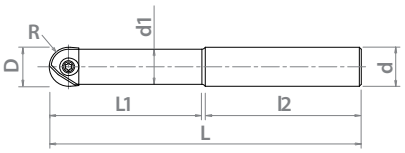
Carbide Shank

EDP Number		Designation	Body Type	Type	Dia. D (Inch)	Corner Radius R (Inch)	Neck Dia. d1 (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Shank Length l2 (Inch)	Taper Angle α (°)	L/D Ratio	Applicable Insert
52100000	●	PFB-R0250SA0250-S325	Cylindrical Shank Steel	1	0.250	0.125	0.226	0.625	3.250	0.250	2.625	0	2.5	PFB0250
52100026	●	PFB-R0250SA0250-S375	Cylindrical Shank Steel	1	0.250	0.125	0.226	1.125	3.750	0.250	2.625	0	4.5	PFB0250
52100027	●	PFB-R0250TPA0375-S375	Cylindrical Shank Steel	2	0.250	0.125	0.226	1.125	3.750	0.375	2.581	2	4.5	PFB0250
52100028	●	PFB-R0250TPA0375-S425	Cylindrical Shank Steel	2	0.250	0.125	0.226	1.500	4.250	0.375	2.697	1	6.0	PFB0250
52100001	●	PFB-R0375SA0375-S550	Cylindrical Shank Steel	1	0.375	0.188	0.336	1.687	5.500	0.375	3.813	0	4.5	PFB0375
52100029	●	PFB-R0375SA0375-S400	Cylindrical Shank Steel	1	0.375	0.188	0.336	0.937	4.000	0.375	3.063	0	2.5	PFB0375
52100030	●	PFB-R0375TPA0500-S500	Cylindrical Shank Steel	2	0.375	0.188	0.336	1.687	5.000	0.500	3.276	2	4.5	PFB0375
52100031	●	PFB-R0375TPA0500-S550	Cylindrical Shank Steel	2	0.375	0.188	0.336	2.250	5.500	0.500	3.200	1	6.0	PFB0375
52100002	●	PFB-R0500SA0500-S550	Cylindrical Shank Steel	1	0.500	0.250	0.461	2.250	5.500	0.500	3.250	0	4.5	PFB0500
52100032	●	PFB-R0500SA0500-S450	Cylindrical Shank Steel	1	0.500	0.250	0.461	1.250	4.500	0.500	3.250	0	2.5	PFB0500
52100033	●	PFB-R0500TPA0625-S550	Cylindrical Shank Steel	2	0.500	0.250	0.461	2.250	5.500	0.625	3.229	2	4.5	PFB0500
52100034	●	PFB-R0500TPA0625-S650	Cylindrical Shank Steel	2	0.500	0.250	0.461	3.000	6.500	0.625	3.461	1	6.0	PFB0500
52100003	●	PFB-R0625SA0625-S550	Cylindrical Shank Steel	1	0.625	0.313	0.546	2.500	5.500	0.625	3.000	0	4.0	PFB0625
52100035	●	PFB-R0625SA0625-S500	Cylindrical Shank Steel	1	0.625	0.313	0.546	1.562	5.000	0.625	3.438	0	2.5	PFB0625
52100036	●	PFB-R0625TPA0750-S600	Cylindrical Shank Steel	2	0.625	0.313	0.546	2.812	6.000	0.750	3.181	2	4.5	PFB0625
52100037	●	PFB-R0625TPA0750-S700	Cylindrical Shank Steel	2	0.625	0.313	0.546	3.750	7.000	0.750	3.222	1	6.0	PFB0625
52100004	●	PFB-R0750SA0750-S600	Cylindrical Shank Steel	1	0.750	0.375	0.671	3.000	6.000	0.750	3.000	0	4.0	PFB0750
52100038	●	PFB-R0750SA0750-S550	Cylindrical Shank Steel	1	0.750	0.375	0.671	1.875	5.500	0.750	3.625	0	2.5	PFB0750
52100039	●	PFB-R0750TPA1000-S650	Cylindrical Shank Steel	2	0.750	0.375	0.671	3.375	6.500	1.000	3.072	2	4.5	PFB0750
52100040	●	PFB-R0750TPA1000-S800	Cylindrical Shank Steel	2	0.750	0.375	0.671	4.500	8.000	1.000	3.420	1	6.0	PFB0750
52100005	●	PFB-R1000SA1000-S650	Cylindrical Shank Steel	1	1.000	0.500	0.882	3.000	6.500	1.000	3.500	0	3.0	PFB1000
52100041	●	PFB-R1000SA1000-S750	Cylindrical Shank Steel	1	1.000	0.500	0.882	4.000	7.500	1.000	3.500	0	4.0	PFB1000
52100042	●	PFB-R1000TPA1250-S800	Cylindrical Shank Steel	2	1.000	0.500	0.882	4.500	8.000	1.250	3.477	2	4.5	PFB1000
52100043	●	PFB-R1000TPA1250-S950	Cylindrical Shank Steel	2	1.000	0.500	0.882	6.000	9.500	1.250	3.442	1	6.0	PFB1000
52100016	●	PFB-R1250SA1250-S700	Cylindrical Shank Steel	1	1.250	0.625	1.132	3.750	7.000	1.250	3.250	0	3.0	PFB1250
52100044	●	PFB-R1250SA1250-S850	Cylindrical Shank Steel	1	1.250	0.625	1.132	5.000	8.500	1.250	3.500	0	4.0	PFB1250
52100045	●	PFB-R1250TPA1500-S900	Cylindrical Shank Steel	2	1.250	0.625	1.132	5.625	9.000	1.500	3.344	2	4.5	PFB1250
52100046	●	PFB-R1250TPA1500-S1100	Cylindrical Shank Steel	2	1.250	0.625	1.132	7.500	11.000	1.500	3.425	1	6.0	PFB1250
52100020	●	PFB-R0250SA0250-S325CS	Cylindrical Shank Short Carbide	1	0.250	0.125	0.226	0.625	3.250	0.250	2.625	0	2.5	PFB0250
52100021	●	PFB-R0375SA0375-S400CS	Cylindrical Shank Short Carbide	1	0.375	0.188	0.336	0.937	4.000	0.375	3.063	0	2.5	PFB0375
52100022	●	PFB-R0500SA0500-S450CS	Cylindrical Shank Short Carbide	1	0.500	0.250	0.461	1.250	4.500	0.500	3.250	0	2.5	PFB0500
52100023	●	PFB-R0625SA0625-S550CS	Cylindrical Shank Short Carbide	1	0.625	0.313	0.546	1.562	5.500	0.625	3.938	0	2.5	PFB0625
52100024	●	PFB-R0750SA0750-S600CS	Cylindrical Shank Short Carbide	1	0.750	0.375	0.671	1.875	6.000	0.750	4.125	0	2.5	PFB0750
52100025	●	PFB-R1000SA1000-S650CS	Cylindrical Shank Short Carbide	1	1.000	0.500	0.882	2.500	6.500	1.000	4.000	0	2.5	PFB1000
52100017	●	PFB-R1250SA1250-S700CS	Cylindrical Shank Short Carbide	1	1.250	0.625	1.132	3.125	7.000	1.250	3.875	0	2.5	PFB1250
52100047	●	PFB-R0250SA0250-L400CS	Cylindrical Shank Long Carbide	1	0.250	0.125	0.226	1.250	4.000	0.250	2.750	0	5.0	PFB0250
52100048	●	PFB-R0250TPA0375-L425CS	Cylindrical Shank Long Carbide	2	0.250	0.125	0.226	1.500	4.250	0.375	2.697	1	6.0	PFB0250
52100006	●	PFB-R0375SA0375-L550CS	Cylindrical Shank Long Carbide	1	0.375	0.188	0.336	1.875	5.500	0.375	3.625	0	5.0	PFB0375

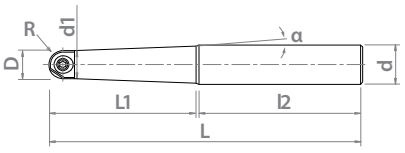
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

Type 1



Type 2



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P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52100 (Continued)

OSG PHOENIX® PFB SA

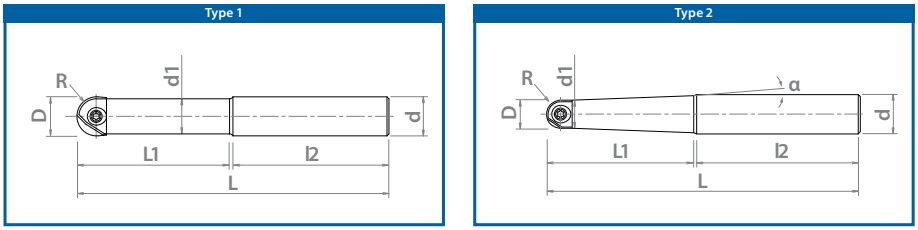
SPEED FEED 1542-1543 | INSERTS 1268-1272 | ACCS. 1273 | STEEL | CARBIDE | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Body Type	Type	Dia. D (Inch)	Corner Radius R (Inch)	Neck Dia. d1 (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Shank Length l2 (Inch)	Taper Angle α (°)	L/D Ratio	Applicable Insert
52100049	●	PFB-R0375TPA0500-L550CS	Cylindrical Shank Long Carbide	2	0.375	0.188	0.336	2.250	5.500	0.500	3.200	1	6.0	PFB0375
52100007	●	PFB-R0500SA0500-L550CS	Cylindrical Shank Long Carbide	1	0.500	0.250	0.461	2.500	5.500	0.500	3.000	0	5.0	PFB0500
52100050	●	PFB-R0500TPA0625-L650CS	Cylindrical Shank Long Carbide	2	0.500	0.250	0.461	3.000	6.500	0.625	3.461	1	6.0	PFB0500
52100008	●	PFB-R0625SA0625-L650CS	Cylindrical Shank Long Carbide	1	0.625	0.313	0.546	3.125	6.500	0.625	3.375	0	5.0	PFB0625
52100051	●	PFB-R0625TPA0750-L700CS	Cylindrical Shank Long Carbide	2	0.625	0.313	0.546	3.750	7.000	0.750	3.222	1	6.0	PFB0625
52100009	●	PFB-R0750SA0750-L700CS	Cylindrical Shank Long Carbide	1	0.750	0.375	0.671	3.750	7.000	0.750	3.250	0	5.0	PFB0750
52100052	●	PFB-R0750TPA1000-L800CS	Cylindrical Shank Long Carbide	2	0.750	0.375	0.671	4.500	8.000	1.000	3.420	1	6.0	PFB0750
52100010	●	PFB-R1000SA1000-L800CS	Cylindrical Shank Long Carbide	1	1.000	0.500	0.882	4.500	8.000	1.000	3.500	0	4.5	PFB1000
52100053	●	PFB-R1000TPA1250-L950CS	Cylindrical Shank Long Carbide	2	1.000	0.500	0.882	6.000	9.500	1.250	3.442	1	6.0	PFB1000
52100018	●	PFB-R1250SA1250-L900CS	Cylindrical Shank Long Carbide	1	1.250	0.625	1.132	5.625	9.000	1.250	3.375	0	4.5	PFB1250
52100054	●	PFB-R1250TPA1500-L1100CS	Cylindrical Shank Long Carbide	2	1.250	0.625	1.132	7.500	11.000	1.500	3.425	1	6.0	PFB1250
52100055	●	PFB-R0250SA0250-LL450CS	Cylindrical Shank Extra-Long Carbide	1	0.250	0.125	0.226	1.750	4.500	0.250	2.750	0	7.0	PFB0250
52100056	●	PFB-R0250TPA0375-LL475CS	Cylindrical Shank Extra-Long Carbide	2	0.250	0.125	0.226	2.000	4.750	0.375	2.690	1	8.0	PFB0250
52100011	●	PFB-R0375SA0375-LL650CS	Cylindrical Shank Extra-Long Carbide	1	0.375	0.188	0.336	2.625	6.500	0.375	3.875	0	7.0	PFB0375
52100057	●	PFB-R0375TPA0500-LL650CS	Cylindrical Shank Extra-Long Carbide	2	0.375	0.188	0.336	3.000	6.500	0.500	3.440	1	8.0	PFB0375
52100012	●	PFB-R0500SA0500-LL700CS	Cylindrical Shank Extra-Long Carbide	1	0.500	0.250	0.461	3.500	7.000	0.500	3.500	0	7.0	PFB0500
52100058	●	PFB-R0500TPA0625-LL750CS	Cylindrical Shank Extra-Long Carbide	2	0.500	0.250	0.461	4.000	7.500	0.625	3.448	1	8.0	PFB0500
52100013	●	PFB-R0625SA0625-LL750CS	Cylindrical Shank Extra-Long Carbide	1	0.625	0.313	0.546	3.750	7.500	0.625	3.750	0	6.0	PFB0625
52100059	●	PFB-R0625TPA0750-LL825CS	Cylindrical Shank Extra-Long Carbide	2	0.625	0.313	0.546	5.000	8.250	0.750	3.206	1	8.0	PFB0625
52100014	●	PFB-R0750SA0750-LL900CS	Cylindrical Shank Extra-Long Carbide	1	0.750	0.375	0.671	4.500	9.000	0.750	4.500	0	6.0	PFB0750
52100060	●	PFB-R0750TPA1000-LL950CS	Cylindrical Shank Extra-Long Carbide	2	0.750	0.375	0.671	6.000	9.500	1.000	3.401	1	8.0	PFB0750
52100015	●	PFB-R1000SA1000-LL1050CS	Cylindrical Shank Extra-Long Carbide	1	1.000	0.500	0.882	5.500	10.500	1.000	5.000	0	5.5	PFB1000
52100061	●	PFB-R1000TPA1250-LL1150CS	Cylindrical Shank Extra-Long Carbide	2	1.000	0.500	0.882	8.000	11.500	1.250	3.416	1	8.0	PFB1000
52100019	●	PFB-R1250SA1250-LL1200CS	Cylindrical Shank Extra-Long Carbide	1	1.250	0.625	1.132	6.875	12.000	1.250	5.125	0	5.5	PFB1250
52100062	●	PFB-R1250TPA1500-LL1350CS	Cylindrical Shank Extra-Long Carbide	2	1.250	0.625	1.132	10.000	13.500	1.500	3.392	1	8.0	PFB1250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT



DESIGNATION EXPLANATION

PFB-R 0250 SA 0250-S 325 (CS)

Series	Cutting Direction	Diameter	Body Type	Shank Diameter	Body Length	Overall Length	Carbide Shank

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

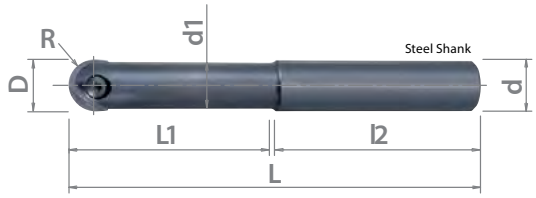
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78014

OSG PHOENIX® PFB SS

SPEED FEED	INSERTS	ACCS.	STEEL	CARBIDE	2 FLUTE	PACKED
1542-1543	1268-1272	1273				1 PIECE





EDP Number		Designation	Body Type	Dia. D (mm)	Corner Radius R (mm)	Neck Dia. d1 (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Shank Length l2 (mm)	L/D Ratio	Applicable Insert
7801400	●	PFB-R080SS08-S120	Cylindrical Shank Steel	8.00	4.00	7.00	36.00	120.00	8.00	84.00	4.5	PFB080
7801401	●	PFB-R100SS10-S130	Cylindrical Shank Steel	10.00	5.00	9.00	45.00	130.00	10.00	85.00	4.5	PFB100
7801402	●	PFB-R120SS12-S130	Cylindrical Shank Steel	12.00	6.00	11.00	54.00	130.00	12.00	76.00	4.5	PFB120
7801403	●	PFB-R160SS16-S140	Cylindrical Shank Steel	16.00	8.00	14.00	64.00	140.00	16.00	76.00	4.0	PFB160
7801404	●	PFB-R200SS20-S160	Cylindrical Shank Steel	20.00	10.00	18.00	80.00	160.00	20.00	80.00	4.0	PFB200
7801405	●	PFB-R250SS25-S160	Cylindrical Shank Steel	25.00	12.50	22.00	75.00	160.00	25.00	85.00	3.0	PFB250
7801406	●	PFB-R300SS32-S170	Cylindrical Shank Steel	30.00	15.00	27.00	90.00	170.00	32.00	80.00	3.0	PFB300
7801407	●	PFB-R320SS32-S180	Cylindrical Shank Steel	32.00	16.00	29.00	96.00	180.00	32.00	84.00	3.0	PFB320
7801429	●	PFB-R060SS06-S80CS	Cylindrical Shank Short Carbide	6.00	3.00	5.40	15.00	80.00	6.00	65.00	2.5	PFB060 / PFB070
7801430	●	PFB-R080SS08-S100CS	Cylindrical Shank Short Carbide	8.00	4.00	7.00	20.00	100.00	8.00	80.00	2.5	PFB080
7801431	●	PFB-R100SS10-S100CS	Cylindrical Shank Short Carbide	10.00	5.00	9.00	25.00	100.00	10.00	75.00	2.5	PFB100
7801432	●	PFB-R120SS12-S110CS	Cylindrical Shank Short Carbide	12.00	6.00	11.00	30.00	110.00	12.00	80.00	2.5	PFB120
7801433	●	PFB-R160SS16-S140CS	Cylindrical Shank Short Carbide	16.00	8.00	14.00	40.00	140.00	16.00	100.00	2.5	PFB160
7801434	●	PFB-R200SS20-S160CS	Cylindrical Shank Short Carbide	20.00	10.00	18.00	50.00	160.00	20.00	110.00	2.5	PFB200
7801435	●	PFB-R250SS25-S160CS	Cylindrical Shank Short Carbide	25.00	12.50	22.00	62.50	160.00	25.00	97.50	2.5	PFB250
7801436	●	PFB-R300SS32-S170CS	Cylindrical Shank Short Carbide	30.00	15.00	27.00	75.00	170.00	32.00	95.00	2.5	PFB300
7801437	●	PFB-R320SS32-S180CS	Cylindrical Shank Short Carbide	32.00	16.00	29.00	80.00	180.00	32.00	100.00	2.5	PFB320
7801439	●	PFB-R060SS06-L100CS	Cylindrical Shank Long Carbide	6.00	3.00	5.40	30.00	100.00	6.00	70.00	5.0	PFB060 / PFB070
7801440	●	PFB-R080SS08-L120CS	Cylindrical Shank Long Carbide	8.00	4.00	7.00	40.00	120.00	8.00	80.00	5.0	PFB080
7801441	●	PFB-R100SS10-L130CS	Cylindrical Shank Long Carbide	10.00	5.00	9.00	50.00	130.00	10.00	80.00	5.0	PFB100
7801442	●	PFB-R120SS12-L140CS	Cylindrical Shank Long Carbide	12.00	6.00	11.00	60.00	140.00	12.00	80.00	5.0	PFB120
7801443	●	PFB-R160SS16-L160CS	Cylindrical Shank Long Carbide	16.00	8.00	14.00	72.00	160.00	16.00	88.00	4.5	PFB160
7801444	●	PFB-R200SS20-L180CS	Cylindrical Shank Long Carbide	20.00	10.00	18.00	90.00	180.00	20.00	90.00	4.5	PFB200
7801445	●	PFB-R250SS25-L200CS	Cylindrical Shank Long Carbide	25.00	12.50	22.00	100.00	200.00	25.00	100.00	4.0	PFB250
7801446	●	PFB-R300SS32-L220CS	Cylindrical Shank Long Carbide	30.00	15.00	27.00	120.00	220.00	32.00	100.00	4.0	PFB300
7801447	●	PFB-R320SS32-L230CS	Cylindrical Shank Long Carbide	32.00	16.00	29.00	128.00	230.00	32.00	102.00	4.0	PFB320
7801419	●	PFB-R060SS06-LL120CS	Cylindrical Shank Extra-Long Carbide	6.00	3.00	5.40	42.00	120.00	6.00	78.00	7.0	PFB060 / PFB070
7801420	●	PFB-R080SS08-LL140CS	Cylindrical Shank Extra-Long Carbide	8.00	4.00	7.00	56.00	140.00	8.00	84.00	7.0	PFB080
7801421	●	PFB-R100SS10-LL150CS	Cylindrical Shank Extra-Long Carbide	10.00	5.00	9.00	70.00	150.00	10.00	80.00	7.0	PFB100
7801422	●	PFB-R120SS12-LL160CS	Cylindrical Shank Extra-Long Carbide	12.00	6.00	11.00	84.00	160.00	12.00	76.00	7.0	PFB120
7801423	●	PFB-R160SS16-LL200CS	Cylindrical Shank Extra-Long Carbide	16.00	8.00	14.00	96.00	200.00	16.00	104.00	6.0	PFB160
7801424	●	PFB-R200SS20-LL240CS	Cylindrical Shank Extra-Long Carbide	20.00	10.00	18.00	120.00	240.00	20.00	120.00	6.0	PFB200
7801425	●	PFB-R250SS25-LL260CS	Cylindrical Shank Extra-Long Carbide	25.00	12.50	22.00	137.50	260.00	25.00	122.50	5.5	PFB250
7801426	●	PFB-R300SS32-LL290CS	Cylindrical Shank Extra-Long Carbide	30.00	15.00	27.00	165.00	290.00	32.00	125.00	5.5	PFB300
7801427	●	PFB-R320SS32-LL300CS	Cylindrical Shank Extra-Long Carbide	32.00	16.00	29.00	176.00	300.00	32.00	124.00	5.5	PFB320

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFB-R 080 SS 08-S 120 (CS)

Series	Cutting Direction	Diameter	Body Type	Shank Diameter	Body Length	Overall Length	Carbide Shank
PFB	R	080	SS	08	S	120	(CS)

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

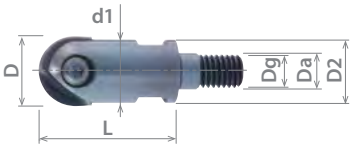
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52604

OSG PHOENIX® PFB ASF, Screw Fit Head

SPEED FEED 1542-1543 | INSERTS 1268-1272 | ACCS. 1273 | STEEL | CARBIDE | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Diameter D (Inch)	Corner Radius R (Inch)	Neck Diameter d1 (Inch)	Pilot Diameter Da (Inch)	Thread Size Dg (mm)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Insert
52604000	●	PFB-R0375ASF6	0.375	0.188	0.354	0.256	M6	0.354	1.024	7	PFB0375
52604001	●	PFB-R0500ASF6	0.500	0.250	0.433	0.256	M6	0.433	1.024	7	PFB0500
52604002	●	PFB-R0625ASF8	0.625	0.313	0.551	0.335	M8	0.571	1.260	10	PFB0625
52604003	●	PFB-R0750ASF10	0.750	0.375	0.709	0.413	M10	0.709	1.496	14	PFB0750
52604004	●	PFB-R1000ASF12	1.000	0.500	0.866	0.492	M12	0.906	1.496	17	PFB1000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFB-R 0375 ASF 6

- PFB-R: Series
- 0375: Cutting Direction
- 0375: Diameter
- ASF: Body Type
- 6: Thread Size

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

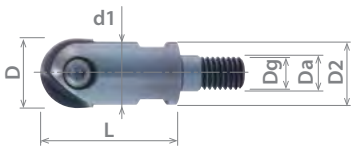
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78114

OSG PHOENIX® PFB SF, Screw Fit Head

SPEED FEED 1542-1543 | INSERTS 1268-1272 | ACCS. 1273 | STEEL | CARBIDE | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Corner Radius R (mm)	Neck Diameter d1 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7801490	▲	PFB-R100SF6	10.00	5.00	9.00	6.50	M6	9.00	26.00	7	PFB100
7801491	▲	PFB-R120SF6	12.00	6.00	11.00	6.50	M6	11.00	26.00	7	PFB120
7801492	▲	PFB-R160SF8	16.00	8.00	14.00	8.50	M8	14.50	32.00	10	PFB160
7801493	▲	PFB-R200SF10	20.00	10.00	18.00	10.50	M10	18.00	38.00	14	PFB200
7801494	▲	PFB-R250SF12	25.00	12.50	22.00	12.50	M12	23.00	38.00	17	PFB250
7801495	▲	PFB-R300SF16	30.00	15.00	27.00	17.00	M16	28.00	43.00	22	PFB300

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFB-R 100 SF 6

- PFB-R: Series
- 100: Diameter
- SF: Cutting Direction
- 6: Body Type
- Thread Size

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

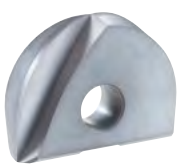
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

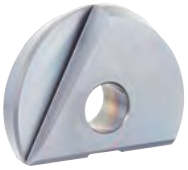
List 78PFB

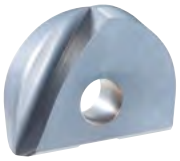
PACKED
1 PIECE

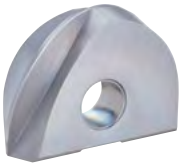
OSG PHOENIX® PFB INSERTS

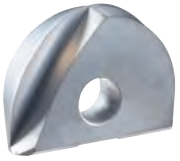

Spiral


Spiral (Full Radius)


Straight (Full Radius)


Spiral (Strengthened Edge)


Spiral (High Hardness)


Spiral (Diamond Coated)

EDP Number		Designation	Type	Specification	Number of Cutting Edges	Range	Insert Size				Grade
						α (°)	D (Inch)	R (Inch)	T (Inch)	L (Inch)	
52101020	●	PFB0250A-SP	1	Spiral	2	180	0.250	0.125	2.00	5.18	XP3225
52101021	●	PFB0375A-SP	1	Spiral	2	180	0.375	0.188	2.60	8.50	XP3225
52101022	●	PFB0500A-SP	1	Spiral	2	180	0.500	0.250	3.00	10.00	XP3225
52101023	●	PFB0625A-SP	1	Spiral	2	180	0.625	0.313	4.00	12.00	XP3225
52101024	●	PFB0750A-SP	1	Spiral	2	180	0.750	0.375	5.00	15.00	XP3225
52101025	●	PFB1000A-SP	1	Spiral	2	180	1.000	0.500	6.00	18.50	XP3225
52101026	●	PFB1250A-SP	1	Spiral	2	180	1.250	0.625	7.00	23.50	XP3225
52101010	●	PFB0250A-SP	1	Spiral	2	180	0.250	0.125	2.00	5.18	XP3320
52101011	●	PFB0375A-SP	1	Spiral	2	180	0.375	0.188	2.60	8.50	XP3320
52101012	●	PFB0500A-SP	1	Spiral	2	180	0.500	0.250	3.00	10.00	XP3320
52101013	●	PFB0625A-SP	1	Spiral	2	180	0.625	0.313	4.00	12.00	XP3320
52101014	●	PFB0750A-SP	1	Spiral	2	180	0.750	0.375	5.00	15.00	XP3320
52101015	●	PFB1000A-SP	1	Spiral	2	180	1.000	0.500	6.00	18.50	XP3320
52101016	●	PFB1250A-SP	1	Spiral	2	180	1.250	0.625	7.00	23.50	XP3320
52101040	●	PFB0250A-Q	2	Spiral (Full Radius)	2	220	0.250	0.125	2.00	5.18	XP3225
52101041	●	PFB0375A-Q	2	Spiral (Full Radius)	2	220	0.375	0.188	2.60	8.50	XP3225
52101042	●	PFB0500A-Q	2	Spiral (Full Radius)	2	220	0.500	0.250	3.00	10.00	XP3225
52101043	●	PFB0625A-Q	3	Spiral (Full Radius)	2	220	0.625	0.313	4.00	12.00	XP3225
52101044	●	PFB0750A-Q	3	Spiral (Full Radius)	2	220	0.750	0.375	5.00	15.00	XP3225
52101045	●	PFB1000A-Q	3	Spiral (Full Radius)	2	220	1.000	0.500	6.00	18.50	XP3225
52101046	●	PFB1250A-Q	3	Spiral (Full Radius)	2	220	1.250	0.625	7.00	23.50	XP3225
52101051	●	PFB0375A-Q-ST	2	Straight (Full Radius)	2	200	0.375	0.188	2.60	8.50	XP2225
52101052	●	PFB0500A-Q-ST	2	Straight (Full Radius)	2	200	0.500	0.250	3.00	10.00	XP2225
52101053	●	PFB0625A-Q-ST	3	Straight (Full Radius)	2	220	0.625	0.313	4.00	12.00	XP2225
52101054	●	PFB0750A-Q-ST	3	Straight (Full Radius)	2	220	0.750	0.375	5.00	15.00	XP2225
52101055	●	PFB1000A-Q-ST	3	Straight (Full Radius)	2	220	1.000	0.500	6.00	18.50	XP2225
52101056	●	PFB1250A-Q-ST	3	Straight (Full Radius)	2	220	1.250	0.625	7.00	23.50	XP2225
52101030	●	PFB0250A-SH	2	Spiral (Reinforced Edge)	2	220	0.250	0.125	2.00	5.18	XP3310
52101031	●	PFB0375A-SH	1	Spiral (Reinforced Edge)	2	180	0.375	0.188	2.60	8.50	XP3310
52101032	●	PFB0500A-SH	1	Spiral (Reinforced Edge)	2	180	0.500	0.250	3.00	10.00	XP3310
52101033	●	PFB0625A-SH	1	Spiral (Reinforced Edge)	2	180	0.625	0.313	4.00	12.00	XP3310
52101034	●	PFB0750A-SH	1	Spiral (Reinforced Edge)	2	180	0.750	0.375	5.00	15.00	XP3310
52101035	●	PFB1000A-SH	1	Spiral (Reinforced Edge)	2	180	1.000	0.500	6.00	18.50	XP3310
52101036	●	PFB1250A-SH	1	Spiral (Reinforced Edge)	2	180	1.250	0.625	7.00	23.50	XP3310
52101060	●	PFB0375A-HH	1	Spiral (Reinforced Edge)	2	180	0.375	0.188	2.60	8.50	XP6703
52101061	●	PFB0500A-HH	1	Spiral (Reinforced Edge)	2	180	0.500	0.250	3.00	10.00	XP6703
52101062	●	PFB0625A-HH	1	Spiral (Reinforced Edge)	2	180	0.625	0.313	4.00	12.00	XP6703
52101063	●	PFB0750A-HH	1	Spiral (Reinforced Edge)	2	180	0.750	0.375	5.00	15.00	XP6703
52101064	●	PFB1000A-HH	1	Spiral (Reinforced Edge)	2	180	1.000	0.500	6.00	18.50	XP6703
52101000	●	PFB0250A-D	2	Spiral (Diamond Coated)	2	220	0.250	0.125	2.00	5.18	XC4505
52101001	●	PF80375A-D	1	Spiral (Diamond Coated)	2	180	0.375	0.188	2.60	8.50	XC4505
52101002	●	PFB0500A-D	1	Spiral (Diamond Coated)	2	180	0.500	0.250	3.00	10.00	XC4505

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PFB (Continued)

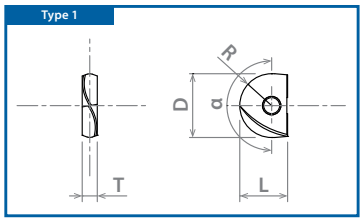
PACKED
1 PIECE

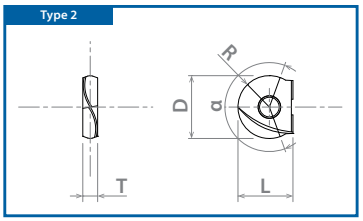
OSG PHOENIX® PFB INSERTS

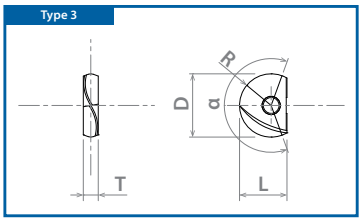
EDP Number		Designation	Type	Specification	Number of Cutting Edges	Range	Insert Size				Grade
						α (°)	D (Inch)	R (Inch)	T (Inch)	L (Inch)	
52101003	●	PF80625A-D	1	Spiral (Diamond Coated)	2	180	0.625	0.313	4.00	12.00	XC4505
52101004	●	PFB0750A-D	1	Spiral (Diamond Coated)	2	180	0.750	0.375	5.00	15.00	XC4505
52101005	●	PFB1000A-D	1	Spiral (Diamond Coated)	2	180	1.000	0.500	6.00	18.50	XC4505
52101006	●	PFB1250A-D	1	Spiral (Diamond Coated)	2	180	1.250	0.625	7.00	23.50	XC4505

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI







DESIGNATION EXPLANATION

PFB 0250 A-SP XP3225

Series — Diameter — Units — Specification — Grade

See Full Detail on Pages 1522-1523

CONTINUED

Insert Grade	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC4505				◎		
XP2225	○	◎			◎	○
XP3225	◎	○		◎	○	
XP3310			◎			◎
XP3320	○	○	○		○	○
XP6703	○		○			◎

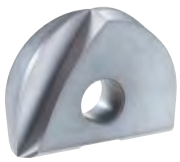
XP3225 best recommended for aluminum & copper alloy applications.
XC4505 best recommended for graphite & CFRP applications.

○ Good ◎ Best

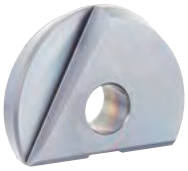
List 78PFB (Continued)

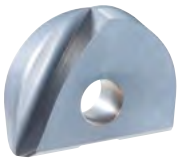
PACKED
1 PIECE

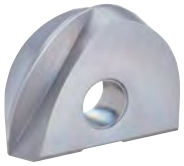
OSG PHOENIX® PFB INSERTS

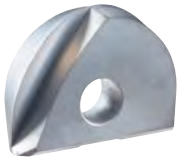

Spiral


Spiral (Full Radius)


Straight (Full Radius)


Spiral (Strengthened Edge)


Spiral (High Hardness)


Spiral (Diamond Coated)

EDP Number		Designation	Type	Specification	Number of Cutting Edges	Range	Insert Size				Grade
						α (°)	D (mm)	R (mm)	T (mm)	L (Inch)	
7820030	●	PFB080-SP	1	Spiral	2	180	8.00	4.00	2.40	7.00	XP3225
7820031	●	PFB100-SP	1	Spiral	2	180	10.00	5.00	2.60	8.50	XP3225
7820032	●	PFB120-SP	1	Spiral	2	180	12.00	6.00	3.00	10.00	XP3225
7820033	●	PFB160-SP	1	Spiral	2	180	16.00	8.00	4.00	12.00	XP3225
7820034	●	PFB200-SP	1	Spiral	2	180	20.00	10.00	5.00	15.00	XP3225
7820035	●	PFB250-SP	1	Spiral	2	180	25.00	12.50	6.00	18.50	XP3225
7820036	●	PFB300-SP	1	Spiral	2	180	30.00	15.00	7.00	22.50	XP3225
7820010	●	PFB080-SP	1	Spiral	2	180	8.00	4.00	2.40	7.00	XP3320
7820011	●	PFB100-SP	1	Spiral	2	180	10.00	5.00	2.60	8.50	XP3320
7820012	●	PFB120-SP	1	Spiral	2	180	12.00	6.00	3.00	10.00	XP3320
7820013	●	PFB160-SP	1	Spiral	2	180	16.00	8.00	4.00	12.00	XP3320
7820014	●	PFB200-SP	1	Spiral	2	180	20.00	10.00	5.00	15.00	XP3320
7820015	●	PFB250-SP	1	Spiral	2	180	25.00	12.50	6.00	18.50	XP3320
7820016	●	PFB300-SP	1	Spiral	2	180	30.00	15.00	7.00	22.50	XP3320
7820048	●	PFB060-Q	2	Spiral (Full Radius)	2	220	6.00	3.00	2.00	5.00	XP3225
7820049	●	PFB070-Q	2	Spiral (Full Radius)	2	220	7.00	3.50	2.00	5.50	XP3225
7820050	●	PF8080-Q	2	Spiral (Full Radius)	2	220	8.00	4.00	2.40	7.00	XP3225
7820051	●	PFB100-Q	2	Spiral (Full Radius)	2	220	10.00	5.00	2.60	8.50	XP3225
7820052	●	PFB120-Q	2	Spiral (Full Radius)	2	220	12.00	6.00	3.00	10.00	XP3225
7820053	●	PFB160-Q	3	Spiral (Full Radius)	2	220	16.00	8.00	4.00	12.00	XP3225
7820054	●	PFB200-Q	3	Spiral (Full Radius)	2	220	20.00	10.00	5.00	15.00	XP3225
7820055	●	PFB250-Q	3	Spiral (Full Radius)	2	220	25.00	12.50	6.00	18.50	XP3225
7820056	●	PFB300-Q	3	Spiral (Full Radius)	2	220	30.00	15.00	7.00	22.50	XP3225
7820060	●	PF8080-Q-ST	2	Straight (Full Radius)	2	200	8.00	4.00	2.40	7.00	XP2225
7820061	●	PFB100-Q-ST	2	Straight (Full Radius)	2	200	10.00	5.00	2.60	8.50	XP2225
7820062	●	PFB120-Q-ST	2	Straight (Full Radius)	2	200	12.00	6.00	3.00	10.00	XP2225
7820063	●	PFB160-Q-ST	3	Straight (Full Radius)	2	220	16.00	8.00	4.00	12.00	XP2225
7820064	●	PFB200-Q-ST	3	Straight (Full Radius)	2	220	20.00	10.00	5.00	15.00	XP2225
7820065	●	PFB250-Q-ST	3	Straight (Full Radius)	2	220	25.00	12.50	6.00	18.50	XP2225
7820066	●	PFB300-Q-ST	3	Straight (Full Radius)	2	220	30.00	15.00	7.00	22.50	XP2225
7820039	●	PFB060-SH	2	Spiral (Reinforced Edge)	2	220	6.00	3.00	2.00	5.00	XP3310
7820040	●	PFB080-SH	1	Spiral (Reinforced Edge)	2	180	8.00	4.00	2.40	7.00	XP3310
7820041	●	PFB100-SH	1	Spiral (Reinforced Edge)	2	180	10.00	5.00	2.60	8.50	XP3310
7820042	●	PFB120-SH	1	Spiral (Reinforced Edge)	2	180	12.00	6.00	3.00	10.00	XP3310
7820043	●	PFB160-SH	1	Spiral (Reinforced Edge)	2	180	16.00	8.00	4.00	12.00	XP3310
7820044	●	PFB200-SH	1	Spiral (Reinforced Edge)	2	180	20.00	10.00	5.00	15.00	XP3310
7820045	●	PFB250-SH	1	Spiral (Reinforced Edge)	2	180	25.00	12.50	6.00	18.50	XP3310
7820046	●	PFB300-SH	1	Spiral (Reinforced Edge)	2	180	30.00	15.00	7.00	22.50	XP3310
7820047	●	PFB320-SH	1	Spiral (Reinforced Edge)	2	180	32.00	16.00	7.00	23.50	XP3310
7820107	●	PFB100-HH	1	Spiral (Reinforced Edge)	2	180	10.00	5.00	2.60	8.50	XP6703
7820108	●	PFB120-HH	1	Spiral (Reinforced Edge)	2	180	12.00	6.00	3.00	10.00	XP6703
7820109	●	PFB160-HH	1	Spiral (Reinforced Edge)	2	180	16.00	8.00	4.00	12.00	XP6703
7820110	●	PFB200-HH	1	Spiral (Reinforced Edge)	2	180	20.00	10.00	5.00	15.00	XP6703
7820111	●	PFB250-HH	1	Spiral (Reinforced Edge)	2	180	25.00	12.50	6.00	18.50	XP6703
7820112	●	PFB300-HH	1	Spiral (Reinforced Edge)	2	180	30.00	15.00	7.00	22.50	XP6703
7820113	●	PFB320-HH	1	Spiral (Reinforced Edge)	2	180	32	16	7	23.5	XP6703
7820018	●	PFB060-D	2	Spiral (Diamond Coated)	2	220	6.00	3.00	2.00	5.00	XC4505
7820019	●	PFB070-D	2	Spiral (Diamond Coated)	2	220	7.00	3.50	2.00	5.50	XC4505
7820020	●	PFB080-D	1	Spiral (Diamond Coated)	2	180	8.00	4.00	2.40	7.00	XC4505
7820021	●	PFB100-D	1	Spiral (Diamond Coated)	2	180	10.00	5.00	2.60	8.50	XC4505
7820022	●	PFB120-D	1	Spiral (Diamond Coated)	2	180	12.00	6.00	3.00	10.00	XC4505
7820023	●	PFB160-D	1	Spiral (Diamond Coated)	2	180	16.00	8.00	4.00	12.00	XC4505
7820024	●	PFB200-D	1	Spiral (Diamond Coated)	2	180	20.00	10.00	5.00	15.00	XC4505

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PFB (Continued)

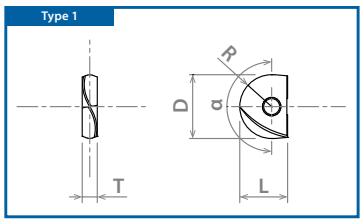
PACKED
1 PIECE

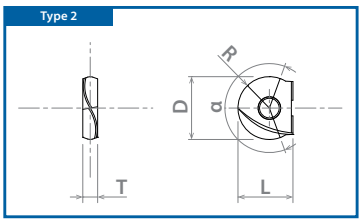
OSG PHOENIX® PFB INSERTS

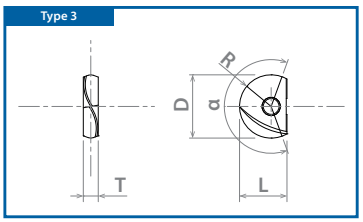
EDP Number		Designation	Type	Specification	Number of Cutting Edges	Range	Insert Size				Grade
						α (°)	D (mm)	R (mm)	T (mm)	L (Inch)	
7820025	●	PFB250-D	1	Spiral (Diamond Coated)	2	180	25.00	12.50	6.00	18.50	XC4505
7820026	●	PFB300-D	1	Spiral (Diamond Coated)	2	180	30.00	15.00	7.00	22.50	XC4505

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI







DESIGNATION EXPLANATION

PFB 0250 A-SP XP3225

Series — Diameter — Units — Specification — Grade

See Full Detail on Pages 1522-1523

CONTINUED

Insert Grade	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC4505				◎		
XP2225	○	◎			◎	○
XP3225	◎	○		◎	○	
XP3310			◎			◎
XP3320	○	○	○		○	○
XP6703	○		○			◎

XP3225 best recommended for aluminum & copper alloy applications.
XC4505 best recommended for graphite & CFRP applications.

○ Good ◎ Best

List 78PFB (Continued)

PACKED 1 PIECE

OSG PHOENIX® PFB INSERTS



Barrel Type
Type 4

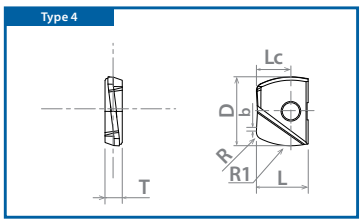


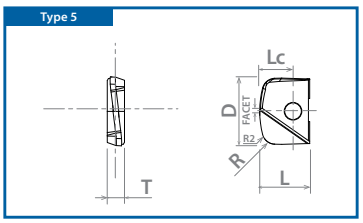
Lens Type
Type 5

EDP Number		Designation	Type	Specification	Number of Cutting Edges	Insert Size									Grade
						D (mm)	R (mm)	R1 (mm)	R2 (mm)	T (mm)	b (mm)	Facet (mm)	Lc (mm)	L (Inch)	
7820071	●	PFB100R150-BR-ST	4	Multi-Purpose	2	10.00	1.00	15.00	-	2.60	0.30	-	5.00	8.50	XP3225
7820072	●	PFB120R180-BR-ST	4	Multi-Purpose	2	12.00	1.00	18.00	-	3.00	0.30	-	6.00	10.00	XP3225
7820073	●	PFB160R240-BR-ST	4	Multi-Purpose	2	16.00	2.00	24.00	-	4.00	0.50	-	8.00	12.00	XP3225
7820074	●	PFB200R300-BR-ST	4	Multi-Purpose	2	20.00	2.00	30.00	-	5.00	0.50	-	10.00	15.00	XP3225
7820075	●	PFB250R375-BR-ST	4	Multi-Purpose	2	25.00	2.50	37.50	-	6.00	0.50	-	12.50	18.50	XP3225
7820076	●	PFB320R480-BR-ST	4	Multi-Purpose	2	32.00	3.00	48.00	-	7.00	0.50	-	16.00	23.50	XP3225
7820081	●	PFB100R150-BR-SH	4	Reinforced Edge	2	10.00	1.00	15.00	-	2.60	0.30	-	5.00	8.50	XP3310
7820082	●	PFB120R180-BR-SH	4	Reinforced Edge	2	12.00	1.00	18.00	-	3.00	0.30	-	6.00	10.00	XP3310
7820083	●	PFB160R240-BR-SH	4	Reinforced Edge	2	16.00	2.00	24.00	-	4.00	0.50	-	8.00	12.00	XP3310
7820084	●	PFB200R300-BR-SH	4	Reinforced Edge	2	20.00	2.00	30.00	-	5.00	0.50	-	10.00	15.00	XP3310
7820085	●	PFB250R375-BR-SH	4	Reinforced Edge	2	25.00	2.50	37.50	-	6.00	0.50	-	12.50	18.50	XP3310
7820086	●	PFB320R480-BR-SH	4	Reinforced Edge	2	32.00	3.00	48.00	-	7.00	0.50	-	16.00	23.50	XP3310
7820091	●	PFB100R150-LZ-ST	5	Multi-Purpose	2	10.00	1.00	-	15.00	2.60	-	0.75	3.30	8.50	XP3225
7820092	●	PFB120R180-LZ-ST	5	Multi-Purpose	2	12.00	1.00	-	18.00	3.00	-	0.75	4.00	10.00	XP3225
7820093	●	PFB160R240-LZ-ST	5	Multi-Purpose	2	16.00	2.00	-	24.00	4.00	-	1.00	5.30	12.00	XP3225
7820094	●	PFB200R300-LZ-ST	5	Multi-Purpose	2	20.00	2.00	-	30.00	5.00	-	1.75	6.70	15.00	XP3225
7820095	●	PFB250R375-LZ-ST	5	Multi-Purpose	2	25.00	2.50	-	37.50	6.00	-	1.75	8.30	18.50	XP3225
7820096	●	PFB320R480-LZ-ST	5	Multi-Purpose	2	32.00	3.00	-	48.00	7.00	-	2.00	10.70	23.50	XP3225
7820101	●	PFB100R150-LZ-SH	5	Reinforced Edge	2	10.00	1.00	-	15.00	2.60	-	0.75	3.30	8.50	XP3310
7820102	●	PFB120R180-LZ-SH	5	Reinforced Edge	2	12.00	1.00	-	18.00	3.00	-	0.75	4.00	10.00	XP3310
7820103	●	PFB160R240-LZ-SH	5	Reinforced Edge	2	16.00	2.00	-	24.00	4.00	-	1.00	5.30	12.00	XP3310
7820104	●	PFB200R300-LZ-SH	5	Reinforced Edge	2	20.00	2.00	-	30.00	5.00	-	1.75	6.70	15.00	XP3310
7820105	●	PFB250R375-LZ-SH	5	Reinforced Edge	2	25.00	2.50	-	37.50	6.00	-	1.75	8.30	18.50	XP3310
7820106	●	PFB320R480-LZ-SH	5	Reinforced Edge	2	32.00	3.00	-	48.00	7.00	-	2.00	10.70	23.50	XP3310

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI





DESIGNATION EXPLANATION

PFB 100 R150-BR-ST XP3225

Series | Diameter | Edge Radius | Type | Specification | Grade

See Full Detail on Pages 1522-1523

Insert Grade	P	M	K	N	S	H
	Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
XC4505				◎		
XP2225	○	◎			◎	○
XP3225	◎	○		◎	○	
XP3310			◎			◎
XP3320	○	○	○		○	○
XP6703	○		○			◎

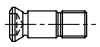
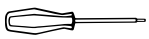
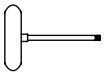
XP3225 best recommended for aluminum & copper alloy applications.
XC4505 best recommended for graphite & CFRP applications.

○ Good ◎ Best

List 7808H

PACKED 1 PIECE | PACKED 10 PIECE

OSG PHOENIX® PFB ACCESSORIES

Appearance	EDP No.		Designation	Applicable Cutter		Recommended Tightening Torque
				Inch	mm	
 Clamping Screw	7808124	●	FS20652RB (Torx 6)	PFB SA Ø0.250	PFB SS Ø6-7	0.4 Nm
	7808123	●	FS25669RB (Torx 7)	-	PFB SS Ø8	1.0 Nm
	7808117	●	FS30686RB (Torx 8)	PFB SA/ASF Ø0.375	PFB SS/SF Ø10	1.2 Nm
	7808118	●	FS35610RB (Torx 10)	PFB SA/ASF Ø0.500	PFB SS/SF Ø12	2.0 Nm
	7808119	●	FS40613RB (Torx 15)	PFB SA/ASF Ø0.625	PFB SS/SF Ø16	3.0 Nm
	7808120	●	FS50615RB (Torx 20)	PFB SA/ASF Ø0.750	PFB SS/SF Ø20	5.0 Nm
	7808121	●	FS60620RB (Torx 20)	PFB SA/ASF Ø1.000	PFB SS/SF Ø25	5.0 Nm
	7808122	●	FS80624RB (Torx 30)	PFB SA Ø1.250	PFB SS/SF Ø30-32	6.0 Nm
 Wrench	7808203	●	T6-D (Torx 6)	PFB SA Ø0.250	PFB SS Ø6-7	-
	7808204	●	T7-D (Torx 7)	-	PFB SS Ø8	-
	7808205	●	T8-D (Torx 8)	PFB SA/ASF Ø0.375	PFB SS/SF Ø10	-
	7808207	●	T10-D (Torx 10)	PFB SA/ASF Ø0.500	PFB SS/SF Ø12	-
	7808208	●	T15-D (Torx 15)	PFB SA/ASF Ø0.625	PFB SS/SF Ø16	-
	7808209	●	T20-D (Torx 20)	PFB SA/ASF Ø0.750	PFB SS/SF Ø20-25	-
 T-Handle Wrench	7808212	●	T30-T (Torx 30)	PFB SA Ø1.250	PFB SS/SF Ø30-32	-

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 1 pc.; T-Handle Wrench = 1 pc.; Wrench = 1 pc.

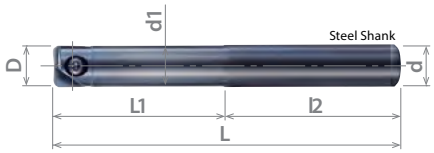
PXT

List 52200

OSG PHOENIX® PFR SA



SPEED FEED	INSERTS	ACCS.	STEEL	CARBIDE	2 FLUTE	PACKED
1544-1545	1278-1283	1284				1 PIECE





EDP Number		Designation	Body Type	Dia. D (Inch)	Neck Dia. d1 (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Shank Dia. d (Inch)	Shank Length l2 (Inch)	L/D Ratio	Applicable Insert
52200024	●	PFR-R0250SA0250-S325	Cylindrical Shank Steel	0.250	0.225	0.625	3.250	0.250	2.625	2.5	PFR0250
52200025	●	PFR-R0250SA0250-S375	Cylindrical Shank Steel	0.250	0.225	1.125	3.750	0.250	2.625	4.5	PFR0250
52200000	●	PFR-R0375SA0375-S550	Cylindrical Shank Steel	0.375	0.355	1.687	5.500	0.375	3.813	4.5	PFR0375
52200026	●	PFR-R0375SA0375-S400	Cylindrical Shank Steel	0.375	0.335	0.937	4.000	0.375	3.063	2.5	PFR0375
52200001	●	PFR-R0500SA0500-S550	Cylindrical Shank Steel	0.500	0.480	2.250	5.500	0.500	3.250	4.5	PFR0500
52200027	●	PFR-R0500SA0500-S450	Cylindrical Shank Steel	0.500	0.480	1.250	4.500	0.500	3.250	2.5	PFR0500
52200002	●	PFR-R0625SA0625-S550	Cylindrical Shank Steel	0.625	0.605	2.500	5.500	0.625	3.000	4.0	PFR0625
52200028	●	PFR-R0625SA0625-S500	Cylindrical Shank Steel	0.625	0.605	1.562	5.000	0.625	3.438	2.5	PFR0625
52200003	●	PFR-R0750SA0750-S600	Cylindrical Shank Steel	0.750	0.730	3.000	6.000	0.750	3.000	4.0	PFR0750
52200029	●	PFR-R0750SA0750-S550	Cylindrical Shank Steel	0.750	0.730	1.875	5.500	0.750	3.625	2.5	PFR0750
52200004	●	PFR-R1000SA1000-S650	Cylindrical Shank Steel	1.000	0.980	3.000	6.500	1.000	3.500	3.0	PFR1000
52200030	●	PFR-R1000SA1000-S750	Cylindrical Shank Steel	1.000	0.980	4.000	7.500	1.000	3.500	4.0	PFR1000
52200015	●	PFR-R1250SA1250-S700	Cylindrical Shank Steel	1.250	1.230	3.750	7.000	1.250	3.250	3.0	PFR1250
52200031	●	PFR-R1250SA1250-S850	Cylindrical Shank Steel	1.250	1.230	5.000	8.500	1.250	3.500	4.0	PFR1250
52200032	●	PFR-R0250SA0250-S325CS	Cylindrical Shank Short Carbide	0.250	0.225	0.625	3.250	0.250	2.625	2.5	PFR0250
52200005	●	PFR-R0375SA0375-S400CS	Cylindrical Shank Short Carbide	0.375	0.355	0.937	4.000	0.375	3.063	2.5	PFR0375
52200006	●	PFR-R0500SA0500-S450CS	Cylindrical Shank Short Carbide	0.500	0.480	1.250	4.500	0.500	3.250	2.5	PFR0500
52200007	●	PFR-R0625SA0625-S550CS	Cylindrical Shank Short Carbide	0.625	0.605	1.562	5.500	0.625	3.938	2.5	PFR0625
52200008	●	PFR-R0750SA0750-S600CS	Cylindrical Shank Short Carbide	0.750	0.730	1.875	6.000	0.750	4.125	2.5	PFR0750
52200009	●	PFR-R1000SA1000-S650CS	Cylindrical Shank Short Carbide	1.000	0.980	2.500	6.500	1.000	4.000	2.5	PFR1000
52200016	●	PFR-R1250SA1250-S700CS	Cylindrical Shank Short Carbide	1.250	1.230	3.125	7.000	1.250	3.875	2.5	PFR1250
52200033	●	PFR-R0250SA0250-L400CS	Cylindrical Shank Long Carbide	0.250	0.225	1.250	4.000	0.250	2.750	5.0	PFR0250
52200018	●	PFR-R0375SA0375-L550CS	Cylindrical Shank Long Carbide	0.375	0.355	1.875	5.500	0.375	3.625	5.0	PFR0375
52200019	●	PFR-R0500SA0500-L550CS	Cylindrical Shank Long Carbide	0.500	0.480	2.500	5.500	0.500	3.000	5.0	PFR0500
52200020	●	PFR-R0625SA0625-L650CS	Cylindrical Shank Long Carbide	0.625	0.605	3.125	6.500	0.625	3.375	5.0	PFR0625
52200021	●	PFR-R0750SA0750-L700CS	Cylindrical Shank Long Carbide	0.750	0.730	3.750	7.000	0.750	3.250	5.0	PFR0750
52200022	●	PFR-R1000SA1000-L800CS	Cylindrical Shank Long Carbide	1.000	0.980	4.500	8.000	1.000	3.500	4.5	PFR1000
52200023	●	PFR-R1250SA1250-L900CS	Cylindrical Shank Long Carbide	1.250	1.230	5.625	9.000	1.250	3.375	4.5	PFR1250
52200034	●	PFR-R0250SA0250-LL450CS	Cylindrical Shank Extra-Long Carbide	0.250	0.225	1.750	4.500	0.250	2.750	7.0	PFR0250
52200010	●	PFR-R0375SA0375-LL650CS	Cylindrical Shank Extra-Long Carbide	0.375	0.355	2.625	6.500	0.375	3.875	7.0	PFR0375
52200011	●	PFR-R0500SA0500-LL700CS	Cylindrical Shank Extra-Long Carbide	0.500	0.480	3.500	7.000	0.500	3.500	7.0	PFR0500
52200012	●	PFR-R0625SA0625-LL750CS	Cylindrical Shank Extra-Long Carbide	0.625	0.605	3.750	7.500	0.625	3.750	6.0	PFR0625
52200013	●	PFR-R0750SA0750-LL900CS	Cylindrical Shank Extra-Long Carbide	0.750	0.730	4.500	9.000	0.750	4.500	6.0	PFR0750
52200014	●	PFR-R1000SA1000-LL1050CS	Cylindrical Shank Extra-Long Carbide	1.000	0.980	5.500	10.500	1.000	5.000	5.5	PFR1000
52200017	●	PFR-R1250SA1250-LL1200CS	Cylindrical Shank Extra-Long Carbide	1.250	1.230	6.875	12.000	1.250	5.125	5.5	PFR1250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFR-R 0250 SA 0250-S 325 (CS)

Series	Cutting Direction	Diameter	Body Type	Shank Diameter	Body Length	Overall Length	Carbide Shank

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

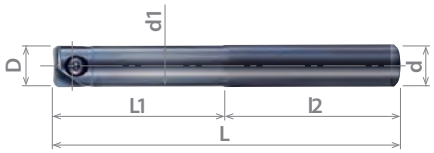
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78320

OSG PHOENIX® PFR SS

SPEED FEED	INSERTS	ACCS.	STEEL	CARBIDE	2 FLUTE	PACKED
1544-1545	1278-1283	1284				1 PIECE





EDP Number		Designation	Body Type	Dia. D (mm)	Neck Dia. d1 (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Shank Dia. d (mm)	Shank Length l2 (mm)	L/D Ratio	Applicable Insert
7832000	●	PFR-R080SS08-S120	Cylindrical Shank Steel	8.00	7.50	36.00	120.00	8.00	84.00	4.5	PFR080
7832001	●	PFR-R100SS10-S130	Cylindrical Shank Steel	10.00	9.50	45.00	130.00	10.00	85.00	4.5	PFR100 / PFR110
7832002	●	PFR-R120SS12-S130	Cylindrical Shank Steel	12.00	11.50	54.00	130.00	12.00	76.00	4.5	PFR120 / PFR130
7832003	●	PFR-R160SS16-S140	Cylindrical Shank Steel	16.00	15.50	64.00	140.00	16.00	76.00	4.0	PFR160 / PFR170
7832004	●	PFR-R200SS20-S160	Cylindrical Shank Steel	20.00	19.50	80.00	160.00	20.00	80.00	4.0	PFR200 / PFR210
7832005	●	PFR-R250SS25-S160	Cylindrical Shank Steel	25.00	24.50	75.00	160.00	25.00	85.00	3.0	PFR250 / PFR260
7832006	●	PFR-R300SS32-S170	Cylindrical Shank Steel	30.00	29.50	90.00	170.00	32.00	80.00	3.0	PFR300
7832007	●	PFR-R320SS32-S180	Cylindrical Shank Steel	32.00	31.50	96.00	180.00	32.00	84.00	3.0	PFR320
7832029	●	PFR-R060SS06-S80CS	Cylindrical Shank Short Carbide	6.00	5.40	15.00	80.00	6.00	65.00	2.5	PFR060 / PFR070
7832030	●	PFR-R080SS08-S100CS	Cylindrical Shank Short Carbide	8.00	7.50	20.00	100.00	8.00	80.00	2.5	PFR080
7832031	●	PFR-R100SS10-S100CS	Cylindrical Shank Short Carbide	10.00	9.50	25.00	100.00	10.00	75.00	2.5	PFR100 / PFR110
7832032	●	PFR-R120SS12-S110CS	Cylindrical Shank Short Carbide	12.00	11.50	30.00	110.00	12.00	80.00	2.5	PFR120 / PFR130
7832033	●	PFR-R160SS16-S140CS	Cylindrical Shank Short Carbide	16.00	15.50	40.00	140.00	16.00	100.00	2.5	PFR160 / PFR170
7832034	●	PFR-R200SS20-S160CS	Cylindrical Shank Short Carbide	20.00	19.50	50.00	160.00	20.00	110.00	2.5	PFR200 / PFR210
7832035	●	PFR-R250SS25-S160CS	Cylindrical Shank Short Carbide	25.00	24.50	62.50	160.00	25.00	97.50	2.5	PFR250 / PFR260
7832036	●	PFR-R300SS32-S170CS	Cylindrical Shank Short Carbide	30.00	29.50	75.00	170.00	32.00	95.00	2.5	PFR300
7832037	●	PFR-R320SS32-S180CS	Cylindrical Shank Short Carbide	32.00	31.50	80.00	180.00	32.00	100.00	2.5	PFR320
7832039	●	PFR-R060SS06-L100CS	Cylindrical Shank Long Carbide	6.00	5.40	30.00	100.00	6.00	70.00	5.0	PFR060 / PFR070
7832040	●	PFR-R080SS08-L120CS	Cylindrical Shank Long Carbide	8.00	7.50	40.00	120.00	8.00	80.00	5.0	PFR080
7832041	●	PFR-R100SS10-L130CS	Cylindrical Shank Long Carbide	10.00	9.50	50.00	130.00	10.00	80.00	5.0	PFR100 / PFR110
7832042	●	PFR-R120SS12-L140CS	Cylindrical Shank Long Carbide	12.00	11.50	60.00	140.00	12.00	80.00	5.0	PFR120 / PFR130
7832043	●	PFR-R160SS16-L160CS	Cylindrical Shank Long Carbide	16.00	15.50	72.00	160.00	16.00	88.00	4.5	PFR160 / PFR170
7832044	●	PFR-R200SS20-L180CS	Cylindrical Shank Long Carbide	20.00	19.50	90.00	180.00	20.00	90.00	4.5	PFR200 / PFR210
7832045	●	PFR-R250SS25-L200CS	Cylindrical Shank Long Carbide	25.00	24.50	100.00	200.00	25.00	100.00	4.0	PFR250 / PFR260
7832046	●	PFR-R300SS32-L220CS	Cylindrical Shank Long Carbide	30.00	29.50	120.00	220.00	32.00	100.00	4.0	PFR300
7832047	●	PFR-R320SS32-L230CS	Cylindrical Shank Long Carbide	32.00	31.50	128.00	230.00	32.00	102.00	4.0	PFR320
7832019	●	PFR-R060SS06-LL120CS	Cylindrical Shank Extra-Long Carbide	6.00	5.40	42.00	120.00	6.00	78.00	7.0	PFR060 / PFR070
7832020	●	PFR-R080SS08-LL140CS	Cylindrical Shank Extra-Long Carbide	8.00	7.50	56.00	140.00	8.00	84.00	7.0	PFR080
7832021	●	PFR-R100SS10-LL150CS	Cylindrical Shank Extra-Long Carbide	10.00	9.50	70.00	150.00	10.00	80.00	7.0	PFR100 / PFR110
7832022	●	PFR-R120SS12-LL160CS	Cylindrical Shank Extra-Long Carbide	12.00	11.50	84.00	160.00	12.00	76.00	7.0	PFR120 / PFR130
7832023	●	PFR-R160SS16-LL200CS	Cylindrical Shank Extra-Long Carbide	16.00	15.50	96.00	200.00	16.00	104.00	6.0	PFR160 / PFR170
7832024	●	PFR-R200SS20-LL240CS	Cylindrical Shank Extra-Long Carbide	20.00	19.50	120.00	240.00	20.00	120.00	6.0	PFR200 / PFR210
7832025	●	PFR-R250SS25-LL260CS	Cylindrical Shank Extra-Long Carbide	25.00	24.50	137.50	260.00	25.00	122.50	5.5	PFR250 / PFR260
7832026	●	PFR-R300SS32-LL290CS	Cylindrical Shank Extra-Long Carbide	30.00	29.50	165.00	290.00	32.00	125.00	5.5	PFR300
7832027	●	PFR-R320SS32-LL300CS	Cylindrical Shank Extra-Long Carbide	32.00	31.50	175.00	300.00	32.00	125.00	5.5	PFR320

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFR-R 080 SS 08-S 120 (CS)

Series	Cutting Direction	Diameter	Body Type	Shank Diameter	Body Length	Overall Length	Carbide Shank
PFR	R	080	SS	08	S	120	(CS)

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

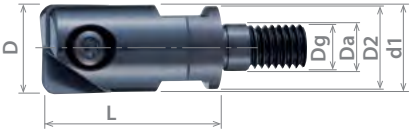
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52605

SPEED FEED 1544-1545 | INSERTS 1278-1283 | ACCS. 1284 | STEEL | CARBIDE | 2 FLUTE | PACKED 1 PIECE

OSG PHOENIX® PFR ASF, Screw Fit Head



EDP Number		Designation	Diameter	Neck Diameter	Pilot Diameter	Thread Size	Flange Diameter	Overall Length	Spanner Wrench	Applicable Insert
			D (Inch)	d1 (Inch)	Da (Inch)	Dg (mm)	D2 (Inch)	L (Inch)		
52605000	●	PFR-R0375ASF6	0.375	0.374	0.256	M6	0.354	1.024	7	PFR0375
52605001	●	PFR-R0500ASF6	0.500	0.453	0.256	M6	0.433	1.024	7	PFR0500
52605002	●	PFR-R0625ASF8	0.625	0.610	0.335	M8	0.571	1.260	10	PFR0625
52605003	●	PFR-R0750ASF10	0.750	0.768	0.413	M10	0.709	1.496	14	PFR0750
52605004	●	PFR-R1000ASF12	1.000	0.965	0.492	M12	0.906	1.496	17	PFR1000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFR-R 0375 ASF 6

- PFR-R: Series
- 0375: Cutting Direction
- 0375: Diameter
- ASF: Body Type
- 6: Thread Size

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

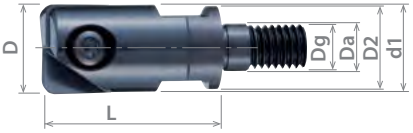
○ Good ◎ Best

List 78220

OSG PHOENIX® PFR SF, Screw Fit Head



SPEED FEED	INSERTS	ACCS.	STEEL	CARBIDE	2 FLUTE	PACKED
1544-1545	1278-1283	1284				1 PIECE



EDP Number		Designation	Diameter	Neck Diameter	Pilot Diameter	Thread Size	Flange Diameter	Overall Length	Spanner Wrench	Applicable Insert
			D (mm)	d1 (mm)	Da (mm)	Dg (mm)	D2 (mm)	L (mm)		
7832090	▲	PFR-R100SF6	10.00	9.00	6.50	M6	9.00	26.00	7	PFR100 / PFR110
7832091	▲	PFR-R120SF6	12.00	11.00	6.50	M6	11.00	26.00	7	PFR120 / PFR130
7832092	▲	PFR-R160SF8	16.00	15.00	8.50	M8	14.50	32.00	10	PFR160 / PFR170
7832093	▲	PFR-R200SF10	20.00	19.00	10.50	M10	18.00	38.00	14	PFR200 / PFR210
7832094	▲	PFR-R250SF12	25.00	24.00	12.50	M12	23.00	38.00	17	PFR250 / PFR260
7832095	▲	PFR-R300SF16	30.00	29.00	17.00	M16	28.00	43.00	22	PFR300
7832096	▲	PFR-R320SF16	32.00	31.00	17.00	M16	28.00	43.00	22	PFR320

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFR-R 100 SF 6

- PFR-R — Series
- 100 — Diameter
- SF — Cutting Direction
- 6 — Thread Size

Body Type

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

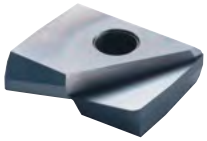
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

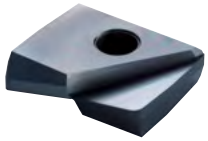
List 78PFR

PACKED
1 PIECE

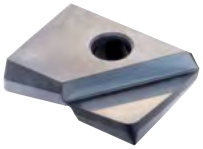
OSG PHOENIX® PFR INSERTS



Multi-Purpose



Strengthened Edge



Diamond Coated

EDP Number		Designation	Specification	Number of Cutting Edges	Insert Size					Grade
					D (Inch)	R (Inch)	T (mm)	Lc (Inch)	L (mm)	
52201029	●	PFR0250R015A-ST	Multi-Purpose	2	0.250	0.015	2.00	0.078	5.00	XP3225
52201030	●	PFR0250R030A-ST	Multi-Purpose	2	0.250	0.030	2.00	0.078	5.00	XP3225
52201031	●	PFR0250R060A-ST	Multi-Purpose	2	0.250	0.060	2.00	0.078	5.00	XP3225
52201000	●	PFR0375R015A-ST	Multi-Purpose	2	0.375	0.015	2.60	0.130	8.50	XP3225
52201001	●	PFR0375R030A-ST	Multi-Purpose	2	0.375	0.030	2.60	0.130	8.50	XP3225
52201002	●	PFR0375R060A-ST	Multi-Purpose	2	0.375	0.060	2.60	0.130	8.50	XP3225
52201003	●	PFR0375R090A-ST	Multi-Purpose	2	0.375	0.090	2.60	0.130	8.50	XP3225
52201004	●	PFR0500R015A-ST	Multi-Purpose	2	0.500	0.015	3.00	0.157	10.00	XP3225
52201005	●	PFR0500R030A-ST	Multi-Purpose	2	0.500	0.030	3.00	0.157	10.00	XP3225
52201006	●	PFR0500R060A-ST	Multi-Purpose	2	0.500	0.060	3.00	0.157	10.00	XP3225
52201007	●	PFR0500R090A-ST	Multi-Purpose	2	0.500	0.090	3.00	0.157	10.00	XP3225
52201008	●	PFR0500R120A-ST	Multi-Purpose	2	0.500	0.120	3.00	0.157	10.00	XP3225
52201009	●	PFR0625R015A-ST	Multi-Purpose	2	0.625	0.015	4.00	0.208	12.00	XP3225
52201010	●	PFR0625R030A-ST	Multi-Purpose	2	0.625	0.030	4.00	0.208	12.00	XP3225
52201011	●	PFR0625R060A-ST	Multi-Purpose	2	0.625	0.060	4.00	0.208	12.00	XP3225
52201012	●	PFR0625R090A-ST	Multi-Purpose	2	0.625	0.090	4.00	0.208	12.00	XP3225
52201013	●	PFR0625R120A-ST	Multi-Purpose	2	0.625	0.120	4.00	0.208	12.00	XP3225
52201014	●	PFR0750R015A-ST	Multi-Purpose	2	0.750	0.015	5.00	0.264	15.00	XP3225
52201015	●	PFR0750R030A-ST	Multi-Purpose	2	0.750	0.030	5.00	0.264	15.00	XP3225
52201016	●	PFR0750R060A-ST	Multi-Purpose	2	0.750	0.060	5.00	0.264	15.00	XP3225
52201017	●	PFR0750R090A-ST	Multi-Purpose	2	0.750	0.090	5.00	0.264	15.00	XP3225
52201018	●	PFR0750R120A-ST	Multi-Purpose	2	0.750	0.120	5.00	0.264	15.00	XP3225
52201019	●	PFR1000R015A-ST	Multi-Purpose	2	1.000	0.015	6.00	0.327	18.50	XP3225
52201020	●	PFR1000R030A-ST	Multi-Purpose	2	1.000	0.030	6.00	0.327	18.50	XP3225
52201021	●	PFR1000R060A-ST	Multi-Purpose	2	1.000	0.060	6.00	0.327	18.50	XP3225
52201022	●	PFR1000R090A-ST	Multi-Purpose	2	1.000	0.090	6.00	0.327	18.50	XP3225
52201023	●	PFR1000R120A-ST	Multi-Purpose	2	1.000	0.120	6.00	0.327	18.50	XP3225
52201024	●	PFR1250R015A-ST	Multi-Purpose	2	1.250	0.015	7.00	0.405	23.50	XP3225
52201025	●	PFR1250R030A-ST	Multi-Purpose	2	1.250	0.030	7.00	0.405	23.50	XP3225
52201026	●	PFR1250R060A-ST	Multi-Purpose	2	1.250	0.060	7.00	0.405	23.50	XP3225
52201027	●	PFR1250R090A-ST	Multi-Purpose	2	1.250	0.090	7.00	0.405	23.50	XP3225
52201028	●	PFR1250R120A-ST	Multi-Purpose	2	1.250	0.120	7.00	0.405	23.50	XP3225
52201079	●	PFR0250R015A-SH	Strengthened Edge	2	0.250	0.015	2.00	0.078	5.00	XP3310
52201080	●	PFR0250R030A-SH	Strengthened Edge	2	0.250	0.030	2.00	0.078	5.00	XP3310
52201081	●	PFR0250R060A-SH	Strengthened Edge	2	0.250	0.060	2.00	0.078	5.00	XP3310
52201050	●	PFR0375R015A-SH	Strengthened Edge	2	0.375	0.015	2.60	0.130	8.50	XP3310
52201051	●	PFR0375R030A-SH	Strengthened Edge	2	0.375	0.030	2.60	0.130	8.50	XP3310
52201052	●	PFR0375R060A-SH	Strengthened Edge	2	0.375	0.060	2.60	0.130	8.50	XP3310
52201053	●	PFR0375R090A-SH	Strengthened Edge	2	0.375	0.090	2.60	0.130	8.50	XP3310
52201054	●	PFR0500R015A-SH	Strengthened Edge	2	0.500	0.015	3.00	0.157	10.00	XP3310
52201055	●	PFR0500R030A-SH	Strengthened Edge	2	0.500	0.030	3.00	0.157	10.00	XP3310
52201056	●	PFR0500R060A-SH	Strengthened Edge	2	0.500	0.060	3.00	0.157	10.00	XP3310
52201057	●	PFR0500R090A-SH	Strengthened Edge	2	0.500	0.090	3.00	0.157	10.00	XP3310
52201058	●	PFR0500R120A-SH	Strengthened Edge	2	0.500	0.120	3.00	0.157	10.00	XP3310
52201059	●	PFR0625R015A-SH	Strengthened Edge	2	0.625	0.015	4.00	0.208	12.00	XP3310
52201060	●	PFR0625R030A-SH	Strengthened Edge	2	0.625	0.030	4.00	0.208	12.00	XP3310
52201061	●	PFR0625R060A-SH	Strengthened Edge	2	0.625	0.060	4.00	0.208	12.00	XP3310
52201062	●	PFR0625R090A-SH	Strengthened Edge	2	0.625	0.090	4.00	0.208	12.00	XP3310
52201063	●	PFR0625R120A-SH	Strengthened Edge	2	0.625	0.120	4.00	0.208	12.00	XP3310
52201064	●	PFR0750R015A-SH	Strengthened Edge	2	0.750	0.015	5.00	0.264	15.00	XP3310
52201065	●	PFR0750R030A-SH	Strengthened Edge	2	0.750	0.030	5.00	0.264	15.00	XP3310
52201066	●	PFR0750R060A-SH	Strengthened Edge	2	0.750	0.060	5.00	0.264	15.00	XP3310
52201067	●	PFR0750R090A-SH	Strengthened Edge	2	0.750	0.090	5.00	0.264	15.00	XP3310

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PFR (Continued)

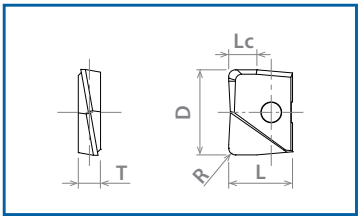
PACKED 1 PIECE

OSG PHOENIX® PFR INSERTS

EDP Number		Designation	Specification	Number of Cutting Edges	Insert Size					Grade
					D (Inch)	R (Inch)	T (mm)	Lc (Inch)	L (mm)	
52201068	●	PFR0750R120A-SH	Strengthened Edge	2	0.750	0.120	5.00	0.264	15.00	XP3310
52201069	●	PFR1000R015A-SH	Strengthened Edge	2	1.000	0.015	6.00	0.327	18.50	XP3310
52201070	●	PFR1000R030A-SH	Strengthened Edge	2	1.000	0.030	6.00	0.327	18.50	XP3310
52201071	●	PFR1000R060A-SH	Strengthened Edge	2	1.000	0.060	6.00	0.327	18.50	XP3310
52201072	●	PFR1000R090A-SH	Strengthened Edge	2	1.000	0.090	6.00	0.327	18.50	XP3310
52201073	●	PFR1000R120A-SH	Strengthened Edge	2	1.000	0.120	6.00	0.327	18.50	XP3310
52201074	●	PFR1250R015A-SH	Strengthened Edge	2	1.250	0.015	7.00	0.405	23.50	XP3310
52201075	●	PFR1250R030A-SH	Strengthened Edge	2	1.250	0.030	7.00	0.405	23.50	XP3310
52201076	●	PFR1250R060A-SH	Strengthened Edge	2	1.250	0.060	7.00	0.405	23.50	XP3310
52201077	●	PFR1250R090A-SH	Strengthened Edge	2	1.250	0.090	7.00	0.405	23.50	XP3310
52201078	●	PFR1250R120A-SH	Strengthened Edge	2	1.250	0.120	7.00	0.405	23.50	XP3310
52201114	●	PFR0250R015A-D	Diamond Coated	2	0.250	0.015	2.00	0.078	5.00	XC4505
52201115	●	PFR0250R030A-D	Diamond Coated	2	0.250	0.030	2.00	0.078	5.00	XC4505
52201116	●	PFR0250R060A-D	Diamond Coated	2	0.250	0.060	2.00	0.078	5.00	XC4505
52201100	●	PFR0375R015A-D	Diamond Coated	2	0.375	0.015	2.60	0.130	8.50	XC4505
52201101	●	PFR0375R030A-D	Diamond Coated	2	0.375	0.030	2.60	0.130	8.50	XC4505
52201102	●	PFR0375R060A-D	Diamond Coated	2	0.375	0.060	2.60	0.130	8.50	XC4505
52201103	●	PFR0500R015A-D	Diamond Coated	2	0.500	0.015	3.00	0.157	10.00	XC4505
52201104	●	PFR0500R030A-D	Diamond Coated	2	0.500	0.030	3.00	0.157	10.00	XC4505
52201105	●	PFR0500R060A-D	Diamond Coated	2	0.500	0.060	3.00	0.157	10.00	XC4505
52201106	●	PFR0625R015A-D	Diamond Coated	2	0.625	0.015	4.00	0.208	12.00	XC4505
52201107	●	PFR0625R030A-D	Diamond Coated	2	0.625	0.030	4.00	0.208	12.00	XC4505
52201108	●	PFR0625R060A-D	Diamond Coated	2	0.625	0.060	4.00	0.208	12.00	XC4505
52201109	●	PFR0750R015A-D	Diamond Coated	2	0.750	0.015	5.00	0.264	15.00	XC4505
52201110	●	PFR0750R030A-D	Diamond Coated	2	0.750	0.030	5.00	0.264	15.00	XC4505
52201111	●	PFR0750R060A-D	Diamond Coated	2	0.750	0.060	5.00	0.264	15.00	XC4505
52201112	●	PFR1000R060A-D	Diamond Coated	2	1.000	0.060	6.00	0.327	18.50	XC4505
52201113	●	PFR1250R060A-D	Diamond Coated	2	1.250	0.060	7.00	0.405	23.50	XC4505

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI



DESIGNATION EXPLANATION

PFR 0250 R 015 A-ST XP3225

Series | Diameter | Cutting Direction | Corner Radius | Units | Specification | Grade

See Full Detail on Pages 1522-1523

CONTINUED

Insert Grade	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC4505				◎		
XP3225	◎	◎	○	◎	◎	○
XP3310	○	○	◎			◎

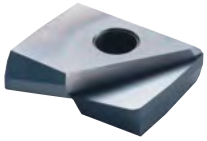
XP3225 best recommended when L/D ≥ 5.
XP3310 best recommended for interrupted cutting.
XP3225 best recommended for aluminum applications.
XP4505 best recommended for graphite & CFRP applications.

○ Good ◎ Best

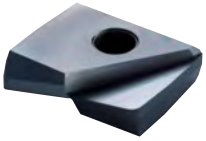
List 78PFR (Continued)

PACKED
1 PIECE

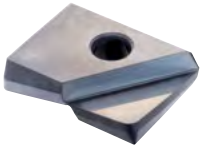
OSG PHOENIX® PFR INSERTS



Multi-Purpose



Strengthened Edge



Diamond Coated

EDP Number		Designation	Specification	Number of Cutting Edges	Insert Size					Grade
					D (mm)	R (mm)	T (mm)	Lc (mm)	L (mm)	
7820350	●	PFR060R03-ST	Multi-Purpose	2	6.00	0.30	2.00	2.00	5.00	XP3225
7820351	●	PFR060R05-ST	Multi-Purpose	2	6.00	0.50	2.00	2.00	5.00	XP3225
7820352	●	PFR060R10-ST	Multi-Purpose	2	6.00	1.00	2.00	2.00	5.00	XP3225
7820353	●	PFR070R03-ST	Multi-Purpose	2	7.00	0.30	2.00	2.00	5.50	XP3225
7820354	●	PFR070R05-ST	Multi-Purpose	2	7.00	0.50	2.00	2.00	5.50	XP3225
7820355	●	PFR070R10-ST	Multi-Purpose	2	7.00	1.00	2.00	2.00	5.50	XP3225
7820200	●	PFR080R03-ST	Multi-Purpose	2	8.00	0.30	2.40	2.70	7.00	XP3225
7820201	●	PFR080R05-ST	Multi-Purpose	2	8.00	0.50	2.40	2.70	7.00	XP3225
7820202	●	PFR080R10-ST	Multi-Purpose	2	8.00	1.00	2.40	2.70	7.00	XP3225
7820203	●	PFR080R20-ST	Multi-Purpose	2	8.00	2.00	2.40	2.70	7.00	XP3225
7820204	●	PFR100R03-ST	Multi-Purpose	2	10.00	0.30	2.60	3.30	8.50	XP3225
7820205	●	PFR100R05-ST	Multi-Purpose	2	10.00	0.50	2.60	3.30	8.50	XP3225
7820206	●	PFR100R10-ST	Multi-Purpose	2	10.00	1.00	2.60	3.30	8.50	XP3225
7820207	●	PFR100R20-ST	Multi-Purpose	2	10.00	2.00	2.60	3.30	8.50	XP3225
7820356	●	PFR110R03-ST	Multi-Purpose	2	11.00	0.30	2.60	3.30	8.50	XP3225
7820357	●	PFR110R05-ST	Multi-Purpose	2	11.00	0.50	2.60	3.30	8.50	XP3225
7820358	●	PFR110R10-ST	Multi-Purpose	2	11.00	1.00	2.60	3.30	8.50	XP3225
7820359	●	PFR110R20-ST	Multi-Purpose	2	11.00	2.00	2.60	3.30	8.50	XP3225
7820208	●	PFR120R03-ST	Multi-Purpose	2	12.00	0.30	3.00	4.00	10.00	XP3225
7820209	●	PFR120R05-ST	Multi-Purpose	2	12.00	0.50	3.00	4.00	10.00	XP3225
7820210	●	PFR120R10-ST	Multi-Purpose	2	12.00	1.00	3.00	4.00	10.00	XP3225
7820211	●	PFR120R20-ST	Multi-Purpose	2	12.00	2.00	3.00	4.00	10.00	XP3225
7820212	●	PFR120R30-ST	Multi-Purpose	2	12.00	3.00	3.00	4.00	10.00	XP3225
7820360	●	PFR130R03-ST	Multi-Purpose	2	13.00	0.30	3.00	4.00	10.00	XP3225
7820361	●	PFR130R05-ST	Multi-Purpose	2	13.00	0.50	3.00	4.00	10.00	XP3225
7820362	●	PFR130R10-ST	Multi-Purpose	2	13.00	1.00	3.00	4.00	10.00	XP3225
7820363	●	PFR130R20-ST	Multi-Purpose	2	13.00	2.00	3.00	4.00	10.00	XP3225
7820213	●	PFR160R03-ST	Multi-Purpose	2	16.00	0.30	4.00	5.30	12.00	XP3225
7820214	●	PFR160R05-ST	Multi-Purpose	2	16.00	0.50	4.00	5.30	12.00	XP3225
7820215	●	PFR160R10-ST	Multi-Purpose	2	16.00	1.00	4.00	5.30	12.00	XP3225
7820216	●	PFR160R20-ST	Multi-Purpose	2	16.00	2.00	4.00	5.30	12.00	XP3225
7820217	●	PFR160R30-ST	Multi-Purpose	2	16.00	3.00	4.00	5.30	12.00	XP3225
7820364	●	PFR170R03-ST	Multi-Purpose	2	17.00	0.30	4.00	5.30	12.00	XP3225
7820365	●	PFR170R05-ST	Multi-Purpose	2	17.00	0.50	4.00	5.30	12.00	XP3225
7820366	●	PFR170R10-ST	Multi-Purpose	2	17.00	1.00	4.00	5.30	12.00	XP3225
7820367	●	PFR170R20-ST	Multi-Purpose	2	17.00	2.00	4.00	5.30	12.00	XP3225
7820218	●	PFR200R03-ST	Multi-Purpose	2	20.00	0.30	5.00	6.70	15.00	XP3225
7820219	●	PFR200R05-ST	Multi-Purpose	2	20.00	0.50	5.00	6.70	15.00	XP3225
7820220	●	PFR200R10-ST	Multi-Purpose	2	20.00	1.00	5.00	6.70	15.00	XP3225
7820221	●	PFR200R20-ST	Multi-Purpose	2	20.00	2.00	5.00	6.70	15.00	XP3225
7820222	●	PFR200R30-ST	Multi-Purpose	2	20.00	3.00	5.00	6.70	15.00	XP3225
7820368	●	PFR210R03-ST	Multi-Purpose	2	21.00	0.30	5.00	6.70	15.00	XP3225
7820369	●	PFR210R05-ST	Multi-Purpose	2	21.00	0.50	5.00	6.70	15.00	XP3225
7820370	●	PFR210R10-ST	Multi-Purpose	2	21.00	1.00	5.00	6.70	15.00	XP3225
7820371	●	PFR210R20-ST	Multi-Purpose	2	21.00	2.00	5.00	6.70	15.00	XP3225
7820223	●	PFR250R03-ST	Multi-Purpose	2	25.00	0.30	6.00	8.30	18.50	XP3225
7820224	●	PFR250R05-ST	Multi-Purpose	2	25.00	0.50	6.00	8.30	18.50	XP3225
7820225	●	PFR250R10-ST	Multi-Purpose	2	25.00	1.00	6.00	8.30	18.50	XP3225
7820226	●	PFR250R20-ST	Multi-Purpose	2	25.00	2.00	6.00	8.30	18.50	XP3225
7820227	●	PFR250R30-ST	Multi-Purpose	2	25.00	3.00	6.00	8.30	18.50	XP3225
7820372	●	PFR260R03-ST	Multi-Purpose	2	26.00	0.30	6.00	8.30	18.50	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PFR (Continued)

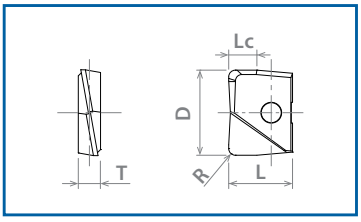
PACKED
1 PIECE

OSG PHOENIX® PFR INSERTS

EDP Number		Designation	Specification	Number of Cutting Edges	Insert Size					Grade
					D (mm)	R (mm)	T (mm)	Lc (mm)	L (mm)	
7820373	●	PFR260R05-ST	Multi-Purpose	2	26.00	0.50	6.00	8.30	18.50	XP3225
7820374	●	PFR260R10-ST	Multi-Purpose	2	26.00	1.00	6.00	8.30	18.50	XP3225
7820375	●	PFR260R20-ST	Multi-Purpose	2	26.00	2.00	6.00	8.30	18.50	XP3225
7820228	●	PFR300R03-ST	Multi-Purpose	2	30.00	0.30	7.00	10.00	22.50	XP3225
7820229	●	PFR300R05-ST	Multi-Purpose	2	30.00	0.50	7.00	10.00	22.50	XP3225
7820230	●	PFR300R10-ST	Multi-Purpose	2	30.00	1.00	7.00	10.00	22.50	XP3225
7820231	●	PFR300R20-ST	Multi-Purpose	2	30.00	2.00	7.00	10.00	22.50	XP3225
7820232	●	PFR300R30-ST	Multi-Purpose	2	30.00	3.00	7.00	10.00	22.50	XP3225
7820233	●	PFR320R03-ST	Multi-Purpose	2	32.00	0.30	7.00	10.30	23.50	XP3225
7820234	●	PFR320R05-ST	Multi-Purpose	2	32.00	0.50	7.00	10.30	23.50	XP3225
7820235	●	PFR320R10-ST	Multi-Purpose	2	32.00	1.00	7.00	10.30	23.50	XP3225
7820236	●	PFR320R20-ST	Multi-Purpose	2	32.00	2.00	7.00	10.30	23.50	XP3225
7820237	●	PFR320R30-ST	Multi-Purpose	2	32.00	3.00	7.00	10.30	23.50	XP3225
7820400	●	PFR060R03-SH	Strengthened Edge	2	6.00	0.30	2.00	2.00	5.00	XP3310
7820401	●	PFR060R05-SH	Strengthened Edge	2	6.00	0.50	2.00	2.00	5.00	XP3310
7820402	●	PFR060R10-SH	Strengthened Edge	2	6.00	1.00	2.00	2.00	5.00	XP3310
7820403	●	PFR070R03-SH	Strengthened Edge	2	7.00	0.30	2.00	2.00	5.50	XP3310
7820404	●	PFR070R05-SH	Strengthened Edge	2	7.00	0.50	2.00	2.00	5.50	XP3310
7820405	●	PFR070R10-SH	Strengthened Edge	2	7.00	1.00	2.00	2.00	5.50	XP3310
7820250	●	PFR080R03-SH	Strengthened Edge	2	8.00	0.30	2.40	2.70	7.00	XP3310
7820251	●	PFR080R05-SH	Strengthened Edge	2	8.00	0.50	2.40	2.70	7.00	XP3310
7820252	●	PFR080R10-SH	Strengthened Edge	2	8.00	1.00	2.40	2.70	7.00	XP3310
7820253	●	PFR080R20-SH	Strengthened Edge	2	8.00	2.00	2.40	2.70	7.00	XP3310
7820254	●	PFR100R03-SH	Strengthened Edge	2	10.00	0.30	2.60	3.30	8.50	XP3310
7820255	●	PFR100R05-SH	Strengthened Edge	2	10.00	0.50	2.60	3.30	8.50	XP3310
7820256	●	PFR100R10-SH	Strengthened Edge	2	10.00	1.00	2.60	3.30	8.50	XP3310

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI



DESIGNATION EXPLANATION

PFR 0250 R 015 A-ST XP3225

Series | Diameter | Cutting Direction | Corner Radius | Units | Specification | Grade

See Full Detail on Pages 1522-1523

CONTINUED

Insert Grade	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC4505				◎		
XP3225	◎	◎	○	◎	◎	○
XP3310	○	○	◎			◎

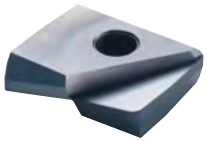
XP3225 best recommended when L/D ≥ 5.
XP3310 best recommended for interrupted cutting.
XP3225 best recommended for aluminum applications.
XP4505 best recommended for graphite & CFRP applications.

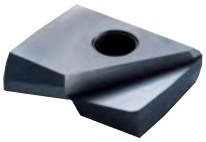
○ Good ◎ Best

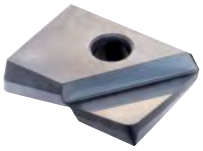
List 78PFR (Continued)

PACKED
1 PIECE

OSG PHOENIX® PFR INSERTS


Multi-Purpose


Strengthened Edge


Diamond Coated

EDP Number		Designation	Specification	Number of Cutting Edges	Insert Size					Grade
					D (mm)	R (mm)	T (mm)	Lc (mm)	L (mm)	
7820257	●	PFR100R20-SH	Strengthened Edge	2	10.00	2.00	2.60	3.30	8.50	XP3310
7820406	●	PFR110R03-SH	Strengthened Edge	2	11.00	0.30	2.60	3.30	8.50	XP3310
7820407	●	PFR110R05-SH	Strengthened Edge	2	11.00	0.50	2.60	3.30	8.50	XP3310
7820408	●	PFR110R10-SH	Strengthened Edge	2	11.00	1.00	2.60	3.30	8.50	XP3310
7820409	●	PFR110R20-SH	Strengthened Edge	2	11.00	2.00	2.60	3.30	8.50	XP3310
7820258	●	PFR120R03-SH	Strengthened Edge	2	12.00	0.30	3.00	4.00	10.00	XP3310
7820259	●	PFR120R05-SH	Strengthened Edge	2	12.00	0.50	3.00	4.00	10.00	XP3310
7820260	●	PFR120R10-SH	Strengthened Edge	2	12.00	1.00	3.00	4.00	10.00	XP3310
7820261	●	PFR120R20-SH	Strengthened Edge	2	12.00	2.00	3.00	4.00	10.00	XP3310
7820262	●	PFR120R30-SH	Strengthened Edge	2	12.00	3.00	3.00	4.00	10.00	XP3310
7820410	●	PFR130R03-SH	Strengthened Edge	2	13.00	0.30	3.00	4.00	10.00	XP3310
7820411	●	PFR130R05-SH	Strengthened Edge	2	13.00	0.50	3.00	4.00	10.00	XP3310
7820412	●	PFR130R10-SH	Strengthened Edge	2	13.00	1.00	3.00	4.00	10.00	XP3310
7820413	●	PFR130R20-SH	Strengthened Edge	2	13.00	2.00	3.00	4.00	10.00	XP3310
7820263	●	PFR160R03-SH	Strengthened Edge	2	16.00	0.30	4.00	5.30	12.00	XP3310
7820264	●	PFR160R05-SH	Strengthened Edge	2	16.00	0.50	4.00	5.30	12.00	XP3310
7820265	●	PFR160R10-SH	Strengthened Edge	2	16.00	1.00	4.00	5.30	12.00	XP3310
7820266	●	PFR160R20-SH	Strengthened Edge	2	16.00	2.00	4.00	5.30	12.00	XP3310
7820267	●	PFR160R30-SH	Strengthened Edge	2	16.00	3.00	4.00	5.30	12.00	XP3310
7820414	●	PFR170R03-SH	Strengthened Edge	2	17.00	0.30	4.00	5.30	12.00	XP3310
7820415	●	PFR170R05-SH	Strengthened Edge	2	17.00	0.50	4.00	5.30	12.00	XP3310
7820416	●	PFR170R10-SH	Strengthened Edge	2	17.00	1.00	4.00	5.30	12.00	XP3310
7820417	●	PFR170R20-SH	Strengthened Edge	2	17.00	2.00	4.00	5.30	12.00	XP3310
7820268	●	PFR200R03-SH	Strengthened Edge	2	20.00	0.30	5.00	6.70	15.00	XP3310
7820269	●	PFR200R05-SH	Strengthened Edge	2	20.00	0.50	5.00	6.70	15.00	XP3310
7820270	●	PFR200R10-SH	Strengthened Edge	2	20.00	1.00	5.00	6.70	15.00	XP3310
7820271	●	PFR200R20-SH	Strengthened Edge	2	20.00	2.00	5.00	6.70	15.00	XP3310
7820272	●	PFR200R30-SH	Strengthened Edge	2	20.00	3.00	5.00	6.70	15.00	XP3310
7820418	●	PFR210R03-SH	Strengthened Edge	2	21.00	0.30	5.00	6.70	15.00	XP3310
7820419	●	PFR210R05-SH	Strengthened Edge	2	21.00	0.50	5.00	6.70	15.00	XP3310
7820420	●	PFR210R10-SH	Strengthened Edge	2	21.00	1.00	5.00	6.70	15.00	XP3310
7820421	●	PFR210R20-SH	Strengthened Edge	2	21.00	2.00	5.00	6.70	15.00	XP3310
7820273	●	PFR250R03-SH	Strengthened Edge	2	25.00	0.30	6.00	8.30	18.50	XP3310
7820274	●	PFR250R05-SH	Strengthened Edge	2	25.00	0.50	6.00	8.30	18.50	XP3310
7820275	●	PFR250R10-SH	Strengthened Edge	2	25.00	1.00	6.00	8.30	18.50	XP3310
7820276	●	PFR250R20-SH	Strengthened Edge	2	25.00	2.00	6.00	8.30	18.50	XP3310
7820277	●	PFR250R30-SH	Strengthened Edge	2	25.00	3.00	6.00	8.30	18.50	XP3310
7820422	●	PFR260R03-SH	Strengthened Edge	2	26.00	0.30	6.00	8.30	18.50	XP3310
7820423	●	PFR260R05-SH	Strengthened Edge	2	26.00	0.50	6.00	8.30	18.50	XP3310
7820424	●	PFR260R10-SH	Strengthened Edge	2	26.00	1.00	6.00	8.30	18.50	XP3310
7820425	●	PFR260R20-SH	Strengthened Edge	2	26.00	2.00	6.00	8.30	18.50	XP3310
7820278	●	PFR300R03-SH	Strengthened Edge	2	30.00	0.30	7.00	10.00	22.50	XP3310
7820279	●	PFR300R05-SH	Strengthened Edge	2	30.00	0.50	7.00	10.00	22.50	XP3310
7820280	●	PFR300R10-SH	Strengthened Edge	2	30.00	1.00	7.00	10.00	22.50	XP3310
7820281	●	PFR300R20-SH	Strengthened Edge	2	30.00	2.00	7.00	10.00	22.50	XP3310
7820282	●	PFR300R30-SH	Strengthened Edge	2	30.00	3.00	7.00	10.00	22.50	XP3310
7820283	●	PFR320R03-SH	Strengthened Edge	2	32.00	0.30	7.00	10.30	23.50	XP3310
7820284	●	PFR320R05-SH	Strengthened Edge	2	32.00	0.50	7.00	10.30	23.50	XP3310
7820285	●	PFR320R10-SH	Strengthened Edge	2	32.00	1.00	7.00	10.30	23.50	XP3310
7820286	●	PFR320R20-SH	Strengthened Edge	2	32.00	2.00	7.00	10.30	23.50	XP3310
7820287	●	PFR320R30-SH	Strengthened Edge	2	32.00	3.00	7.00	10.30	23.50	XP3310

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

List 78PFR (Continued)

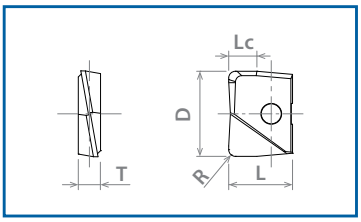
PACKED
1 PIECE

OSG PHOENIX® PFR INSERTS

EDP Number		Designation	Specification	Number of Cutting Edges	Insert Size					Grade
					D (mm)	R (mm)	T (mm)	Lc (mm)	L (mm)	
7820450	●	PFR060R03-D	Diamond Coated	2	6.00	0.30	2.00	2.00	5.00	XC4505
7820451	●	PFR060R05-D	Diamond Coated	2	6.00	0.50	2.00	2.00	5.00	XC4505
7820452	●	PFR060R10-D	Diamond Coated	2	6.00	1.00	2.00	2.00	5.00	XC4505
7820300	●	PFR080R03-D	Diamond Coated	2	8.00	0.30	2.40	2.70	7.00	XC4505
7820301	●	PFR080R05-D	Diamond Coated	2	8.00	0.50	2.40	2.70	7.00	XC4505
7820302	●	PFR080R10-D	Diamond Coated	2	8.00	1.00	2.40	2.70	7.00	XC4505
7820303	●	PFR100R03-D	Diamond Coated	2	10.00	0.30	2.60	3.30	8.50	XC4505
7820304	●	PFR100R05-D	Diamond Coated	2	10.00	0.50	2.60	3.30	8.50	XC4505
7820305	●	PFR100R10-D	Diamond Coated	2	10.00	1.00	2.60	3.30	8.50	XC4505
7820306	●	PFR120R03-D	Diamond Coated	2	12.00	0.30	3.00	4.00	10.00	XC4505
7820307	●	PFR120R05-D	Diamond Coated	2	12.00	0.50	3.00	4.00	10.00	XC4505
7820308	●	PFR120R10-D	Diamond Coated	2	12.00	1.00	3.00	4.00	10.00	XC4505
7820309	●	PFR160R03-D	Diamond Coated	2	16.00	0.30	4.00	5.30	12.00	XC4505
7820310	●	PFR160R05-D	Diamond Coated	2	16.00	0.50	4.00	5.30	12.00	XC4505
7820311	●	PFR160R10-D	Diamond Coated	2	16.00	1.00	4.00	5.30	12.00	XC4505
7820312	●	PFR200R03-D	Diamond Coated	2	20.00	0.30	5.00	6.70	15.00	XC4505
7820313	●	PFR200R05-D	Diamond Coated	2	20.00	0.50	5.00	6.70	15.00	XC4505
7820314	●	PFR200R10-D	Diamond Coated	2	20.00	1.00	5.00	6.70	15.00	XC4505

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI



DESIGNATION EXPLANATION

PFR 0250 R 015 A-ST XP3225

Series | Diameter | Cutting Direction | Corner Radius | Units | Specification | Grade

See Full Detail on Pages 1522-1523

Insert Grade	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
XC4505				◎		
XP3225	◎	◎	○	◎	◎	○
XP3310	○	○	◎			◎

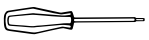
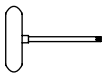
XP3225 best recommended when L/D ≥ 5.
XP3310 best recommended for interrupted cutting.
XP3225 best recommended for aluminum applications.
XP4505 best recommended for graphite & CFRP applications.

○ Good ◎ Best

List 7808H

OSG PHOENIX® PFR ACCESSORIES

PACKED 1 PIECE	PACKED 10 PIECE

Appearance	EDP No.		Designation	Applicable Cutter		Recommended Tightening Torque
				Inch	mm	
 Clamping Screw	7808124	●	FS20652RB (Torx 6)	PFR SA Ø0.250	PFR SS Ø6-7	0.4 Nm
	7808123	●	FS25669RB (Torx 7)	-	PFR SS Ø8	1.0 Nm
	7808117	●	FS30686RB (Torx 8)	PFR SA/ASF Ø0.375	PFR SS/SF Ø10	1.2 Nm
	7808118	●	FS35610RB (Torx 10)	PFR SA/ASF Ø0.500	PFR SS/SF Ø12	2.0 Nm
	7808119	●	FS40613RB (Torx 15)	PFR SA/ASF Ø0.625	PFR SS/SF Ø16	3.0 Nm
	7808120	●	FS50615RB (Torx 20)	PFR SA/ASF Ø0.750	PFR SS/SF Ø20	5.0 Nm
	7808121	●	FS60620RB (Torx 20)	PFR SA/ASF Ø1.000	PFR SS/SF Ø25	5.0 Nm
	7808122	●	FS80624RB (Torx 30)	PFR SA Ø1.250	PFR SS/SF Ø30-32	6.0 Nm
 Wrench	7808203	●	T6-D (Torx 6)	PFR SA Ø0.250	PFR SS Ø6-7	-
	7808204	●	T7-D (Torx 7)	-	PFR SS Ø8	-
	7808205	●	T8-D (Torx 8)	PFR SA/ASF Ø0.375	PFR SS/SF Ø10	-
	7808207	●	T10-D (Torx 10)	PFR SA/ASF Ø0.500	PFR SS/SF Ø12	-
	7808208	●	T15-D (Torx 15)	PFR SA/ASF Ø0.625	PFR SS/SF Ø16	-
	7808209	●	T20-D (Torx 20)	PFR SA/ASF Ø0.750-1.000	PFR SS/SF Ø20-25	-
 T-Handle Wrench	7808212	●	T30-T (Torx 30)	PFR SA Ø1.250	PFR SS/SF Ø30-32	-

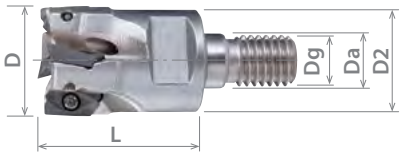
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Wrench sold separately
Packed: Clamping Screws = 1 pc.; T-Handle Wrench = 1 pc.; Wrench = 1 pc.

PXT

List 52601

OSG PHOENIX® PSE ASF, Screw Fit Head

SPEED FEED 1529 | INSERTS 1213-1215 | ARBORS 1295-1298 | ACCS. 1216 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (Inch)	Number of Flutes	Pilot Diameter Da (Inch)	Thread Size Dg (Inch)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Insert
52601007	○	PSE07R038ASF6-2	0.375	2	0.256	M6	0.354	1.024	7	ZDKT07
52601008	○	PSE07R050ASF6-3	0.500	3	0.256	M6	0.433	1.024	7	ZDKT07
52601000	●	PSE11R063ASF8-2	0.625	2	0.335	M8	0.571	1.063	10	ZD_T11
52601009	○	PSE07R063ASF8-4	0.625	4	0.335	M8	0.571	1.063	10	ZDKT07
52601001	●	PSE11R075ASF10-3	0.750	3	0.413	M10	0.709	1.299	14	ZD_T11
52601010	○	PSE07R075ASF10-4	0.750	4	0.413	M10	0.709	1.299	14	ZDKT07
52601004	●	PSE15R100ASF12-2	1.000	2	0.492	M12	0.905	1.378	17	ZDKT15
52601002	●	PSE11R100ASF12-3	1.000	3	0.492	M12	0.905	1.378	17	ZD_T11
52601011	○	PSE07R100ASF12-5	1.000	5	0.492	M12	0.905	1.378	17	ZDKT07
52601003	●	PSE11R125ASF16-3	1.250	3	0.669	M16	1.102	1.575	22	ZD_T11
52601005	●	PSE15R125ASF16-3	1.250	3	0.669	M16	1.102	1.575	22	ZDKT15
52601012	○	PSE07R125ASF16-6	1.250	6	0.669	M16	1.102	1.575	22	ZDKT07
52601006	●	PSE15R150ASF16-4	1.500	4	0.669	M16	1.102	1.575	22	ZDKT15

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

PXT

DESIGNATION EXPLANATION

PSE 11 R 063 ASF 8-2

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Size | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

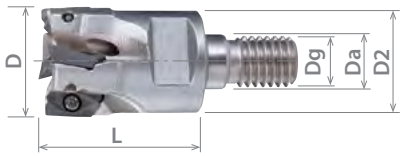
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78016

OSG PHOENIX® PSE SF, Screw Fit Head

SPEED FEED 1529 | INSERTS 1213-1215 | ARBORS 1295-1298 | ACCS. 1216 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Number of Flutes	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7803822	▲	PSE07R010SF6-2	10.00	2	6.50	M6	9.00	26.00	7	ZDKT07
7803823	▲	PSE07R012SF6-3	12.00	3	6.50	M6	11.00	26.00	7	ZDKT07
7801600	▲	PSE11R016SF8-2	16.00	2	8.50	M8	14.50	27.00	10	ZD_T11
7803824	▲	PSE07R016SF8-4	16.00	4	8.50	M8	14.50	27.00	10	ZDKT07
7801612	▲	PSE11R017SF8-2	17.00	2	8.50	M8	14.50	27.00	10	ZD_T11
7801613	▲	PSE11R018SF8-2	18.00	2	8.50	M8	14.50	27.00	10	ZD_T11
7801601	▲	PSE11R020SF10-3	20.00	3	10.50	M10	18.00	33.00	14	ZD_T11
7803825	▲	PSE07R020SF10-4	20.00	4	10.50	M10	18.00	33.00	14	ZDKT07
7801614	▲	PSE11R021SF10-3	21.00	3	10.50	M10	18.00	33.00	14	ZD_T11
7801615	▲	PSE11R022SF10-3	22.00	3	10.50	M10	18.00	33.00	14	ZD_T11
7801607	▲	PSE15R025SF12-2	25.00	2	12.50	M12	23.00	35.00	17	ZDKT15
7801602	▲	PSE11R025SF12-4	25.00	4	12.50	M12	23.00	35.00	17	ZD_T11
7803826	▲	PSE07R025SF12-5	25.00	5	12.50	M12	23.00	35.00	17	ZDKT07
7801618	▲	PSE15R026SF12-2	26.00	2	12.50	M12	23.00	35.00	17	ZDKT15
7801616	▲	PSE11R026SF12-3	26.00	3	12.50	M12	23.00	35.00	17	ZD_T11
7801608	▲	PSE15R028SF12-2	28.00	2	12.50	M12	23.00	35.00	17	ZDKT15
7801603	▲	PSE11R028SF12-4	28.00	4	12.50	M12	23.00	35.00	17	ZD_T11
7801609	▲	PSE15R032SF16-3	32.00	3	17.00	M16	28.00	40.00	22	ZDKT15
7801604	▲	PSE11R032SF16-5	32.00	5	17.00	M16	28.00	40.00	22	ZD_T11
7803827	▲	PSE07R032SF17-6	32.00	6	17.00	M16	28.00	35.00	22	ZDKT07
7801617	▲	PSE11R033SF16-3	33.00	3	17.00	M16	28.00	40.00	22	ZD_T11
7801619	▲	PSE15R033SF16-3	33.00	3	17.00	M16	28.00	40.00	22	ZDKT15
7801610	▲	PSE15R035SF16-3	35.00	3	17.00	M16	28.00	40.00	22	ZDKT15
7801605	▲	PSE11R035SF16-5	35.00	5	17.00	M16	28.00	40.00	22	ZD_T11
7801611	▲	PSE15R040SF16-4	40.00	4	17.00	M16	28.00	40.00	22	ZDKT15
7801606	▲	PSE11R040SF16-6	40.00	6	17.00	M16	28.00	40.00	22	ZD_T11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: When using an insert with a corner radius of R2 or greater, the corner of the cutter body must be corrected. The body corner radius should equal insert radius minus one (example: if insert radius is R3, body radius should be R2).

PXT

DESIGNATION EXPLANATION

PSE 11 R 016 SF 8-2

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Size | Number of Flutes

See Full Detail on Page 1524

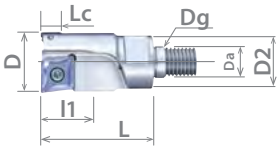
P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52606

OSG PHOENIX® PMD ASF, Screw Fit Head



SPEED FEED 1532-1533 | INSERTS 1233-1236 | ARBORS 1295-1298 | ACCS. 1237 | STEEL | 2 FLUTE | PACKED 1 PIECE

EDP Number		Designation	Dia. D (Inch)	Number of Effective Flutes	Pilot Dia. Da (Inch)	Thread Size Dg (mm)	Flange Dia. D2 (Inch)	Length of Cut Lc (Inch)	Drilling Depth l1 (Inch)	Overall Length L (Inch)	Spanner Wrench	Center Insert	Peripheral Insert
52606001	▲	PMD11R100ASF12-1	1.000	1	0.492	M12	0.905	0.394	1.000	1.890	17	ZPNT13	ZDKT11
52606002	▲	PMD11R125ASF16-1	1.250	1	0.669	M16	1.102	0.394	1.250	2.087	22	ZPNT17	ZDKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

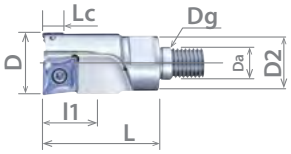
PMD 11 R 100 ASF 12-1

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Diameter | Number of Effective Flutes

See Full Detail on Page 1524

List 78334

OSG PHOENIX® PMD SF, Screw Fit Head



SPEED FEED 1532-1533 | INSERTS 1233-1236 | ARBORS 1295-1298 | ACCS. 1237 | STEEL | 2 FLUTE | PACKED 1 PIECE

EDP Number		Designation	Dia. D (mm)	Number of Effective Flutes	Pilot Dia. Da (mm)	Thread Size Dg (mm)	Flange Dia. D2 (mm)	Length of Cut Lc (mm)	Drilling Depth l1 (mm)	Overall Length L (mm)	Spanner Wrench	Center Insert	Peripheral Insert
7803416	▲	PMD11R020SF10-1	20.00	1	10.50	M10	18.00	10.00	20.00	48.00	14	ZPNT10	ZDKT11
7803417	▲	PMD11R025SF12-1	25.00	1	12.50	M12	23.00	10.00	25.00	48.00	17	ZPNT13	ZDKT11
7803418	▲	PMD11R032SF16-1	32.00	1	17.00	M16	28.00	10.00	28.00	58.00	22	ZPNT17	ZDKT11

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PMD 11 R 020 SF 10-1

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Diameter | Number of Effective Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
○	◎	◎	◎	◎	◎

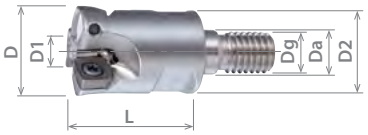
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52603

OSG PHOENIX® PHC ASF

SPEED FEED 1534-1535 | INSERTS 1246 | ARBORS 1295-1298 | ACCS. 1247 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Pilot Diameter Da (Inch)	Thread Size Dg (Inch)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Insert
52603004	●	PHC07R063ASF8-2	0.625	0.286	2	0.334	M8	0.571	1.063	10.00	SPMT07
52603005	●	PHC07R075ASF10-3	0.750	0.411	3	0.413	M10	0.709	1.300	14.00	SPMT07
52603000	●	PHC09R100ASF12-2	1.000	0.535	2	0.492	M12	0.905	1.378	17.00	SDMT09
52603006	●	PHC07R100ASF12-4	1.000	0.661	4	0.492	M12	0.905	1.378	17.00	SPMT07
52603001	●	PHC09R125ASF16-3	1.250	0.785	3	0.669	M16	1.102	1.575	22.00	SDMT09
52603002	●	PHC12R125ASF16-2	1.250	0.596	2	0.669	M16	1.102	1.575	22.00	SXMT12
52603007	●	PHC07R125ASF16-5	1.250	0.911	5	0.669	M16	1.102	1.575	22.00	SPMT07
52603003	●	PHC12R150ASF16-3	1.500	0.846	3	0.669	M16	1.102	1.575	22.00	SXMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PHC 07 R 063 ASF 8-3

- PHC — Series
- 07 — Insert Size
- R — Cutting Direction
- 063 — Diameter
- ASF — Body Type
- 8 — Thread Size
- 3 — Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		○	○

Material recommendation based on inserts compatible with this tool body.

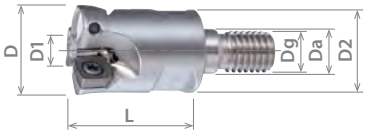
○ Good ◎ Best

List 78015

OSG PHOENIX® PHC SF




SPEED FEED 1534-1535 | INSERTS 1246 | ARBORS 1295-1298 | ACCS. 1247 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7801520	▲	PHC07R016SF8-2	16.00	7.40	2	8.50	M8	14.50	27.00	10	SPMT07
7801521	▲	PHC07R017SF8-2	17.00	8.40	2	8.50	M8	14.50	27.00	10	SPMT07
7801522	▲	PHC07R018SF8-2	18.00	9.40	2	8.50	M8	14.50	27.00	10	SPMT07
7801523	▲	PHC07R020SF10-3	20.00	11.40	3	10.50	M10	18.00	33.00	14	SPMT07
7801524	▲	PHC07R021SF10-3	21.00	12.40	3	10.50	M10	18.00	33.00	14	SPMT07
7801525	▲	PHC07R022SF10-3	22.00	13.40	3	10.50	M10	18.00	33.00	14	SPMT07
7801500	▲	PHC09R025SF12-3	25.00	13.20	3	12.50	M12	23.00	35.00	17	SDMT09
7801526	▲	PHC07R025SF12-4	25.00	16.40	4	12.50	M12	23.00	35.00	17	SPMT07
7801510	▲	PHC09R026SF12-3	26.00	14.20	3	12.50	M12	23.00	35.00	17	SDMT09
7801527	▲	PHC07R026SF12-4	26.00	17.40	4	12.50	M12	23.00	35.00	17	SPMT07
7801501	▲	PHC09R028SF12-3	28.00	16.20	3	12.50	M12	23.00	35.00	17	SDMT09
7801528	▲	PHC07R028SF12-4	28.00	19.40	4	12.50	M12	23.00	35.00	17	SPMT07
7801502	▲	PHC09R030SF16-3	30.00	18.20	3	17.00	M16	28.00	40.00	22	SDMT09
7801506	▲	PHC12R030SF16-2	30.00	13.40	2	17.00	M16	28.00	40.00	22	SXMT12
7801529	▲	PHC07R030SF16-4	30.00	21.40	4	17.00	M16	28.00	40.00	22	SPMT07
7801503	▲	PHC09R032SF16-3	32.00	20.20	3	17.00	M16	28.00	40.00	22	SDMT09
7801507	▲	PHC12R032SF16-2	32.00	15.40	2	17.00	M16	28.00	40.00	22	SXMT12
7801530	▲	PHC07R032SF16-5	32.00	23.40	5	17.00	M16	28.00	40.00	22	SPMT07
7801511	▲	PHC09R033SF16-3	33.00	21.20	3	17.00	M16	28.00	40.00	22	SDMT09
7801512	▲	PCH12R033SF16-2	33.00	16.40	2	17.00	M16	28.00	40.00	22	SXMT12
7801531	▲	PHC07R033SF16-5	33.00	24.40	5	17.00	M16	28.00	40.00	22	SPMT07
7801504	▲	PHC09R035SF16-3	35.00	23.20	3	17.00	M16	28.00	40.00	22	SDMT09
7801508	▲	PHC12R035SF16-3	35.00	18.40	3	17.00	M16	28.00	40.00	22	SXMT12
7801532	▲	PHC07R035SF16-5	35.00	26.40	5	17.00	M16	28.00	40.00	22	SPMT07
7801505	▲	PHC09R040SF16-4	40.00	28.20	4	17.00	M16	28.00	40.00	22	SDMT09
7801509	▲	PHC12R040SF16-3	40.00	23.40	3	17.00	M16	28.00	40.00	22	SXMT12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PHC 07 R 016 SF 8-2

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Size | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎		○	○

Material recommendation based on inserts compatible with this tool body.

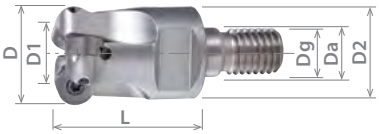
○ Good ◎ Best

List 52602

OSG PHOENIX® PRC ASF, Screw Fit Head




SPEED FEED 1536-1537 | INSERTS 1254 | ARBORS 1295-1298 | ACCS. 1255 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (Inch)	Effective Diameter D1 (Inch)	Number of Flutes	Pilot Diameter Da (Inch)	Thread Size Dg (Inch)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Insert
52602000	●	PRC10R100ASF12-3	1.000	0.606	3	0.492	M12	0.905	1.378	17	RPH_10
52602001	●	PRC10R125ASF16-4	1.250	0.856	4	0.669	M16	1.102	1.575	22	RPH_10
52602002	●	PRC12R125ASF16-2	1.250	0.778	2	0.669	M16	1.102	1.575	22	RPH_12
52602003	●	PRC12R150ASF16-3	1.500	1.028	3	0.669	M16	1.102	1.575	22	RPH_12
52602004	●	PRC16R150ASF16-2	1.500	0.870	2	0.669	M16	1.102	1.575	22	RPH_16

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PRC 10 R 100 ASF 12-3

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Size | Number of Flutes

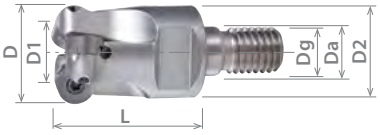
See Full Detail on Page 1524

List 78017

OSG PHOENIX® PRC SF, Screw Fit Head




SPEED FEED 1536-1537 | INSERTS 1254 | ARBORS 1295-1298 | ACCS. 1255 | STEEL | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Effective Diameter D1 (mm)	Number of Flutes	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7801700	▲	PRC10R020SF10-2	20.00	10.00	2	10.50	M10	18.00	33.00	14	RPH_10
7801701	▲	PRC10R025SF12-3	25.00	15.00	3	12.50	M12	23.00	35.00	17	RPH_10
7801702	▲	PRC10R030SF16-3	30.00	20.00	3	17.00	M16	28.00	40.00	22	RPH_10
7801703	▲	PRC10R032SF16-4	32.00	22.00	4	17.00	M16	28.00	40.00	22	RPH_10
7801704	▲	PRC10R040SF16-4	40.00	30.00	4	17.00	M16	28.00	40.00	22	RPH_10
7801705	▲	PRC12R030SF16-2	30.00	18.00	2	17.00	M16	28.00	40.00	22	RPH_12
7801706	▲	PRC12R032SF16-3	32.00	20.00	3	17.00	M16	28.00	40.00	22	RPH_12
7801707	▲	PRC12R040SF16-3	40.00	28.00	3	17.00	M16	28.00	40.00	22	RPH_12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PRC 10 R 020 SF 10-2

Series | Insert Size | Cutting Direction | Diameter | Body Type | Thread Size | Number of Flutes

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52604

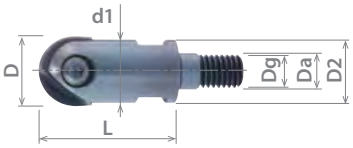
OSG PHOENIX® PFB ASF, Screw Fit Head







SPEED FEED 1542-1543 | INSERTS 1268-1272 | ARBORS 1295-1298 | ACCS. 1273 | STEEL | CARBIDE | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Diameter D (Inch)	Corner Radius R (Inch)	Neck Diameter d1 (Inch)	Pilot Diameter Da (Inch)	Thread Size Dg (Inch)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Insert
52604000	●	PFB-R0375ASF6	0.375	0.188	0.354	0.256	M6	0.354	1.024	7	PFB0375
52604001	●	PFB-R0500ASF6	0.500	0.250	0.433	0.256	M6	0.433	1.024	7	PFB0500
52604002	●	PFB-R0625ASF8	0.625	0.313	0.551	0.335	M8	0.571	1.260	10	PFB0625
52604003	●	PFB-R0750ASF10	0.750	0.375	0.709	0.413	M10	0.709	1.496	14	PFB0750
52604004	●	PFB-R1000ASF12	1.000	0.500	0.866	0.492	M12	0.906	1.496	17	PFB1000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFB-R 0375 ASF 6

- PFB-R: Series
- 0375: Diameter
- ASF: Body Type
- 6: Thread Size
- Cutting Direction

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

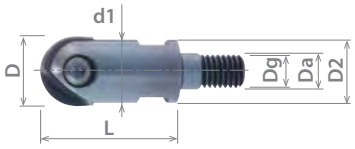
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 78114

OSG PHOENIX® PFB SF, Screw Fit Head

SPEED FEED 1542-1543 | INSERTS 1268-1272 | ARBORS 1295-1298 | ACCS. 1273 | STEEL | CARBIDE | 2 FLUTE | PACKED 1 PIECE



EDP Number		Designation	Diameter D (mm)	Corner Radius R (mm)	Neck Diameter d1 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7801490	▲	PFB-R100SF6	10.00	5.00	9.00	6.50	M6	9.00	26.00	7.00	PFB100
7801491	▲	PFB-R120SF6	12.00	6.00	11.00	6.50	M6	11.00	26.00	7.00	PFB120
7801492	▲	PFB-R160SF8	16.00	8.00	14.00	8.50	M8	14.50	32.00	10.00	PFB160
7801493	▲	PFB-R200SF10	20.00	10.00	18.00	10.50	M10	18.00	38.00	14.00	PFB200
7801494	▲	PFB-R250SF12	25.00	12.50	22.00	12.50	M12	23.00	38.00	17.00	PFB250
7801495	▲	PFB-R300SF16	30.00	15.00	27.00	17.00	M16	28.00	43.00	22.00	PFB300

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFB-R 100 SF 6

- PFB-R: Series
- 100: Diameter
- SF: Cutting Direction
- 6: Body Type
- Thread Size

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

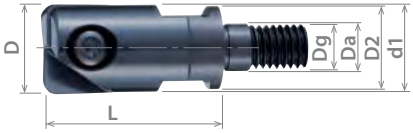
○ Good ◎ Best

List 52605

OSG PHOENIX® PFR ASF, Screw Fit Head



SPEED FEED	INSERTS	ARBORS	ACCS.	STEEL	CARBIDE	2 FLUTE	PACKED
1544-1545	1278-1283	1295-1298	1284				1 PIECE



EDP Number		Designation	Diameter	Neck Diameter	Pilot Diameter	Thread Size	Flange Diameter	Overall Length	Spanner Wrench	Applicable Insert
			D (Inch)	d1 (Inch)	Da (Inch)	Dg (mm)	D2 (Inch)	L (Inch)		
52605000	●	PFR-R0375ASF6	0.375	0.374	0.256	M6	0.354	1.024	7	PFR0375
52605001	●	PFR-R0500ASF6	0.500	0.453	0.256	M6	0.433	1.024	7	PFR0500
52605002	●	PFR-R0625ASF8	0.625	0.610	0.335	M8	0.571	1.260	10	PFR0625
52605003	●	PFR-R0750ASF10	0.750	0.768	0.413	M10	0.709	1.496	14	PFR0750
52605004	●	PFR-R1000ASF12	1.000	0.965	0.492	M12	0.906	1.496	17	PFR1000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFR-R 0375 ASF 6

- PFR-R — Series
- 0375 — Diameter
- ASF — Body Type
- 6 — Thread Size

Cutting Direction

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

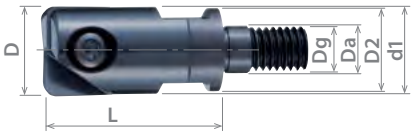
○ Good ◎ Best

List 78220

OSG PHOENIX® PFR SF, Screw Fit Head



SPEED FEED	INSERTS	ARBORS	ACCS.	STEEL	CARBIDE	2 FLUTE	PACKED
1544-1545	1278-1283	1295-1298	1284				1 PIECE



EDP Number		Designation	Diameter D (mm)	Neck Diameter d1 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Insert
7832090	▲	PFR-R100SF6	10.00	9.00	6.50	M6	9.00	26.00	7	PFR100 / PFR110
7832091	▲	PFR-R120SF6	12.00	11.00	6.50	M6	11.00	26.00	7	PFR120 / PFR130
7832092	▲	PFR-R160SF8	16.00	15.00	8.50	M8	14.50	32.00	10	PFR160 / PFR170
7832093	▲	PFR-R200SF10	20.00	19.00	10.50	M10	18.00	38.00	14	PFR200 / PFR210
7832094	▲	PFR-R250SF12	25.00	24.00	12.50	M12	23.00	38.00	17	PFR250 / PFR260
7832095	▲	PFR-R300SF16	30.00	29.00	17.00	M16	28.00	43.00	22	PFR300
7832096	▲	PFR-R320SF16	32.00	31.00	17.00	M16	28.00	43.00	22	PFR320

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT

DESIGNATION EXPLANATION

PFR-R 100 SF 6

- PFR-R: Series
- 100: Cutting Direction
- SF: Diameter
- 6: Body Type
- Thread Size

See Full Detail on Page 1524

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	◎

Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 52600

STEEL | CARBIDE | PACKED 1 PIECE

OSG PHOENIX® SF SA



Carbide

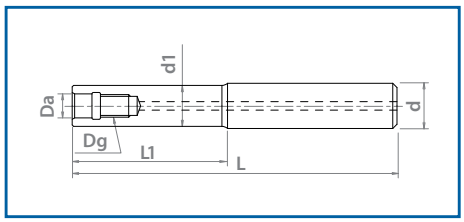


Steel

EDP Number		Designation	Body Type	Shank Diameter d (Inch)	Neck Diameter d1 (Inch)	Pilot Diameter Da (Inch)	Thread Size Dg (mm)	Overall Length L (Inch)	Neck Length L1 (Inch)
52600000	●	SF-M06SA0375-0250	Cylindrical Shank Steel	0.375	0.354	0.256	M6	4.000	0.250
52600001	●	SF-M06SA0500-0500	Cylindrical Shank Steel	0.500	0.433	0.256	M6	4.000	0.500
52600002	●	SF-M08SA0625-0500	Cylindrical Shank Steel	0.625	0.571	0.335	M8	4.000	0.500
52600003	●	SF-M10SA0750-1000	Cylindrical Shank Steel	0.750	0.709	0.413	M10	5.000	1.000
52600004	●	SF-M12SA1000-1250	Cylindrical Shank Steel	1.000	0.905	0.492	M12	5.500	1.250
52600005	●	SF-M16SA1250-1500	Cylindrical Shank Steel	1.250	1.102	0.669	M16	6.000	1.500
52600010	●	SF-M06SA0375-1500CS	Cylindrical Shank Carbide	0.375	0.354	0.256	M6	5.000	1.500
52600011	●	SF-M06SA0500-2500CS	Cylindrical Shank Carbide	0.500	0.433	0.256	M6	5.500	2.500
52600012	●	SF-M08SA0625-2000CS	Cylindrical Shank Carbide	0.625	0.571	0.335	M8	5.000	2.000
52600013	●	SF-M08SA0625-3000CS	Cylindrical Shank Carbide	0.625	0.571	0.335	M8	6.000	3.000
52600014	●	SF-M10SA0750-3000CS	Cylindrical Shank Carbide	0.750	0.709	0.413	M10	6.000	3.000
52600015	●	SF-M10SA0750-4000CS	Cylindrical Shank Carbide	0.750	0.709	0.413	M10	7.000	4.000
52600016	●	SF-M12SA1000-4000CS	Cylindrical Shank Carbide	1.000	0.905	0.492	M12	7.000	4.000
52600017	●	SF-M12SA1000-5500CS	Cylindrical Shank Carbide	1.000	0.905	0.492	M12	9.000	5.500
52600018	●	SF-M16SA1250-5500CS	Cylindrical Shank Carbide	1.250	1.102	0.669	M16	9.000	5.500
52600019	●	SF-M16SA1250-8500CS	Cylindrical Shank Carbide	1.250	1.102	0.669	M16	12.000	8.500

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT



DESIGNATION EXPLANATION

SF-M10 SA 0750-1000 (CS)

Series	Thread Size	Body Type	Shank Diameter	Neck Length	Carbide Shank

See Full Detail on Page 1524

List 78019

STEEL | CARBIDE | PACKED 1 PIECE

OSG PHOENIX® SF SS



Carbide

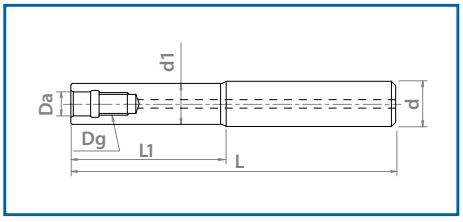


Steel

EDP Number		Designation	Body Type	Shank Diameter d (mm)	Neck Diameter d1 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Overall Length L (mm)	Neck Length L1 (mm)
7801900	▲	SF-M08SS16-15	Cylindrical Shank Steel	16.00	14.50	8.50	M8	95.00	13.00
7801901	▲	SF-M10SS20-20	Cylindrical Shank Steel	20.00	18.00	10.50	M10	120.00	17.70
7801902	▲	SF-M12SS25-35	Cylindrical Shank Steel	25.00	23.00	12.50	M12	135.00	32.70
7801903	▲	SF-M16SS32-35	Cylindrical Shank Steel	32.00	28.00	17.00	M16	155.00	32.10
7801904	▲	SF-M06SS10-4	Cylindrical Shank Steel	10.00	9.00	6.50	M6	104.00	2.30
7801905	▲	SF-M06SS12-10	Cylindrical Shank Steel	12.00	11.00	6.50	M6	104.00	8.30
7801918	▲	SF-M06SS10-24CS	Cylindrical Shank Carbide	10.00	9.00	6.50	M6	124.00	22.30
7801919	▲	SF-M06SS12-34CS	Cylindrical Shank Carbide	12.00	11.00	6.50	M6	134.00	32.30
7801910	▲	SF-M08SS16-55CS	Cylindrical Shank Carbide	16.00	14.50	8.50	M8	115.00	53.00
7801911	▲	SF-M08SS16-85CS	Cylindrical Shank Carbide	16.00	14.50	8.50	M8	145.00	83.00
7801912	▲	SF-M10SS20-70CS	Cylindrical Shank Carbide	20.00	18.00	10.50	M10	140.00	67.70
7801913	▲	SF-M10SS20-110CS	Cylindrical Shank Carbide	20.00	18.00	10.50	M10	180.00	107.70
7801914	▲	SF-M12SS25-90CS	Cylindrical Shank Carbide	25.00	23.00	12.50	M12	170.00	87.70
7801915	▲	SF-M12SS25-140CS	Cylindrical Shank Carbide	25.00	23.00	12.50	M12	220.00	137.70
7801916	▲	SF-M16SS32-120CS	Cylindrical Shank Carbide	32.00	28.00	17.00	M16	220.00	117.10
7801917	▲	SF-M16SSS32-190CS	Cylindrical Shank Carbide	32.00	28.00	17.00	M16	290.00	187.10

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT



DESIGNATION EXPLANATION

SF-M10 SS 20-20 (CS)

- SF-M10 — Series
- SS — Thread Size
- 20 — Body Type
- 20 — Shank Diameter
- (CS) — Neck Length
- (CS) — Carbide Shank

See Full Detail on Page 1524

List 78025

STEEL | PACKED 1 PIECE

OSG PHOENIX® SF BT



EDP Number		Designation	Body Type	Neck Diameter d1 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Overall Length L (mm)	Neck Length L1 (mm)	Taper Diameter Ds (mm)
7802500	▲	BT30-SFA8-45	BT30 Taper	14.50	8.50	M8	45.00	23.00	16.00
7802501	▲	BT30-SFA8-85	BT30 Taper	14.50	8.50	M8	85.00	63.00	21.10
7802502	▲	BT30-SFA10-45	BT30 Taper	18.50	10.50	M10	45.00	23.00	20.00
7802503	▲	BT30-SFA10-85	BT30 Taper	18.50	10.50	M10	85.00	63.00	25.10
7802504	▲	BT30-SFA12-45	BT30 Taper	23.50	12.50	M12	45.00	23.00	25.00
7802505	▲	BT30-SFA12-85	BT30 Taper	23.50	12.50	M12	85.00	63.00	30.10
7802506	▲	BT30-SFA16-45	BT30 Taper	29.00	17.00	M16	45.00	23.00	32.00
7802507	▲	BT30-SFA16-85	BT30 Taper	29.00	17.00	M16	85.00	63.00	32.00
7802508	▲	BT40-SFA8-45	BT40 Taper	14.50	8.50	M8	45.00	18.00	16.00
7802509	▲	BT40-SFA8-85	BT40 Taper	14.50	8.50	M8	85.00	58.00	20.50
7802510	▲	BT40-SFA10-45	BT40 Taper	18.50	10.50	M10	45.00	18.00	20.00
7802511	▲	BT40-SFA10-85	BT40 Taper	18.50	10.50	M10	85.00	58.00	24.50
7802512	▲	BT40-SFA12-45	BT40 Taper	23.50	12.50	M12	45.00	18.00	25.00
7802513	▲	BT40-SFA12-85	BT40 Taper	23.50	12.50	M12	85.00	58.00	29.50
7802514	▲	BT40-SFA12-135	BT40 Taper	23.50	12.50	M12	135.00	108.00	34.80
7802515	▲	BT40-SFA16-45	BT40 Taper	29.00	17.00	M16	45.00	18.00	32.00
7802516	▲	BT40-SFA16-85	BT40 Taper	29.00	17.00	M16	85.00	58.00	35.00
7802517	▲	BT40-SFA16-135	BT40 Taper	29.00	17.00	M16	135.00	108.00	40.30
7802518	▲	BT50-SFA8-85	BT50 Taper	14.50	8.50	M8	85.00	47.00	19.40
7802519	▲	BT50-SFA8-135	BT50 Taper	14.50	8.50	M8	135.00	97.00	24.60
7802520	▲	BT50-SFA10-85	BT50 Taper	18.50	10.50	M10	85.00	47.00	20.00
7802521	▲	BT50-SFA10-135	BT50 Taper	18.50	10.50	M10	135.00	97.00	28.60
7802522	▲	BT50-SFA12-85	BT50 Taper	23.50	12.50	M12	85.00	47.00	25.00
7802523	▲	BT50-SFA12-135	BT50 Taper	23.50	12.50	M12	135.00	97.00	33.60
7802524	▲	BT50-SFA12-185	BT50 Taper	23.50	12.50	M12	185.00	147.00	38.90
7802525	▲	BT50-SFA12-250	BT50 Taper	23.50	12.50	M12	250.00	212.00	45.70
7802526	▲	BT50-SFA12-300	BT50 Taper	23.50	12.50	M12	300.00	262.00	50.90
7802527	▲	BT50-SFA16-800	BT50 Taper	29.00	17.00	M16	85.00	47.00	32.00
7802528	▲	BT50-SFA16-135	BT50 Taper	29.00	17.00	M16	135.00	97.00	39.10
7802529	▲	BT50-SFA16-185	BT50 Taper	29.00	17.00	M16	185.00	147.00	44.40
7802530	▲	BT50-SFA16-250	BT50 Taper	29.00	17.00	M16	250.00	212.00	51.20
7802531	▲	BT50-SFA16-300	BT50 Taper	29.00	17.00	M16	300.00	262.00	56.40

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

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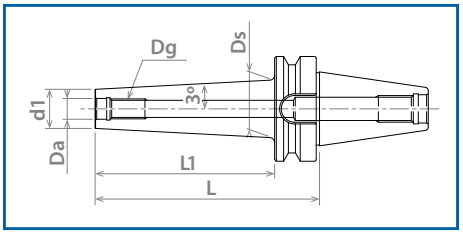


DESIGNATION EXPLANATION

BT30-SFA 8-45

- BT30 — Series
- SFA — Body Type
- 8 — Thread Size
- 45 — Carbide Shank

See Full Detail on Page 1524

List 78125

STEEL | PACKED 1 PIECE

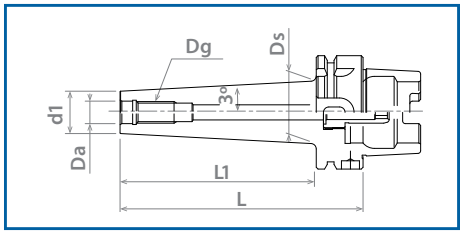
OSG PHOENIX® SF HSK



EDP Number		Designation	Body Type	Neck Diameter d1 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Overall Length L (mm)	Neck Length L1 (mm)	Taper Diameter Ds (mm)
7802550	▲	A63-SFA8-45	HSK-A63	14.50	8.50	M8	45.00	19.00	16.00
7802551	▲	A63-SFA8-85	HSK-A63	14.50	8.50	M8	85.00	59.00	20.60
7802552	▲	A63-SFA10-60	HSK-A63	18.50	10.50	M10	60.00	34.00	20.00
7802553	▲	A63-SFA10-85	HSK-A63	18.50	10.50	M10	85.00	59.00	24.60
7802554	▲	A63-SFA12-60	HSK-A63	23.50	12.50	M12	60.00	34.00	25.00
7802555	▲	A63-SFA12-85	HSK-A63	23.50	12.50	M12	85.00	59.00	29.60
7802556	▲	A63-SFA12-135	HSK-A63	23.50	12.50	M12	135.00	109.00	34.90
7802557	▲	A63-SFA16-60	HSK-A63	29.00	17.00	M16	60.00	34.00	32.00
7802558	▲	A63-SFA16-85	HSK-A63	29.00	17.00	M16	85.00	59.00	32.00
7802559	▲	A63-SFA16-135	HSK-A63	29.00	17.00	M16	135.00	109.00	40.40
7802560	▲	A100-SFA8-85	HSK-A100	14.50	8.50	M8	85.00	50.00	19.70
7802561	▲	A100-SFA8-135	HSK-A100	14.50	8.50	M8	135.00	100.00	24.90
7802562	▲	A100-SFA10-85	HSK-A100	18.50	10.50	M10	85.00	50.00	23.70
7802563	▲	A100-SFA10-135	HSK-A100	18.50	10.50	M10	135.00	100.00	28.90
7802564	▲	A100-SFA12-85	HSK-A100	23.50	12.50	M12	85.00	50.00	28.70
7802565	▲	A100-SFA12-135	HSK-A100	23.50	12.50	M12	135.00	100.00	33.90
7802566	▲	A100-SFA12-185	HSK-A100	23.50	12.50	M12	185.00	150.00	39.20
7802567	▲	A100-SFA12-250	HSK-A100	23.50	12.50	M12	250.00	221.00	46.60
7802568	▲	A100-SFA12-300	HSK-A100	23.50	12.50	M12	300.00	271.00	51.90
7802569	▲	A100-SFA16-85	HSK-A100	29.00	17.00	M16	85.00	50.00	34.20
7802570	▲	A100-SFA16-135	HSK-A100	29.00	17.00	M16	135.00	106.00	40.10
7802571	▲	A100-SFA16-185	HSK-A100	29.00	17.00	M16	185.00	156.00	45.30
7802572	▲	A100-SFA16-250	HSK-A100	29.00	17.00	M16	250.00	221.00	52.10
7802573	▲	A100-SFA16-300	HSK-A100	29.00	17.00	M16	300.00	271.00	57.40

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXT



DESIGNATION EXPLANATION

A63-SFA 8-45

- A63 — Series
- SFA — Body Type
- 8 — Thread Size
- 45 — Overall Length

See Full Detail on Page 1524

List 78PXSE

OSG PHOENIX® PXSE Exchangeable Heads

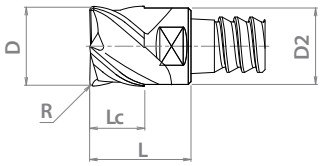


SPEED FEED	ARBORS	ACCS.	4 FLUTE	38°
1546	1316-1325	1326		

PACKED 1 PIECE







EDP Number		Designation	Diameter		Corner Radius		Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)	R (Inch)	R (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52301020	●	PXSE0375AC10-04R000	0.375	-	-	-	0.263	-	0.366	-	0.488	-	XP3225
52301021	●	PXSE0375AC10-04R015	0.375	-	0.015	-	0.263	-	0.366	-	0.488	-	XP3225
52301022	●	PXSE0375AC10-04R030	0.375	-	0.030	-	0.263	-	0.366	-	0.488	-	XP3225
52301023	●	PXSE0375AC10-04R060	0.375	-	0.060	-	0.263	-	0.366	-	0.488	-	XP3225
52301024	●	PXSE0375AC10-04R090	0.375	-	0.090	-	0.263	-	0.366	-	0.488	-	XP3225
52301000	●	PXSE0500AC12-04R000	0.500	-	-	-	0.350	-	0.488	-	0.598	-	XP3225
52301001	●	PXSE0500AC12-04R015	0.500	-	0.015	-	0.350	-	0.488	-	0.598	-	XP3225
52301002	●	PXSE0500AC12-04R030	0.500	-	0.030	-	0.350	-	0.488	-	0.598	-	XP3225
52301003	●	PXSE0500AC12-04R060	0.500	-	0.060	-	0.350	-	0.488	-	0.598	-	XP3225
52301004	●	PXSE0500AC12-04R090	0.500	-	0.090	-	0.350	-	0.488	-	0.598	-	XP3225
52301005	●	PXSE0625AC16-04R000	0.625	-	-	-	0.438	-	0.613	-	0.732	-	XP3225
52301006	●	PXSE0625AC16-04R030	0.625	-	0.030	-	0.438	-	0.613	-	0.732	-	XP3225
52301007	●	PXSE0625AC16-04R060	0.625	-	0.060	-	0.438	-	0.613	-	0.732	-	XP3225
52301008	●	PXSE0625AC16-04R090	0.625	-	0.090	-	0.438	-	0.613	-	0.732	-	XP3225
52301009	●	PXSE0625AC16-04R120	0.625	-	0.120	-	0.438	-	0.613	-	0.732	-	XP3225
52301010	●	PXSE0750AC20-04R000	0.750	-	-	-	0.525	-	0.736	-	0.807	-	XP3225
52301011	●	PXSE0750AC20-04R030	0.750	-	0.030	-	0.525	-	0.736	-	0.807	-	XP3225
52301012	●	PXSE0750AC20-04R060	0.750	-	0.060	-	0.525	-	0.736	-	0.807	-	XP3225
52301013	●	PXSE0750AC20-04R090	0.750	-	0.090	-	0.525	-	0.736	-	0.807	-	XP3225
52301014	●	PXSE0750AC20-04R120	0.750	-	0.120	-	0.525	-	0.736	-	0.807	-	XP3225
52301015	●	PXSE1000AC25-04R000	1.000	-	-	-	0.700	-	0.960	-	1.098	-	XP3225
52301016	●	PXSE1000AC25-04R030	1.000	-	0.030	-	0.700	-	0.960	-	1.098	-	XP3225
52301017	●	PXSE1000AC25-04R060	1.000	-	0.060	-	0.700	-	0.960	-	1.098	-	XP3225
52301018	●	PXSE1000AC25-04R090	1.000	-	0.090	-	0.700	-	0.960	-	1.098	-	XP3225
52301019	●	PXSE1000AC25-04R120	1.000	-	0.120	-	0.700	-	0.960	-	1.098	-	XP3225
7829994	●	PXSE100C10-04R000	-	10.00	-	-	-	7.00	-	9.70	-	13.00	XP3225
7829995	●	PXSE100C10-04R005	-	10.00	-	0.50	-	7.00	-	9.70	-	13.00	XP3225
7829996	●	PXSE100C10-04R010	-	10.00	-	1.00	-	7.00	-	9.70	-	13.00	XP3225
7829997	●	PXSE100C10-04R020	-	10.00	-	2.00	-	7.00	-	9.70	-	13.00	XP3225
7829998	●	PXSE100C10-04R030	-	10.00	-	3.00	-	7.00	-	9.70	-	13.00	XP3225
7830004	●	PXSE120C12-04R000	-	12.00	-	-	-	8.40	-	11.70	-	14.40	XP3225
7830005	●	PXSE120C12-04R005	-	12.00	-	0.50	-	8.40	-	11.70	-	14.40	XP3225
7830006	●	PXSE120C12-04R010	-	12.00	-	1.00	-	8.40	-	11.70	-	14.40	XP3225
7830007	●	PXSE120C12-04R020	-	12.00	-	2.00	-	8.40	-	11.70	-	14.40	XP3225
7830008	●	PXSE120C12-04R030	-	12.00	-	3.00	-	8.40	-	11.70	-	14.40	XP3225
7830009	●	PXSE160C16-04R000	-	16.00	-	-	-	11.20	-	15.70	-	18.70	XP3225
7830010	●	PXSE160C16-04R005	-	16.00	-	0.50	-	11.20	-	15.70	-	18.70	XP3225
7830011	●	PXSE160C16-04R010	-	16.00	-	1.00	-	11.20	-	15.70	-	18.70	XP3225
7830012	●	PXSE160C16-04R015	-	16.00	-	1.50	-	11.20	-	15.70	-	18.70	XP3225
7830013	●	PXSE160C16-04R020	-	16.00	-	2.00	-	11.20	-	15.70	-	18.70	XP3225
7830014	●	PXSE160C16-04R030	-	16.00	-	3.00	-	11.20	-	15.70	-	18.70	XP3225
7830015	●	PXSE200C20-04R000	-	20.00	-	-	-	14.00	-	19.60	-	21.50	XP3225
7830016	●	PXSE200C20-04R005	-	20.00	-	0.50	-	14.00	-	19.60	-	21.50	XP3225
7830017	●	PXSE200C20-04R010	-	20.00	-	1.00	-	14.00	-	19.60	-	21.50	XP3225
7830018	●	PXSE200C20-04R020	-	20.00	-	2.00	-	14.00	-	19.60	-	21.50	XP3225
7830019	●	PXSE200C20-04R030	-	20.00	-	3.00	-	14.00	-	19.60	-	21.50	XP3225
7830020	●	PXSE250C25-04R000	-	25.00	-	-	-	17.50	-	24.00	-	27.50	XP3225
7830021	●	PXSE250C25-04R010	-	25.00	-	1.00	-	17.50	-	24.00	-	27.50	XP3225
7830022	●	PXSE250C25-04R020	-	25.00	-	2.00	-	17.50	-	24.00	-	27.50	XP3225
7830023	●	PXSE250C25-04R030	-	25.00	-	3.00	-	17.50	-	24.00	-	27.50	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXSE 0500 A C12-04 R030-XP3225

- PXSE — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 04 — Number of Flutes
- R030 — Corner Radius
- XP3225 — Grade

List 78PXSE-O

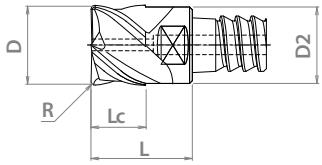
OSG PHOENIX® PXSE-O Exchangeable Heads



SPEED FEED 1546 | ARBORS 1316-1325 | ACCS. 1326 | 4 FLUTE | 38° | PACKED 1 PIECE







EDP Number		Designation	Diameter		Corner Radius		Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)	R (Inch)	R (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52314000	●	PXSE0500AC12-04R000-O	0.500	-	-	-	0.350	-	0.488	-	0.598	-	XP3225
52314001	●	PXSE0500AC12-04R030-O	0.500	-	0.030	-	0.350	-	0.488	-	0.598	-	XP3225
52314002	●	PXSE0500AC12-04R120-O	0.500	-	0.120	-	0.350	-	0.488	-	0.598	-	XP3225
52314005	●	PXSE0625AC16-04R000-O	0.625	-	-	-	0.438	-	0.613	-	0.732	-	XP3225
52314006	●	PXSE0625AC16-04R030-O	0.625	-	0.030	-	0.438	-	0.613	-	0.732	-	XP3225
52314007	●	PXSE0625AC16-04R120-O	0.625	-	0.120	-	0.438	-	0.613	-	0.732	-	XP3225
52314010	●	PXSE0750AC20-04R000-O	0.750	-	-	-	0.525	-	0.736	-	0.807	-	XP3225
52314011	●	PXSE0750AC20-04R030-O	0.750	-	0.030	-	0.525	-	0.736	-	0.807	-	XP3225
52314012	●	PXSE0750AC20-04R120-O	0.750	-	0.120	-	0.525	-	0.736	-	0.807	-	XP3225
52314015	●	PXSE1000AC25-04R000-O	1.000	-	-	-	0.700	-	0.960	-	1.098	-	XP3225
52314016	●	PXSE1000AC25-04R030-O	1.000	-	0.030	-	0.700	-	0.960	-	1.098	-	XP3225
52314017	●	PXSE1000AC25-04R120-O	1.000	-	0.120	-	0.700	-	0.960	-	1.098	-	XP3225
7830054	●	PXSE120C12-04R000-O	-	12.00	-	-	-	8.40	-	11.70	-	14.40	XP3225
7830056	●	PXSE120C12-04R010-O	-	12.00	-	1.00	-	8.40	-	11.70	-	14.40	XP3225
7830058	●	PXSE120C12-04R030-O	-	12.00	-	3.00	-	8.40	-	11.70	-	14.40	XP3225
7830059	●	PXSE160C16-04R000-O	-	16.00	-	-	-	11.20	-	15.70	-	18.70	XP3225
7830061	●	PXSE160C16-04R010-O	-	16.00	-	1.00	-	11.20	-	15.70	-	18.70	XP3225
7830064	●	PXSE160C16-04R030-O	-	16.00	-	3.00	-	11.20	-	15.70	-	18.70	XP3225
7830065	●	PXSE200C20-04R000-O	-	20.00	-	-	-	14.00	-	19.60	-	21.50	XP3225
7830067	●	PXSE200C20-04R010-O	-	20.00	-	1.00	-	14.00	-	19.60	-	21.50	XP3225
7830069	●	PXSE200C20-04R030-O	-	20.00	-	3.00	-	14.00	-	19.60	-	21.50	XP3225
7830070	●	PXSE250C25-04R000-O	-	25.00	-	-	-	17.50	-	24.00	-	27.50	XP3225
7830071	●	PXSE250C25-04R010-O	-	25.00	-	1.00	-	17.50	-	24.00	-	27.50	XP3225
7830074	●	PXSE250C25-04R030-O	-	25.00	-	3.00	-	17.50	-	24.00	-	27.50	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXSE 0500 A C12-04 R030-O-XP3225

Series	Diameter	Units	Connection Size	Number of Flutes	Corner Radius	Coolant-Through	Grade

List 78PXVC

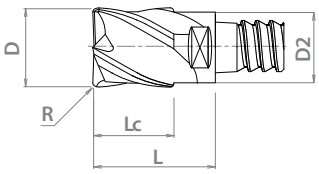
OSG PHOENIX® PXVC Exchangeable Heads



SPEED FEED	ARBORS	ACCS.
1547	1316-1325	1326

PACKED 1 PIECE





EDP Number		Designation	Diameter		Corner Radius		Number of Flutes	Length of Cut		Flange Diameter		Overall Length		Helix Angle	Grade
			D (Inch)	D (mm)	R (Inch)	R (mm)		Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)		
52308020	●	PXVC0375AC10-04R000	0.375	-	-	-	4	0.375	-	0.366	-	0.598	-	45 / 48	XP3225
52308021	●	PXVC0375AC10-04R015	0.375	-	0.015	-	4	0.375	-	0.366	-	0.598	-	45 / 48	XP3225
52308022	●	PXVC0375AC10-04R030	0.375	-	0.030	-	4	0.375	-	0.366	-	0.598	-	45 / 48	XP3225
52308023	●	PXVC0375AC10-04R060	0.375	-	0.060	-	4	0.375	-	0.366	-	0.598	-	45 / 48	XP3225
52308024	●	PXVC0375AC10-04R090	0.375	-	0.090	-	4	0.375	-	0.366	-	0.598	-	45 / 48	XP3225
52308000	●	PXVC0500AC12-04R000	0.500	-	-	-	4	0.500	-	0.488	-	0.748	-	45 / 48	XP3225
52308001	●	PXVC0500AC12-04R015	0.500	-	0.015	-	4	0.500	-	0.488	-	0.748	-	45 / 48	XP3225
52308002	●	PXVC0500AC12-04R030	0.500	-	0.030	-	4	0.500	-	0.488	-	0.748	-	45 / 48	XP3225
52308003	●	PXVC0500AC12-04R060	0.500	-	0.060	-	4	0.500	-	0.488	-	0.748	-	45 / 48	XP3225
52308004	●	PXVC0500AC12-04R090	0.500	-	0.090	-	4	0.500	-	0.488	-	0.748	-	45 / 48	XP3225
52308005	●	PXVC0625AC16-04R000	0.625	-	-	-	4	0.625	-	0.613	-	0.921	-	45 / 48	XP3225
52308006	●	PXVC0625AC16-04R030	0.625	-	0.030	-	4	0.625	-	0.613	-	0.921	-	45 / 48	XP3225
52308007	●	PXVC0625AC16-04R060	0.625	-	0.060	-	4	0.625	-	0.613	-	0.921	-	45 / 48	XP3225
52308008	●	PXVC0625AC16-04R090	0.625	-	0.090	-	4	0.625	-	0.613	-	0.921	-	45 / 48	XP3225
52308009	●	PXVC0625AC16-04R120	0.625	-	0.120	-	4	0.625	-	0.613	-	0.921	-	45 / 48	XP3225
52308010	●	PXVC0750AC20-04R000	0.750	-	-	-	4	0.750	-	0.736	-	1.035	-	45 / 48	XP3225
52308011	●	PXVC0750AC20-04R030	0.750	-	0.030	-	4	0.750	-	0.736	-	1.035	-	45 / 48	XP3225
52308012	●	PXVC0750AC20-04R060	0.750	-	0.060	-	4	0.750	-	0.736	-	1.035	-	45 / 48	XP3225
52308013	●	PXVC0750AC20-04R090	0.750	-	0.090	-	4	0.750	-	0.736	-	1.035	-	45 / 48	XP3225
52308014	●	PXVC0750AC20-04R120	0.750	-	0.120	-	4	0.750	-	0.736	-	1.035	-	45 / 48	XP3225
52308015	●	PXVC1000AC25-04R000	1.000	-	-	-	4	1.000	-	0.960	-	1.398	-	45 / 48	XP3225
52308016	●	PXVC1000AC25-04R030	1.000	-	0.030	-	4	1.000	-	0.960	-	1.398	-	45 / 48	XP3225
52308017	●	PXVC1000AC25-04R060	1.000	-	0.060	-	4	1.000	-	0.960	-	1.398	-	45 / 48	XP3225
52308018	●	PXVC1000AC25-04R090	1.000	-	0.090	-	4	1.000	-	0.960	-	1.398	-	45 / 48	XP3225
52308019	●	PXVC1000AC25-04R120	1.000	-	0.120	-	4	1.000	-	0.960	-	1.398	-	45 / 48	XP3225
52308025	●	PXVC1250AC32-05R030	1.250	-	0.030	-	5	1.250	-	1.094	-	1.748	-	45	XP3225
52308026	●	PXVC1250AC32-08R030	1.250	-	0.030	-	8	1.250	-	1.094	-	1.748	-	38	XP3225
7834994	●	PXVC100C10-04R000	-	10.00	-	-	4	-	10.00	-	9.80	-	16.00	45 / 48	XP3225
7834995	●	PXVC100C10-04R005	-	10.00	-	0.50	4	-	10.00	-	9.80	-	16.00	45 / 48	XP3225
7834996	●	PXVC100C10-04R010	-	10.00	-	1.00	4	-	10.00	-	9.80	-	16.00	45 / 48	XP3225
7834997	●	PXVC100C10-04R020	-	10.00	-	2.00	4	-	10.00	-	9.80	-	16.00	45 / 48	XP3225
7834998	●	PXVC100C10-04R030	-	10.00	-	3.00	4	-	10.00	-	9.80	-	16.00	45 / 48	XP3225
7834999	●	PXVC120C10-04R000	-	12.00	-	-	4	-	12.00	-	9.80	-	18.00	45 / 48	XP3225
7835000	●	PXVC120C10-04R005	-	12.00	-	0.50	4	-	12.00	-	9.80	-	18.00	45 / 48	XP3225
7835001	●	PXVC120C10-04R010	-	12.00	-	1.00	4	-	12.00	-	9.80	-	18.00	45 / 48	XP3225
7835002	●	PXVC120C10-04R020	-	12.00	-	2.00	4	-	12.00	-	9.80	-	18.00	45 / 48	XP3225
7835003	●	PXVC120C10-04R030	-	12.00	-	3.00	4	-	12.00	-	9.80	-	18.00	45 / 48	XP3225
7835004	●	PXVC120C12-04R000	-	12.00	-	-	4	-	12.00	-	11.70	-	18.00	45 / 48	XP3225
7835005	●	PXVC120C12-04R005	-	12.00	-	0.50	4	-	12.00	-	11.70	-	18.00	45 / 48	XP3225
7835006	●	PXVC120C12-04R010	-	12.00	-	1.00	4	-	12.00	-	11.70	-	18.00	45 / 48	XP3225
7835007	●	PXVC120C12-04R020	-	12.00	-	2.00	4	-	12.00	-	11.70	-	18.00	45 / 48	XP3225
7835008	●	PXVC120C12-04R030	-	12.00	-	3.00	4	-	12.00	-	11.70	-	18.00	45 / 48	XP3225
7835009	●	PXVC140C12-04R000	-	14.00	-	-	4	-	14.00	-	11.70	-	20.00	45 / 48	XP3225
7835010	●	PXVC140C12-04R005	-	14.00	-	0.50	4	-	14.00	-	11.70	-	20.00	45 / 48	XP3225
7835011	●	PXVC140C12-04R010	-	14.00	-	1.00	4	-	14.00	-	11.70	-	20.00	45 / 48	XP3225
7835012	●	PXVC140C12-04R020	-	14.00	-	2.00	4	-	14.00	-	11.70	-	20.00	45 / 48	XP3225
7835013	●	PXVC140C12-04R030	-	14.00	-	3.00	4	-	14.00	-	11.70	-	20.00	45 / 48	XP3225
7835014	●	PXVC160C16-04R000	-	16.00	-	-	4	-	16.00	-	15.70	-	23.50	45 / 48	XP3225
7835015	●	PXVC160C16-04R005	-	16.00	-	0.50	4	-	16.00	-	15.70	-	23.50	45 / 48	XP3225
7835016	●	PXVC160C16-04R010	-	16.00	-	1.00	4	-	16.00	-	15.70	-	23.50	45 / 48	XP3225
7835017	●	PXVC160C16-04R015	-	16.00	-	1.50	4	-	16.00	-	15.70	-	23.50	45 / 48	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

CONTINUED ›

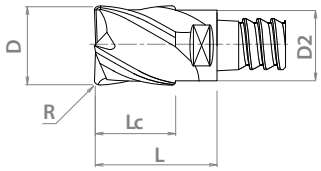
List 78PXVC (Continued)

OSG PHOENIX® PXVC Exchangeable Heads

SPEED FEED 1547 | ARBORS 1316-1325 | ACCS. 1326

PACKED 1 PIECE





EDP Number		Designation	Diameter		Corner Radius		Number of Flutes	Length of Cut		Flange Diameter		Overall Length		Helix Angle	Grade
			D (Inch)	D (mm)	R (Inch)	R (mm)		Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)		
7835018	●	PXVC160C16-04R020	-	16.00	-	2.00	4	-	16.00	-	15.70	-	23.50	45 / 48	XP3225
7835019	●	PXVC160C16-04R030	-	16.00	-	3.00	4	-	16.00	-	15.70	-	23.50	45 / 48	XP3225
7835020	●	PXVC180C16-04R000	-	18.00	-	-	4	-	18.00	-	15.70	-	25.50	45 / 48	XP3225
7835021	●	PXVC180C16-04R005	-	18.00	-	0.50	4	-	18.00	-	15.70	-	25.50	45 / 48	XP3225
7835022	●	PXVC180C16-04R010	-	18.00	-	1.00	4	-	18.00	-	15.70	-	25.50	45 / 48	XP3225
7835023	●	PXVC180C16-04R020	-	18.00	-	2.00	4	-	18.00	-	15.70	-	25.50	45 / 48	XP3225
7835024	●	PXVC180C16-04R030	-	18.00	-	3.00	4	-	18.00	-	15.70	-	25.50	45 / 48	XP3225
7835025	●	PXVC200C20-04R000	-	20.00	-	-	4	-	20.00	-	19.60	-	27.50	45 / 48	XP3225
7835026	●	PXVC200C20-04R005	-	20.00	-	0.50	4	-	20.00	-	19.60	-	27.50	45 / 48	XP3225
7835027	●	PXVC200C20-04R010	-	20.00	-	1.00	4	-	20.00	-	19.60	-	27.50	45 / 48	XP3225
7835028	●	PXVC200C20-04R020	-	20.00	-	2.00	4	-	20.00	-	19.60	-	27.50	45 / 48	XP3225
7835029	●	PXVC200C20-04R030	-	20.00	-	3.00	4	-	20.00	-	19.60	-	27.50	45 / 48	XP3225
7835030	●	PXVC220C20-04R000	-	22.00	-	-	4	-	22.00	-	19.60	-	29.50	45 / 48	XP3225
7835038	●	PXVC220C20-04R005	-	22.00	-	0.50	4	-	22.00	-	19.60	-	29.50	45 / 48	XP3225
7835031	●	PXVC220C20-04R010	-	22.00	-	1.00	4	-	22.00	-	19.60	-	29.50	45 / 48	XP3225
7835032	●	PXVC220C20-04R020	-	22.00	-	2.00	4	-	22.00	-	19.60	-	29.50	45 / 48	XP3225
7835033	●	PXVC220C20-04R030	-	22.00	-	3.00	4	-	22.00	-	19.60	-	29.50	45 / 48	XP3225
7835034	●	PXVC250C25-04R000	-	25.00	-	-	4	-	25.00	-	24.00	-	35.00	45 / 48	XP3225
7835035	●	PXVC250C25-04R010	-	25.00	-	1.00	4	-	25.00	-	24.00	-	35.00	45 / 48	XP3225
7835036	●	PXVC250C25-04R020	-	25.00	-	2.00	4	-	25.00	-	24.00	-	35.00	45 / 48	XP3225
7835037	●	PXVC250C25-04R030	-	25.00	-	3.00	4	-	25.00	-	24.00	-	35.00	45 / 48	XP3225
7835039	●	PXVC320C32-05R010	-	32.00	-	1.00	5	-	32.00	-	28.00	-	44.70	45	XP3225
7835040	●	PXVC320C32-08R010	-	32.00	-	1.00	8	-	32.00	-	28.00	-	44.70	38	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXVC 0500 A C12-04 R030-XP3225

- PXVC — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 04 — Number of Flutes
- R030 — Corner Radius
- XP3225 — Grade

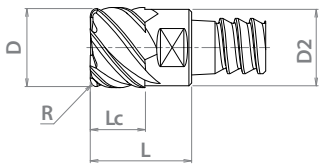
List 78PXSM

OSG PHOENIX® PXSM Exchangeable Heads

SPEED FEED 1548 | ARBORS 1316-1325 | ACCS. 1326 | PACKED 1 PIECE







EDP Number		Designation	Diameter		Corner Radius		Number of Flutes	Length of Cut		Flange Diameter		Overall Length		Helix Angle	Grade
			D (Inch)	D (mm)	R (Inch)	R (mm)		Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)		
52302025	●	PXSM0375AC10-06R000	0.375	-	-	-	6	0.263	-	0.366	-	0.488	-	38	XP3225
52302026	●	PXSM0375AC10-06R015	0.375	-	0.015	-	6	0.263	-	0.366	-	0.488	-	38	XP3225
52302027	●	PXSM0375AC10-06R030	0.375	-	0.030	-	6	0.263	-	0.366	-	0.488	-	38	XP3225
52302028	●	PXSM0375AC10-06R060	0.375	-	0.060	-	6	0.263	-	0.366	-	0.488	-	38	XP3225
52302000	●	PXSM0500AC12-06R000	0.500	-	-	-	6	0.350	-	0.488	-	0.598	-	38	XP3225
52302001	●	PXSM0500AC12-06R015	0.500	-	0.015	-	6	0.350	-	0.488	-	0.598	-	38	XP3225
52302002	●	PXSM0500AC12-06R030	0.500	-	0.030	-	6	0.350	-	0.488	-	0.598	-	38	XP3225
52302003	●	PXSM0500AC12-06R060	0.500	-	0.060	-	6	0.350	-	0.488	-	0.598	-	38	XP3225
52302004	●	PXSM0500AC12-06R090	0.500	-	0.090	-	6	0.350	-	0.488	-	0.598	-	38	XP3225
52302005	●	PXSM0625AC16-06R000	0.625	-	-	-	6	0.438	-	0.613	-	0.732	-	38	XP3225
52302006	●	PXSM0625AC16-06R030	0.625	-	0.030	-	6	0.438	-	0.613	-	0.732	-	38	XP3225
52302007	●	PXSM0625AC16-06R060	0.625	-	0.060	-	6	0.438	-	0.613	-	0.732	-	38	XP3225
52302008	●	PXSM0625AC16-06R090	0.625	-	0.090	-	6	0.438	-	0.613	-	0.732	-	38	XP3225
52302009	●	PXSM0625AC16-06R120	0.625	-	0.120	-	6	0.438	-	0.613	-	0.732	-	38	XP3225
52302010	●	PXSM0625AC16-08R000	0.625	-	-	-	8	0.438	-	0.613	-	0.732	-	42	XP3225
52302011	●	PXSM0625AC16-08R030	0.625	-	0.030	-	8	0.438	-	0.613	-	0.732	-	42	XP3225
52302012	●	PXSM0625AC16-08R060	0.625	-	0.060	-	8	0.438	-	0.613	-	0.732	-	42	XP3225
52302013	●	PXSM0625AC16-08R090	0.625	-	0.090	-	8	0.438	-	0.613	-	0.732	-	42	XP3225
52302014	●	PXSM0625AC16-08R120	0.625	-	0.120	-	8	0.438	-	0.613	-	0.732	-	42	XP3225
52302015	●	PXSM0750AC20-10R000	0.750	-	-	-	10	0.525	-	0.736	-	0.807	-	42	XP3225
52302016	●	PXSM0750AC20-10R030	0.750	-	0.030	-	10	0.525	-	0.736	-	0.807	-	42	XP3225
52302017	●	PXSM0750AC20-10R060	0.750	-	0.060	-	10	0.525	-	0.736	-	0.807	-	42	XP3225
52302018	●	PXSM0750AC20-10R090	0.750	-	0.090	-	10	0.525	-	0.736	-	0.807	-	42	XP3225
52302019	●	PXSM0750AC20-10R120	0.750	-	0.120	-	10	0.525	-	0.736	-	0.807	-	42	XP3225
52302020	●	PXSM1000AC25-10R000	1.000	-	-	-	10	0.700	-	0.960	-	1.098	-	42	XP3225
52302021	●	PXSM1000AC25-10R030	1.000	-	0.030	-	10	0.700	-	0.960	-	1.098	-	42	XP3225
52302022	●	PXSM1000AC25-10R060	1.000	-	0.060	-	10	0.700	-	0.960	-	1.098	-	42	XP3225
52302023	●	PXSM1000AC25-10R090	1.000	-	0.090	-	10	0.700	-	0.960	-	1.098	-	42	XP3225
52302024	●	PXSM1000AC25-10R120	1.000	-	0.120	-	10	0.700	-	0.960	-	1.098	-	42	XP3225
7830094	●	PXSM100C10-06R000	-	10.00	-	-	6	-	7.00	-	9.70	-	13.00	38	XP3225
7830095	●	PXSM100C10-06R005	-	10.00	-	0.50	6	-	7.00	-	9.70	-	13.00	38	XP3225
7830096	●	PXSM100C10-06R010	-	10.00	-	1.00	6	-	7.00	-	9.70	-	13.00	38	XP3225
7830097	●	PXSM100C10-06R020	-	10.00	-	2.00	6	-	7.00	-	9.70	-	13.00	38	XP3225
7830104	●	PXSM120C12-06R000	-	12.00	-	-	6	-	8.40	-	11.70	-	14.40	38	XP3225
7830105	●	PXSM120C12-06R005	-	12.00	-	0.50	6	-	8.40	-	11.70	-	14.40	38	XP3225
7830106	●	PXSM120C12-06R010	-	12.00	-	1.00	6	-	8.40	-	11.70	-	14.40	38	XP3225
7830107	●	PXSM120C12-06R020	-	12.00	-	2.00	6	-	8.40	-	11.70	-	14.40	38	XP3225
7830108	●	PXSM120C12-06R030	-	12.00	-	3.00	6	-	8.40	-	11.70	-	14.40	38	XP3225
7830109	●	PXSM160C16-06R000	-	16.00	-	-	6	-	11.20	-	15.70	-	18.70	38	XP3225
7830110	●	PXSM160C16-06R005	-	16.00	-	0.50	6	-	11.20	-	15.70	-	18.70	38	XP3225
7830111	●	PXSM160C16-06R010	-	16.00	-	1.00	6	-	11.20	-	15.70	-	18.70	38	XP3225
7830112	●	PXSM160C16-06R015	-	16.00	-	1.50	6	-	11.20	-	15.70	-	18.70	38	XP3225
7830113	●	PXSM160C16-06R020	-	16.00	-	2.00	6	-	11.20	-	15.70	-	18.70	38	XP3225
7830114	●	PXSM160C16-06R030	-	16.00	-	3.00	6	-	11.20	-	15.70	-	18.70	38	XP3225
7830115	●	PXSM160C16-08R000	-	16.00	-	-	8	-	11.20	-	15.70	-	18.70	42	XP3225
7830116	●	PXSM160C16-08R005	-	16.00	-	0.50	8	-	11.20	-	15.70	-	18.70	42	XP3225
7830117	●	PXSM160C16-08R010	-	16.00	-	1.00	8	-	11.20	-	15.70	-	18.70	42	XP3225
7830118	●	PXSM160C16-08R015	-	16.00	-	1.50	8	-	11.20	-	15.70	-	18.70	42	XP3225
7830119	●	PXSM160C16-08R020	-	16.00	-	2.00	8	-	11.20	-	15.70	-	18.70	42	XP3225
7830120	●	PXSM160C16-08R030	-	16.00	-	3.00	8	-	11.20	-	15.70	-	18.70	42	XP3225
7830121	●	PXSM200C20-10R000	-	20.00	-	-	10	-	14.00	-	19.60	-	21.50	42	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

CONTINUED ›

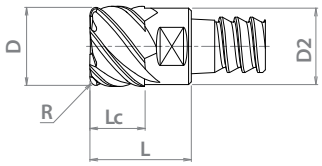
List 78PXSM (Continued)

OSG PHOENIX® PXSM Exchangeable Heads

SPEED FEED 1548 | ARBORS 1316-1325 | ACCS. 1326 | PACKED 1 PIECE







EDP Number		Designation	Diameter		Corner Radius		Number of Flutes	Length of Cut		Flange Diameter		Overall Length		Helix Angle	Grade
			D (Inch)	D (mm)	R (Inch)	R (mm)		Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)		
7830122	●	PXSM200C20-10R005	-	20.00	-	0.50	10	-	14.00	-	19.60	-	21.50	42	XP3225
7830123	●	PXSM200C20-10R010	-	20.00	-	1.00	10	-	14.00	-	19.60	-	21.50	42	XP3225
7830124	●	PXSM200C20-10R020	-	20.00	-	2.00	10	-	14.00	-	19.60	-	21.50	42	XP3225
7830125	●	PXSM200C20-10R030	-	20.00	-	3.00	10	-	14.00	-	19.60	-	21.50	42	XP3225
7830126	●	PXSM250C25-10R000	-	25.00	-	-	10	-	17.50	-	24.00	-	27.50	42	XP3225
7830127	●	PXSM250C25-10R010	-	25.00	-	1.00	10	-	17.50	-	24.00	-	27.50	42	XP3225
7830128	●	PXSM250C25-10R020	-	25.00	-	2.00	10	-	17.50	-	24.00	-	27.50	42	XP3225
7830129	●	PXSM250C25-10R030	-	25.00	-	3.00	10	-	17.50	-	24.00	-	27.50	42	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXSM 0500 A C12-06 R030-XP3225

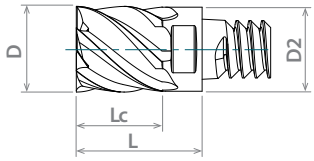
- PXSM — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 06 — Number of Flutes
- R030 — Corner Radius
- XP3225 — Grade

List 78PXSH

SPEED FEED 1549-1550 | ARBORS 1316-1325 | ACCS. 1326 | 43° | PACKED 1 PIECE

OSG PHOENIX® PXSH Exchangeable Heads





EDP Number		Designation	Diameter		Number of Flutes	Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)		Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52312000	●	PXSH0500AC12-06R000	0.500	-	6	0.500	-	0.488	-	0.748	-	XP6703
52312001	●	PXSH0625AC16-06R000	0.625	-	6	0.625	-	0.613	-	0.921	-	XP6703
52312002	●	PXSH0750AC20-06R000	0.750	-	6	0.750	-	0.736	-	1.035	-	XP6703
52312003	○	PXSH1000AC25-08R000	1.000	-	8	1.000	-	0.960	-	1.398	-	XP6703
7830380	●	PXSH120C12-06R000	-	12.00	6	-	12.00	-	11.70	-	18.00	XP6703
7830381	●	PXSH160C16-06R000	-	16.00	6	-	16.00	-	15.70	-	23.50	XP6703
7830382	●	PXSH200C20-06R000	-	20.00	6	-	20.00	-	19.60	-	27.50	XP6703
7830383	▲	PXSH250C25-08R000	-	25.00	8	-	25.00	-	24.00	-	35.00	XP6703

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXSH 0500 A C12-06 R000-XP6703

- PXSH — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 06 — Number of Flutes
- R000 — Corner Radius
- XP6703 — Grade

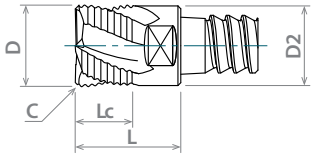
List 78PXNL

OSG PHOENIX® PXNL Exchangeable Heads, Low Helix



SPEED FEED	ARBORS	ACCS.	ROUGH	4 FLUTE	19°/21°		PACKED
1551	1316-1325	1326					1 PIECE





EDP Number		Designation	Diameter		Corner Chamfer		Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)	C (Inch)	C (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52303004	●	PXNL0375AC10-04C020	0.375	-	0.020	-	0.263	-	0.366	-	0.488	-	XP3225
52303000	●	PXNL0500AC12-04C020	0.500	-	0.020	-	0.350	-	0.488	-	0.598	-	XP3225
52303001	●	PXNL0625AC16-04C025	0.625	-	0.025	-	0.438	-	0.613	-	0.732	-	XP3225
52303002	●	PXNL0750AC20-04C025	0.750	-	0.025	-	0.525	-	0.736	-	0.807	-	XP3225
52303003	●	PXNL1000AC25-04C025	1.000	-	0.025	-	0.700	-	0.960	-	1.098	-	XP3225
7830400	●	PXNL100C10-04C005	-	10.00	-	0.50	-	7.00	-	9.70	-	13.00	XP3225
7830401	●	PXNL120C12-04C005	-	12.00	-	0.50	-	8.40	-	11.70	-	14.40	XP3225
7830402	●	PXNL160C16-04C006	-	16.00	-	0.60	-	11.20	-	15.70	-	18.70	XP3225
7830403	●	PXNL200C20-04C006	-	20.00	-	0.60	-	14.00	-	19.60	-	21.50	XP3225
7830404	●	PXNL250C25-04C006	-	25.00	-	0.60	-	17.50	-	24.00	-	27.50	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXNL 0500 A C12-04 C020-XP3225

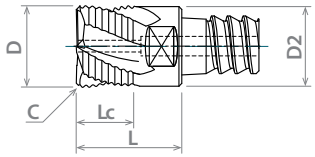
- PXNL — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 04 — Number of Flutes
- C020 — Corner Chamfer
- XP3225 — Grade

List 78PXNL-O

SPEED FEED 1551 | ARBORS 1316-1325 | ACCS. 1326 | ROUGH | 4 FLUTE | 19°/21° | PACKED 1 PIECE

OSG PHOENIX® PXNL-O Exchangeable Heads, Low Helix





EDP Number		Designation	Diameter		Corner Chamfer		Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)	C (Inch)	C (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52315000	●	PXNL0500AC12-04C020-O	0.500	-	0.020	-	0.350	-	0.488	-	0.598	-	XP3225
52315001	●	PXNL0625AC16-04C025-O	0.625	-	0.025	-	0.438	-	0.613	-	0.732	-	XP3225
52315002	●	PXNL0750AC20-04C025-O	0.750	-	0.025	-	0.525	-	0.736	-	0.807	-	XP3225
52315003	●	PXNL1000AC25-04C025-O	1.000	-	0.025	-	0.700	-	0.960	-	1.098	-	XP3225
7830411	●	PXNL120C12-04C005-O	-	12.00	-	0.50	-	8.40	-	11.70	-	14.40	XP3225
7830412	●	PXNL160C16-04C006-O	-	16.00	-	0.60	-	11.20	-	15.70	-	18.70	XP3225
7830413	●	PXNL200C20-04C006-O	-	20.00	-	0.60	-	14.00	-	19.60	-	21.50	XP3225
7830414	●	PXNL250C25-04C006-O	-	25.00	-	0.60	-	17.50	-	24.00	-	27.50	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXNL 0500 A C12-04 C020-O-XP3225

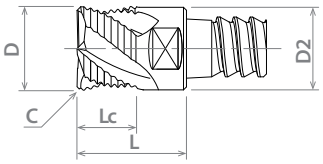
- PXNL — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 04 — Number of Flutes
- C020 — Corner Chamfer
- O — Coolant-Through
- XP3225 — Grade

List 78PXNH

OSG PHOENIX® PXNH Exchangeable Heads, High Helix

SPEED FEED	ARBORS	ACCS.	ROUGH	4 FLUTE	40-42°	PACKED
1551	1316-1325	1326				1 PIECE





EDP Number		Designation	Diameter		Corner Chamfer		Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)	C (Inch)	C (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52304004	●	PXNH0375AC10-04C020	0.375	-	0.020	-	0.263	-	0.366	-	0.488	-	XP3225
52304000	●	PXNH0500AC12-04C020	0.500	-	0.020	-	0.350	-	0.488	-	0.598	-	XP3225
52304001	●	PXNH0625AC16-04C025	0.625	-	0.025	-	0.438	-	0.613	-	0.732	-	XP3225
52304002	●	PXNH0750AC20-04C025	0.750	-	0.025	-	0.525	-	0.736	-	0.807	-	XP3225
52304003	●	PXNH1000AC25-04C025	1.000	-	0.025	-	0.700	-	0.960	-	1.098	-	XP3225
7830450	●	PXNH100C10-04C005	-	10.00	-	0.50	-	7.00	-	9.70	-	13.00	XP3225
7830451	●	PXNH120C12-04C005	-	12.00	-	0.50	-	8.40	-	11.70	-	14.40	XP3225
7830452	●	PXNH160C16-04C006	-	16.00	-	0.60	-	11.20	-	15.70	-	18.70	XP3225
7830453	●	PXNH200C20-04C006	-	20.00	-	0.60	-	14.00	-	19.60	-	21.50	XP3225
7830454	●	PXNH250C25-04C006	-	25.00	-	0.60	-	17.50	-	24.00	-	27.50	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXNH 0500 A C12-04 C020-XP3225

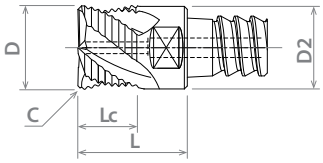
- PXNH — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 04 — Number of Flutes
- C020 — Corner Chamfer
- XP3225 — Grade

List 78PXNH-O

SPEED FEED 1551 | ARBORS 1316-1325 | ACCS. 1326 | ROUGH | 4 FLUTE | 40-42° | PACKED 1 PIECE

OSG PHOENIX® PXNH-O Exchangeable Heads, High Helix





EDP Number		Designation	Diameter		Corner Chamfer		Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)	C (Inch)	C (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52316000	●	PXNH0500AC12-04C020-O	0.500	-	0.020	-	0.350	-	0.488	-	0.598	-	XP3225
52316001	●	PXNH0625AC16-04C025-O	0.625	-	0.025	-	0.438	-	0.613	-	0.732	-	XP3225
52316002	●	PXNH0750AC20-04C025-O	0.750	-	0.025	-	0.525	-	0.736	-	0.807	-	XP3225
52316003	●	PXNH1000AC25-04C025-O	1.000	-	0.025	-	0.700	-	0.960	-	1.098	-	XP3225
7830461	●	PXNH120C12-04C005-O	-	12.00	-	0.50	-	8.40	-	11.70	-	14.40	XP3225
7830462	●	PXNH160C16-04C006-O	-	16.00	-	0.60	-	11.20	-	15.70	-	18.70	XP3225
7830463	●	PXNH200C20-04C006-O	-	20.00	-	0.60	-	14.00	-	19.60	-	21.50	XP3225
7830464	●	PXNH250C25-04C006-O	-	25.00	-	0.60	-	17.50	-	24.00	-	27.50	XP3225

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXNH 0500 A C12-04 C020-O-XP3225

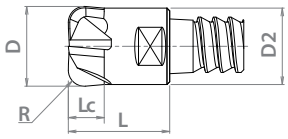
- PXNH — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 04 — Number of Flutes
- C020 — Corner Chamfer
- O — Coolant-Through
- XP3225 — Grade

List 78PXRE

SPEED FEED	ARBORS	ACCS.		PACKED
1552	1316-1325	1326		1 PIECE

OSG PHOENIX® PXRE Exchangeable Heads, Straight Flute





EDP Number		Designation	Diameter		Corner Radius		Number of Flutes	Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)	R (Inch)	R (mm)		Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52305004	●	PXRE0375AC10-04R090	0.375	-	0.090	-	4	0.169	-	0.366	-	0.488	-	XP6305
52305000	●	PXRE0500AC12-04R090	0.500	-	0.090	-	4	0.197	-	0.488	-	0.598	-	XP6305
52305001	●	PXRE0625AC16-06R120	0.625	-	0.120	-	6	0.276	-	0.613	-	0.732	-	XP6305
52305002	●	PXRE0750AC20-06R120	0.750	-	0.120	-	6	0.394	-	0.736	-	0.807	-	XP6305
52305003	●	PXRE1000AC25-06R120	1.000	-	0.120	-	6	0.500	-	0.960	-	1.098	-	XP6305
7830200	●	PXRE100C10-04R020	-	10.00	-	2.00	4	-	4.50	-	9.70	-	13.00	XP6305
7830201	●	PXRE120C12-04R020	-	12.00	-	2.00	4	-	5.00	-	11.70	-	14.40	XP6305
7830202	●	PXRE160C16-06R030	-	16.00	-	3.00	6	-	7.00	-	15.70	-	18.70	XP6305
7830203	●	PXRE200C20-06R030	-	20.00	-	3.00	6	-	10.00	-	19.60	-	21.50	XP6305

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXRE 0500 A C12-04 R090-XP6305

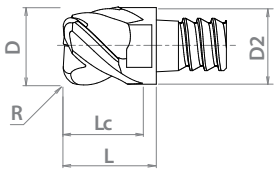
- PXRE — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 04 — Number of Flutes
- R090 — Corner Radius
- XP6305 — Grade

List 78PXDR

SPEED FEED 1552-1553 | ARBORS 1316-1325 | ACCS. 1326 | 3 FLUTE | 45° | PACKED 1 PIECE

OSG PHOENIX® PXDR Exchangeable Heads, Helical Flute





EDP Number		Designation	Specification	Diameter		Corner Radius		Number of Flutes	Length of Cut		Flange Diameter		Overall Length		Grade
				D (Inch)	D (mm)	R (Inch)	R (mm)		Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52309008	●	PXDR0375AC10-03R060-P	PXDR-P	0.375	-	0.060	-	3	0.264	-	0.366	-	0.488	-	XP3225
52309009	●	PXDR0375AC10-03R090-P	PXDR-P	0.375	-	0.090	-	3	0.264	-	0.366	-	0.488	-	XP3225
52309000	●	PXDR0500AC12-03R060-P	PXDR-P	0.500	-	0.060	-	3	0.350	-	0.488	-	0.598	-	XP3225
52309001	●	PXDR0500AC12-03R090-P	PXDR-P	0.500	-	0.090	-	3	0.350	-	0.488	-	0.598	-	XP3225
52309002	●	PXDR0625AC16-03R090-P	PXDR-P	0.625	-	0.090	-	3	0.438	-	0.613	-	0.732	-	XP3225
52309003	●	PXDR0625AC16-03R120-P	PXDR-P	0.625	-	0.120	-	3	0.438	-	0.613	-	0.732	-	XP3225
52309004	●	PXDR0750AC20-03R090-P	PXDR-P	0.750	-	0.090	-	3	0.525	-	0.736	-	0.807	-	XP3225
52309005	●	PXDR0750AC20-03R120-P	PXDR-P	0.750	-	0.120	-	3	0.525	-	0.736	-	0.807	-	XP3225
52309006	●	PXDR1000AC25-03R090-P	PXDR-P	1.000	-	0.090	-	3	0.700	-	0.960	-	1.098	-	XP3225
52309007	●	PXDR1000AC25-03R120-P	PXDR-P	1.000	-	0.120	-	3	0.700	-	0.960	-	1.098	-	XP3225
7830349	●	PXDR100C10-03R015-P	PXDR-P	-	10.00	-	1.50	3	-	7.00	-	9.70	-	13.00	XP3225
7830350	●	PXDR100C10-03R020-P	PXDR-P	-	10.00	-	2.00	3	-	7.00	-	9.70	-	13.00	XP3225
7830351	●	PXDR120C12-03R015-P	PXDR-P	-	12.00	-	1.50	3	-	8.40	-	11.70	-	14.40	XP3225
7830352	●	PXDR120C12-03R020-P	PXDR-P	-	12.00	-	2.00	3	-	8.40	-	11.70	-	14.40	XP3225
7830353	●	PXDR160C16-03R020-P	PXDR-P	-	16.00	-	2.00	3	-	11.20	-	15.70	-	18.70	XP3225
7830354	●	PXDR160C16-03R030-P	PXDR-P	-	16.00	-	3.00	3	-	11.20	-	15.70	-	18.70	XP3225
7830355	●	PXDR200C20-03R020-P	PXDR-P	-	20.00	-	2.00	3	-	14.00	-	19.60	-	21.50	XP3225
7830356	●	PXDR200C20-03R030-P	PXDR-P	-	20.00	-	3.00	3	-	14.00	-	19.60	-	21.50	XP3225
52310008	●	PXDR0375AC10-03R060-N	PXDR-N	0.375	-	0.060	-	3	0.264	-	0.366	-	0.488	-	XP6305
52310009	●	PXDR0375AC10-03R090-N	PXDR-N	0.375	-	0.090	-	3	0.264	-	0.366	-	0.488	-	XP6305
52310000	●	PXDR0500AC12-03R060-N	PXDR-N	0.500	-	0.060	-	3	0.350	-	0.488	-	0.598	-	XP6305
52310001	●	PXDR0500AC12-03R090-N	PXDR-N	0.500	-	0.090	-	3	0.350	-	0.488	-	0.598	-	XP6305
52310002	●	PXDR0625AC16-03R090-N	PXDR-N	0.625	-	0.090	-	3	0.438	-	0.613	-	0.732	-	XP6305
52310003	●	PXDR0625AC16-03R120-N	PXDR-N	0.625	-	0.120	-	3	0.438	-	0.613	-	0.732	-	XP6305
52310004	●	PXDR0750AC20-03R090-N	PXDR-N	0.750	-	0.090	-	3	0.525	-	0.736	-	0.807	-	XP6305
52310005	●	PXDR0750AC20-03R120-N	PXDR-N	0.750	-	0.120	-	3	0.525	-	0.736	-	0.807	-	XP6305
52310006	●	PXDR1000AC25-03R090-N	PXDR-N	1.000	-	0.090	-	3	0.700	-	0.960	-	1.098	-	XP6305
52310007	●	PXDR1000AC25-03R120-N	PXDR-N	1.000	-	0.120	-	3	0.700	-	0.960	-	1.098	-	XP6305
7830369	●	PXDR100C10-03R015-N	PXDR-N	-	10.00	-	1.50	3	-	7.00	-	9.70	-	13.00	XP6305
7830370	●	PXDR100C10-03R020-N	PXDR-N	-	10.00	-	2.00	3	-	7.00	-	9.70	-	13.00	XP6305
7830371	●	PXDR120C12-03R015-N	PXDR-N	-	12.00	-	1.50	3	-	8.40	-	11.70	-	14.40	XP6305
7830372	●	PXDR120C12-03R020-N	PXDR-N	-	12.00	-	2.00	3	-	8.40	-	11.70	-	14.40	XP6305
7830373	●	PXDR160C16-03R020-N	PXDR-N	-	16.00	-	2.00	3	-	11.20	-	15.70	-	18.70	XP6305
7830374	●	PXDR160C16-03R030-N	PXDR-N	-	16.00	-	3.00	3	-	11.20	-	15.70	-	18.70	XP6305
7830375	●	PXDR200C20-03R020-N	PXDR-N	-	20.00	-	2.00	3	-	14.00	-	19.60	-	21.50	XP6305
7830376	●	PXDR200C20-03R030-N	PXDR-N	-	20.00	-	3.00	3	-	14.00	-	19.60	-	21.50	XP6305

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXDR 0500 A C12-03 R090-P-XP3225

Series	Diameter	Units	Connection Size	Number of Flutes	Corner Radius	Specification	Grade
PXDR	0500	A	C12	03	R090	P	XP3225

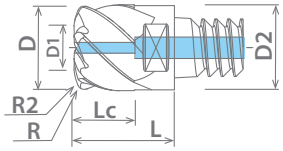
List 78PXHF-AM

OSG PHOENIX® PXHF-AM Exchangeable Heads, High Feed



SPEED FEED	ARBORS	ACCS.	6 FLUTE	45°		PACKED
1554-1555	1316-1325	1326				1 PIECE





EDP Number		Designation	Diameter		Effective Diameter		Effective Radius		Corner Radius		Bottom Edge Radius		Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)	D1 (Inch)	D1 (mm)	rt (Inch)	rt (mm)	R (Inch)	R (mm)	R2 (Inch)	R2 (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52313000	●	PXHF-AM0500AC12-06R060-O	0.500	-	0.250	-	0.060	-	0.050	-	0.300	-	0.350	-	0.488	-	0.598	-	XP6703
52313001	●	PXHF-AM0625AC16-06R080-O	0.625	-	0.313	-	0.080	-	0.063	-	0.375	-	0.438	-	0.613	-	0.732	-	XP6703
52313002	●	PXHF-AM0750AC20-06R100-O	0.750	-	0.375	-	0.100	-	0.075	-	0.450	-	0.525	-	0.736	-	0.807	-	XP6703
52313003	●	PXHF-AM1000AC25-06R120-O	1.000	-	0.500	-	0.120	-	0.100	-	0.600	-	0.700	-	0.960	-	1.098	-	XP6703
7830377	●	PXHF-AM120C12-06R150-O	-	12.00	-	6.00	-	1.50	-	1.20	-	7.00	-	8.40	-	11.70	-	14.40	XP6703
7830378	●	PXHF-AM160C16-06R200-O	-	16.00	-	8.00	-	2.00	-	1.60	-	9.50	-	11.20	-	15.70	-	18.70	XP6703
7830379	●	PXHF-AM200C20-06R250-O	-	20.00	-	10.00	-	2.50	-	2.00	-	12.00	-	14.00	-	19.60	-	21.50	XP6703

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

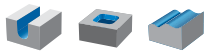
DESIGNATION EXPLANATION

PXHF-AM 0500 A C12-06 R060-O-XP6703

- PXHF-AM — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 06 — Number of Flutes
- R060 — Corner Radius
- O — Coolant-Through
- XP6703 — Grade

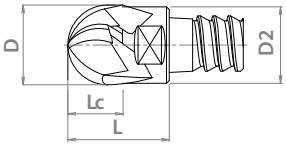
List 78PXBE

OSG PHOENIX® PXBE Exchangeable Heads



SPEED FEED	ARBORS	ACCS.	3 FLUTE	45°		PACKED
1556	1316-1325	1326				1 PIECE





EDP Number		Designation	Specification	Diameter		Length of Cut		Flange Diameter		Overall Length		Grade
				D (Inch)	D (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52311004	●	PXBE0375AC10-03R187-P	PXBE-P	0.375	-	0.264	-	0.366	-	0.488	-	XP3320
52311000	●	PXBE0500AC12-03R250-P	PXBE-P	0.500	-	0.350	-	0.488	-	0.598	-	XP3320
52311001	●	PXBE0625AC16-03R313-P	PXBE-P	0.625	-	0.438	-	0.613	-	0.732	-	XP3320
52311002	●	PXBE0750AC20-03R375-P	PXBE-P	0.750	-	0.525	-	0.736	-	0.807	-	XP3320
52311003	●	PXBE1000AC25-03R500-P	PXBE-P	1.000	-	0.700	-	0.960	-	1.098	-	XP3320
7830270	●	PXBE100C10-03R050-P	PXBE-P	-	10.00	-	7.00	-	9.70	-	13.00	XP3320
7830271	●	PXBE120C12-03R060-P	PXBE-P	-	12.00	-	8.40	-	11.70	-	14.40	XP3320
7830272	●	PXBE160C16-03R080-P	PXBE-P	-	16.00	-	11.20	-	15.70	-	18.70	XP3320
7830273	●	PXBE200C20-03R100-P	PXBE-P	-	20.00	-	14.00	-	19.60	-	21.50	XP3320
52306004	●	PXBE0375AC10-03R187-N	PXBE-N	0.375	-	0.264	-	0.366	-	0.488	-	XP3320
52306000	●	PXBE0500AC12-03R250-N	PXBE-N	0.500	-	0.350	-	0.488	-	0.598	-	XP3320
52306001	●	PXBE0625AC16-03R313-N	PXBE-N	0.625	-	0.438	-	0.613	-	0.732	-	XP3320
52306002	●	PXBE0750AC20-03R375-N	PXBE-N	0.750	-	0.525	-	0.736	-	0.807	-	XP3320
52306003	●	PXBE1000AC25-03R500-N	PXBE-N	1.000	-	0.700	-	0.960	-	1.098	-	XP3320
7830250	●	PXBE100C10-03R050-N	PXBE-N	-	10.00	-	7.00	-	9.70	-	13.00	XP3320
7830251	●	PXBE120C12-03R060-N	PXBE-N	-	12.00	-	8.40	-	11.70	-	14.40	XP3320
7830252	●	PXBE160C16-03R080-N	PXBE-N	-	16.00	-	11.20	-	15.70	-	18.70	XP3320
7830253	●	PXBE200C20-03R100-N	PXBE-N	-	20.00	-	14.00	-	19.60	-	21.50	XP3320

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXBE 0500 A C12-03 R250-P-XP3320

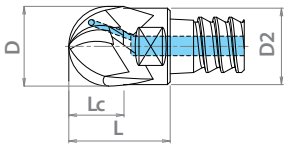
- PXBE — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 03 — Number of Flutes
- R250 — Corner Radius
- P — Specification
- XP3320 — Grade

List 78PXBE-O

SPEED FEED 1556 | ARBORS 1316-1325 | ACCS. 1326 | 3 FLUTE | 45° | PACKED 1 PIECE

OSG PHOENIX® PXBE-O Exchangeable Heads





EDP Number		Designation	Specification	Diameter		Length of Cut		Flange Diameter		Overall Length		Grade
				D (Inch)	D (mm)	Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52317000	●	PXBE0500AC12-03R250-P-O	PXBE-P	0.500	-	0.350	-	0.488	-	0.598	-	XP3320
52317001	●	PXBE0625AC16-03R313-P-O	PXBE-P	0.625	-	0.438	-	0.613	-	0.732	-	XP3320
52317002	●	PXBE0750AC20-03R375-P-O	PXBE-P	0.750	-	0.525	-	0.736	-	0.807	-	XP3320
7830281	●	PXBE120C12-03R060-P-O	PXBE-P	-	12.00	-	8.40	-	11.70	-	14.40	XP3320
7830282	●	PXBE160C16-03R080-P-O	PXBE-P	-	16.00	-	11.20	-	15.70	-	18.70	XP3320
7830283	●	PXBE200C20-03R100-P-O	PXBE-P	-	20.00	-	14.00	-	19.60	-	21.50	XP3320
52318000	●	PXBE0500AC12-03R250-N-O	PXBE-N	0.500	-	0.350	-	0.488	-	0.598	-	XP3320
52318001	●	PXBE0625AC16-03R313-N-O	PXBE-N	0.625	-	0.438	-	0.613	-	0.732	-	XP3320
52318002	●	PXBE0750AC20-03R375-N-O	PXBE-N	0.750	-	0.525	-	0.736	-	0.807	-	XP3320
7830261	●	PXBE120C12-03R060-N-O	PXBE-N	-	12.00	-	8.40	-	11.70	-	14.40	XP3320
7830262	●	PXBE160C16-03R080-N-O	PXBE-N	-	16.00	-	11.20	-	15.70	-	18.70	XP3320
7830263	●	PXBE200C20-03R100-N-O	PXBE-N	-	20.00	-	14.00	-	19.60	-	21.50	XP3320

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXBE 0500 A C12-03 R250-P-O-XP3320

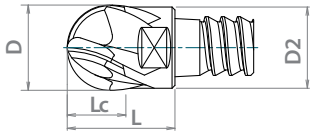
- PXBE — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 03 — Number of Flutes
- R250 — Corner Radius
- P — Specification
- O — Coolant-Through
- XP3320 — Grade

List 78PXBM

SPEED FEED 1557 | ARBORS 1316-1325 | ACCS. 1326 | 4 FLUTE | 45° | PACKED 1 PIECE

OSG PHOENIX® PXBM Exchangeable Heads





EDP Number		Designation	Diameter		Number of Flutes	Length of Cut		Flange Diameter		Overall Length		Grade
			D (Inch)	D (mm)		Lc (Inch)	Lc (mm)	D2 (Inch)	D2 (mm)	L (Inch)	L (mm)	
52307004	●	PXBM0375AC10-04R187	0.375	-	4	0.264	-	0.366	-	0.488	-	XP3320
52307000	●	PXBM0500AC12-04R250	0.500	-	4	0.350	-	0.488	-	0.598	-	XP3320
52307001	●	PXBM0625AC16-06R313	0.625	-	6	0.438	-	0.613	-	0.732	-	XP3320
52307002	●	PXBM0750AC20-06R375	0.750	-	6	0.525	-	0.736	-	0.807	-	XP3320
52307003	●	PXBM1000AC25-06R500	1.000	-	6	0.700	-	0.960	-	1.098	-	XP3320
7830300	●	PXBM100C10-04R050	-	10.00	4	-	7.00	-	9.70	-	13.00	XP3320
7830301	●	PXBM120C12-04R060	-	12.00	4	-	8.40	-	11.70	-	14.40	XP3320
7830302	●	PXBM160C16-06R080	-	16.00	6	-	11.20	-	15.70	-	18.70	XP3320
7830303	●	PXBM200C20-06R100	-	20.00	6	-	14.00	-	19.60	-	21.50	XP3320

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

PXI

DESIGNATION EXPLANATION

PXBM 0500 A C12-04 R250-XP3320

- PXBM — Series
- 0500 — Diameter
- A — Units
- C12 — Connection Size
- 04 — Number of Flutes
- R250 — Corner Radius
- XP3320 — Grade

List 52300

STEEL | **CARBIDE** | **PACKED 1 PIECE**

OSG PHOENIX® PXM SA/TPA



Straight Shank



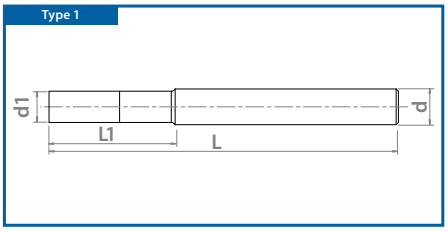
Tapered Shank

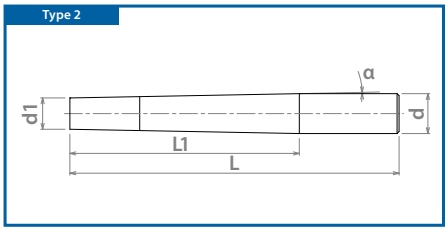
EDP Number		Designation	Body Type	Type	Neck Diameter d1 (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Taper Angle α (°)	Shank Diameter d (Inch)	Applicable Head (Inch)
52300024	●	PXMZ-C10SA0375-S300	Cylindrical Shank Steel	1	0.366	1.000	3.000	0.00	0.375	0.375
52300000	●	PXMZ-C12SA0500-S400	Cylindrical Shank Steel	1	0.488	0.750	4.000	0.00	0.500	0.500
52300001	●	PXMZ-C12TPA0750-S600	Cylindrical Shank Steel	2	0.488	2.000	6.000	5.00	0.750	0.500
52300002	●	PXMZ-C16SA0625-S400	Cylindrical Shank Steel	1	0.613	1.000	4.000	0.00	0.625	0.625
52300003	●	PXMZ-C16TPA1000-S650	Cylindrical Shank Steel	2	0.613	2.000	6.500	5.00	1.000	0.625
52300004	●	PXMZ-C20SA0750-S500	Cylindrical Shank Steel	1	0.736	1.250	5.000	0.00	0.750	0.750
52300005	●	PXMZ-C20TPA1250-S700	Cylindrical Shank Steel	2	0.736	2.750	7.000	5.00	1.250	0.750
52300006	●	PXMZ-C25SA1000-S550	Cylindrical Shank Steel	1	0.960	1.500	5.500	0.00	1.000	1.000
52300025	●	PXMZ-C32SA1250-S600	Cylindrical Shank Steel	1	1.094	2.500	6.000	0.00	1.250	1.250
52300026	●	PXMZ-C10SA0375-S300CS	Cylindrical Shank Carbide	1	0.366	1.000	3.000	0.00	0.375	0.375
52300027	●	PXMZ-C10SA0375-L400CS	Cylindrical Shank Carbide	1	0.366	1.750	4.000	0.00	0.375	0.375
52300028	●	PXMZ-C10TPA0500-LL500CS	Cylindrical Shank Carbide	2	0.366	2.750	5.000	1.40	0.500	0.375
52300007	●	PXMZ-C12SA0500-S300CS	Cylindrical Shank Carbide	1	0.488	1.000	3.000	0.00	0.500	0.500
52300008	●	PXMZ-C12SA0500-L400CS	Cylindrical Shank Carbide	1	0.488	1.750	4.000	0.00	0.500	0.500
52300009	●	PXMZ-C12SA0500-L450CS	Cylindrical Shank Carbide	1	0.488	2.500	4.500	0.00	0.500	0.500
52300010	●	PXMZ-C12TPA0625-LL550CS	Cylindrical Shank Carbide	2	0.488	3.250	5.500	1.50	0.625	0.500
52300011	●	PXMZ-C16SA0625-S350CS	Cylindrical Shank Carbide	1	0.613	1.500	3.500	0.00	0.625	0.625
52300012	●	PXMZ-C16SA0625-L550CS	Cylindrical Shank Carbide	1	0.613	2.500	5.500	0.00	0.625	0.625
52300013	●	PXMZ-C16SA0625-L600CS	Cylindrical Shank Carbide	1	0.613	3.250	6.000	0.00	0.625	0.625
52300014	●	PXMZ-C16TPA0750-LL650CS	Cylindrical Shank Carbide	2	0.613	4.500	6.500	1.50	0.750	0.625
52300015	●	PXMZ-C20SA0750-S350CS	Cylindrical Shank Carbide	1	0.736	1.500	3.500	0.00	0.750	0.750
52300016	●	PXMZ-C20SA0750-L600CS	Cylindrical Shank Carbide	1	0.736	3.000	6.000	0.00	0.750	0.750
52300017	●	PXMZ-C20SA0750-L700CS	Cylindrical Shank Carbide	1	0.736	4.250	7.000	0.00	0.750	0.750
52300018	●	PXMZ-C20TPA1000-LL800CS	Cylindrical Shank Carbide	2	0.736	5.500	8.000	1.50	1.000	0.750
52300019	●	PXMZ-C25SA1000-L800CS	Cylindrical Shank Carbide	1	0.960	3.750	8.000	0.00	1.000	1.000
52300029	●	PXMZ-C32SA1250-L1000CS	Cylindrical Shank Carbide	1	1.094	6.500	10.000	0.00	1.250	1.250

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench included with body.

PXT





DESIGNATION EXPLANATION

PXMZ-C10 SA 0375-S 300 (CS)

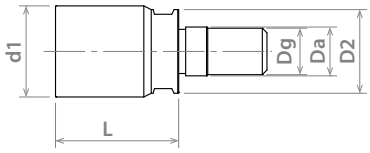
Series	Connection Size	Body Type	Shank Diameter	Body Length	Overall Length	Carbide Shank

List 52321

STEEL | PACKED 1 PIECE

OSG PHOENIX® PXMJ JOINT



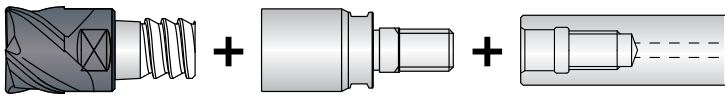


EDP Number		Designation	Body Type	Type	Neck Diameter d1 (Inch)	Pilot Diameter Da (Inch)	Thread Size Dg (mm)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Head (Inch)
52300020	●	PXMJ-AC12SF06	PXMJ Joint	1	0.488	0.256	M6	0.433	0.709	PXMP8-10	0.500
52300021	●	PXMJ-AC16SF08	PXMJ Joint	1	0.613	0.335	M8	0.571	0.858	PXMP13-16	0.625
52300022	●	PXMJ-AC20SF10	PXMJ Joint	1	0.736	0.413	M10	0.707	1.043	PXMP13-16	0.750
52300023	●	PXMJ-AC25SF12	PXMJ Joint	1	0.960	0.492	M12	0.905	1.338	PXMP21	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench included with body. PXM heads can be mounted to PHOENIX SF Arbors by attaching the PXM SF Joint.

PXT



PXM Head + **PXM SF Joint** + **SF Arbor SS**

DESIGNATION EXPLANATION

PXMJ-A C20 SF 10

- PXMJ: Series
- A: Units
- C20: Connection Size
- SF: Body Type
- 10: Thread Size

List 52319

STEEL | CARBIDE | PACKED 1 PIECE

OSG PHOENIX® PXM SA/TPA



Straight Shank



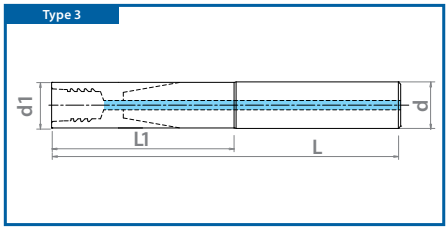
Tapered Shank

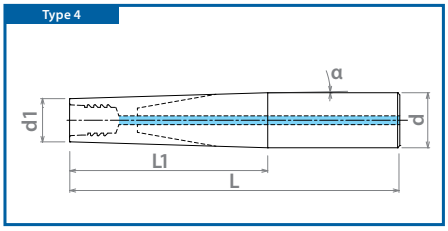
EDP Number		Designation	Body Type	Type	Neck Diameter d1 (Inch)	Neck Length L1 (Inch)	Overall Length L (Inch)	Taper Angle α (°)	Shank Diameter d (Inch)	Applicable Head (Inch)
52319000	●	PXMZ-C12SA0500-S400-O	Cylindrical Shank Steel	3	0.488	0.750	4.000	0.00	0.500	0.500
52319001	●	PXMZ-C16SA0625-S400-O	Cylindrical Shank Steel	3	0.613	1.000	4.000	0.00	0.625	0.625
52319002	●	PXMZ-C20SA0750-S500-O	Cylindrical Shank Steel	3	0.736	1.250	5.000	0.00	0.750	0.750
52319003	●	PXMZ-C25SA1000-S550-O	Cylindrical Shank Steel	3	0.960	1.500	5.500	0.00	1.000	1.000
52319004	●	PXMZ-C12SA0500-S300CS-O	Cylindrical Shank Carbide	3	0.488	1.000	3.000	0.00	0.500	0.500
52319005	●	PXMZ-C12SA0500-L400CS-O	Cylindrical Shank Carbide	3	0.488	1.750	4.000	0.00	0.500	0.500
52319006	●	PXMZ-C12SA0500-L450CS-O	Cylindrical Shank Carbide	3	0.488	2.500	4.500	0.00	0.500	0.500
52319007	●	PXMZ-C12TPA0625-LL550CS-O	Cylindrical Shank Carbide	4	0.488	3.250	5.500	1.20	0.625	0.500
52319008	●	PXMZ-C12TPA0625-LL600CS-O	Cylindrical Shank Carbide	4	0.488	3.750	6.000	1.00	0.625	0.500
52319009	●	PXMZ-C16SA0625-S350CS-O	Cylindrical Shank Carbide	3	0.613	1.500	3.500	0.00	0.625	0.625
52319010	●	PXMZ-C16SA0625-L550CS-O	Cylindrical Shank Carbide	3	0.613	2.500	5.500	0.00	0.625	0.625
52319011	●	PXMZ-C16SA0625-L600CS-O	Cylindrical Shank Carbide	3	0.613	3.250	6.000	0.00	0.625	0.625
52319012	●	PXMZ-C16TPA0750-LL650CS-O	Cylindrical Shank Carbide	4	0.613	4.500	6.500	1.00	0.750	0.625
52319013	●	PXMZ-C16TPA0750-LL700CS-O	Cylindrical Shank Carbide	4	0.613	5.000	7.000	1.00	0.750	0.625
52319014	●	PXMZ-C20SA0750-S350CS-O	Cylindrical Shank Carbide	3	0.736	1.500	3.500	0.00	0.750	0.750
52319015	●	PXMZ-C20SA0750-L600CS-O	Cylindrical Shank Carbide	3	0.736	3.000	6.000	0.00	0.750	0.750
52319016	●	PXMZ-C20SA0750-L700CS-O	Cylindrical Shank Carbide	3	0.736	4.250	7.000	0.00	0.750	0.750
52319017	●	PXMZ-C20TPA1000-LL800CS-O	Cylindrical Shank Carbide	4	0.736	5.500	8.000	1.50	1.000	0.750
52319018	●	PXMZ-C20TPA1000-LL850CS-O	Cylindrical Shank Carbide	4	0.736	6.000	8.500	1.20	1.000	0.750
52319019	●	PXMZ-C25SA1000-L800CS-O	Cylindrical Shank Carbide	3	0.960	3.750	8.000	0.00	1.000	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench included with body.

PXT





DESIGNATION EXPLANATION

PXMZ-C12 SA 0500-S 400 (CS)-O

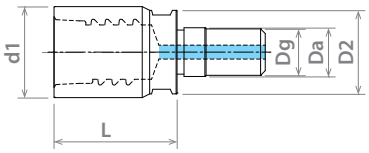
Series	Connection Size	Body Type	Shank Diameter	Body Length	Overall Length	Carbide Shank	Coolant-Through

List 52320

STEEL | PACKED 1 PIECE

OSG PHOENIX® PXMJ-O JOINT



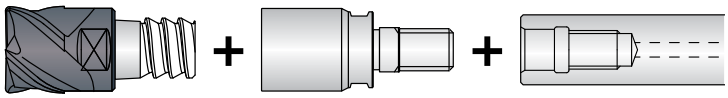


EDP Number		Designation	Body Type	Type	Neck Diameter d1 (Inch)	Pilot Diameter Da (Inch)	Thread Size Dg (mm)	Flange Diameter D2 (Inch)	Overall Length L (Inch)	Spanner Wrench	Applicable Head (Inch)
52319020	●	PXMJ-AC12SF06-O	PXMJ Joint	2	0.488	0.256	M6	0.433	0.709	PXMP8-10	0.500
52319021	●	PXMJ-AC16SF08-O	PXMJ Joint	2	0.613	0.335	M8	0.571	0.858	PXMP13-16	0.625
52319022	●	PXMJ-AC20SF10-O	PXMJ Joint	2	0.736	0.413	M10	0.707	1.043	PXMP13-16	0.750
52319023	●	PXMJ-AC25SF12-O	PXMJ Joint	2	0.960	0.492	M12	0.905	1.338	PXMP21	1.000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench included with body. PXM heads can be mounted to PHOENIX SF Arbors by attaching the PXM SF Joint.

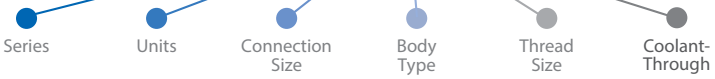
PXT



PXM Head + **PXM SF Joint** + **SF Arbor SS**

DESIGNATION EXPLANATION

PXMJ-A C20 SF 10-O



List 78018

STEEL | CARBIDE | PACKED 1 PIECE

OSG PHOENIX® PXM SS/TP



Straight Shank



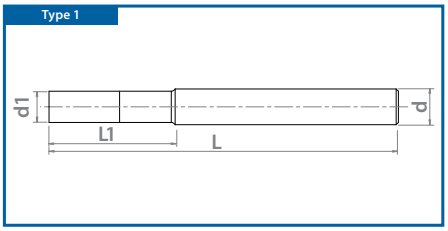
Tapered Shank

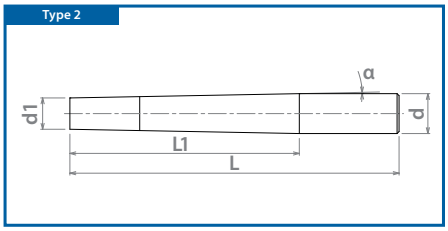
EDP Number		Designation	Body Type	Type	Neck Diameter d1 (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Taper Angle α (°)	Shank Diameter d (mm)	Applicable Head (mm)
48174021	●	PXMZ-C10SS10-S075	Cylindrical Shank Steel	1	9.80	12.00	75.00	0.00	10.00	10.00
48174001	●	PXMZ-C12SS12-S100	Cylindrical Shank Steel	1	11.70	18.00	100.00	0.00	12.00	12.00
48174002	●	PXMZ-C12TP20-S145	Cylindrical Shank Steel	2	11.70	47.40	145.00	5.00	20.00	12.00
48174003	●	PXMZ-C16SS16-S100	Cylindrical Shank Steel	1	15.70	23.00	100.00	0.00	16.00	16.00
48174004	●	PXMZ-C16TP25-S155	Cylindrical Shank Steel	2	15.70	53.10	155.00	5.00	25.00	16.00
48174005	●	PXMZ-C20SS20-S120	Cylindrical Shank Steel	1	19.60	28.00	120.00	0.00	20.00	20.00
48174006	●	PXMZ-C20TP32-S170	Cylindrical Shank Steel	2	19.60	70.80	170.00	5.00	32.00	20.00
48174007	●	PXMZ-C25SS25-S140	Cylindrical Shank Steel	1	24.00	34.50	140.00	0.00	25.00	25.00
48174022	●	PXMZ-C32SS32-S160	Cylindrical Shank Steel	1	28.00	33.00	160.00	0.00	32.00	32.00
48174023	●	PXMZ-C10SS10-L100CS	Cylindrical Shank Carbide	1	9.80	37.30	100.00	0.00	10.00	10.00
48174025	●	PXMZ-C10SS10-S075CS	Cylindrical Shank Carbide	1	9.80	17.30	75.00	0.00	10.00	10.00
48174026	●	PXMZ-C10TP12-LL130CS	Cylindrical Shank Carbide	2	9.80	67.00	130.00	0.00	12.00	10.00
48174008	●	PXMZ-C12SS12-S075CS	Cylindrical Shank Carbide	1	11.70	24.00	75.00	0.00	12.00	12.00
48174009	●	PXMZ-C12SS12-L100CS	Cylindrical Shank Carbide	1	11.70	45.90	100.00	0.00	12.00	12.00
48174010	●	PXMZ-C12SS12-L115CS	Cylindrical Shank Carbide	1	11.70	64.20	115.00	0.00	12.00	12.00
48174011	●	PXMZ-C12TP16-LL135CS	Cylindrical Shank Carbide	2	11.70	83.80	135.00	1.30	16.00	12.00
48174012	●	PXMZ-C16SS16-S090CS	Cylindrical Shank Carbide	1	15.70	39.20	90.00	0.00	16.00	16.00
48174013	●	PXMZ-C16SS16-L130CS	Cylindrical Shank Carbide	1	15.70	61.20	130.00	0.00	16.00	16.00
48174014	●	PXMZ-C16SS16-L135CS	Cylindrical Shank Carbide	1	15.70	84.20	135.00	0.00	16.00	16.00
48174015	●	PXMZ-C16TP20-LL165CS	Cylindrical Shank Carbide	2	15.70	115.00	165.00	1.10	20.00	16.00
48174016	●	PXMZ-C20SS20-S090CS	Cylindrical Shank Carbide	1	19.60	39.10	90.00	0.00	20.00	20.00
48174017	●	PXMZ-C20SS20-L150CS	Cylindrical Shank Carbide	1	19.60	78.40	150.00	0.00	20.00	20.00
48174018	●	PXMZ-C20SS20-L180CS	Cylindrical Shank Carbide	1	19.60	109.10	180.00	0.00	20.00	20.00
48174019	●	PXMZ-C20TP25-LL200CS	Cylindrical Shank Carbide	2	19.60	140.00	200.00	1.10	25.00	20.00
48174020	●	PXMZ-C25SS25-L200CS	Cylindrical Shank Carbide	1	24.00	96.60	200.00	0.00	25.00	25.00
48174024	●	PXMZ-C32SS32-L250CS	Cylindrical Shank Carbide	1	28.00	115.20	250.00	0.00	32.00	32.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench included with body.

PXT





DESIGNATION EXPLANATION

PXMZ-C10 SS 10-S 075 (CS)

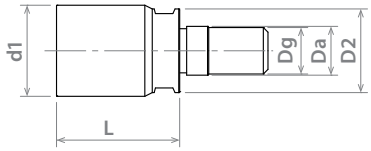
Series	Connection Size	Body Type	Shank Diameter	Body Length	Overall Length	Carbide Shank

List 78021

STEEL | PACKED 1 PIECE

OSG PHOENIX® PXMJ JOINT



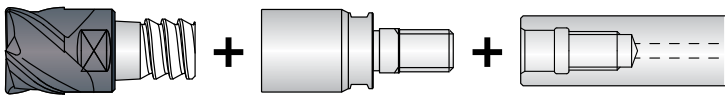


EDP Number		Designation	Body Type	Type	Neck Diameter d1 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Head (mm)
7801893	●	PXMJ-C12SF06	PXMJ Joint	1	11.70	6.50	M6	11.00	18.00	PXMP8-10	12.00
7801894	●	PXMJ-C16SF08	PXMJ Joint	1	15.70	8.50	M8	14.50	21.80	PXMP13-16	16.00
7801895	●	PXMJ-C20SF10	PXMJ Joint	1	19.60	10.50	M10	18.00	26.50	PXMP13-16	20.00
7801896	●	PXMJ-C25SF12	PXMJ Joint	1	24.00	12.50	M12	23.00	34.00	PXMP21	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench included with body. PXM heads can be mounted to PHOENIX SF Arbors by attaching the PXM SF Joint.

PXT



PXM Head + **PXM SF Joint** + **SF Arbor SS**

DESIGNATION EXPLANATION

PXMJ-C20 SF 10

- PXMJ — Series
- C20 — Connection Size
- SF — Body Type
- 10 — Thread Size

List 78035

OSG PHOENIX® PXM SS/TP

STEEL | CARBIDE | PACKED 1 PIECE



Straight Shank



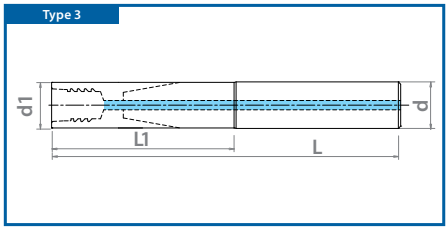
Tapered Shank

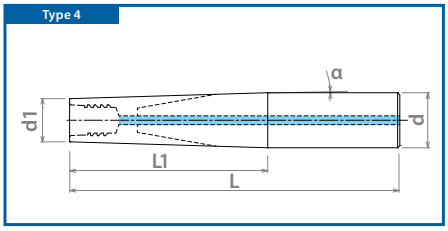
EDP Number		Designation	Body Type	Type	Neck Diameter d1 (mm)	Neck Length L1 (mm)	Overall Length L (mm)	Taper Angle α (°)	Shank Diameter d (mm)	Applicable Head (mm)
48309001	●	PXMZ-C12SS12-S100-0	Cylindrical Shank Steel	3	11.70	18.00	100.00	0.00	12.00	12.00
48309002	●	PXMZ-C16SS16-S100-0	Cylindrical Shank Steel	3	15.70	23.00	100.00	0.00	16.00	16.00
48309003	●	PXMZ-C20SS20-S120-0	Cylindrical Shank Steel	3	19.60	28.00	120.00	0.00	20.00	20.00
48309004	●	PXMZ-C25SS25-S140-0	Cylindrical Shank Steel	3	24.00	34.50	140.00	0.00	25.00	25.00
48309005	●	PXMZ-C12SS12-S075CS-0	Cylindrical Shank Carbide	3	11.70	25.00	75.00	0.00	12.00	12.00
48309006	●	PXMZ-C12SS12-L100CS-0	Cylindrical Shank Carbide	3	11.70	46.30	100.00	0.00	12.00	12.00
48309007	●	PXMZ-C12SS12-L115CS-0	Cylindrical Shank Carbide	3	11.70	65.00	115.00	0.00	12.00	12.00
48309008	●	PXMZ-C12TP16-LL135CS-0	Cylindrical Shank Carbide	4	11.70	85.00	135.00	1.30	16.00	12.00
48309009	●	PXMZ-C12TP16-LL150CS-0	Cylindrical Shank Carbide	4	11.70	85.60	150.00	1.00	16.00	12.00
48309010	●	PXMZ-C16SS16-S090CS-0	Cylindrical Shank Carbide	3	15.70	40.00	90.00	0.00	16.00	16.00
48309011	●	PXMZ-C16SS16-L130CS-0	Cylindrical Shank Carbide	3	15.70	62.00	130.00	0.00	16.00	16.00
48309012	●	PXMZ-C16SS16-L135CS-0	Cylindrical Shank Carbide	3	15.70	85.00	135.00	0.00	16.00	16.00
48309013	●	PXMZ-C16TP20-LL165CS-0	Cylindrical Shank Carbide	4	15.70	115.00	165.00	1.00	20.00	16.00
48309014	●	PXMZ-C16TP20-LL180CS-0	Cylindrical Shank Carbide	4	15.70	116.60	180.00	1.00	20.00	16.00
48309015	●	PXMZ-C20SS20-S090CS-0	Cylindrical Shank Carbide	3	19.60	40.00	90.00	0.00	20.00	20.00
48309016	●	PXMZ-C20SS20-L150CS-0	Cylindrical Shank Carbide	3	19.60	79.30	150.00	0.00	20.00	20.00
48309017	●	PXMZ-C20SS20-L180CS-0	Cylindrical Shank Carbide	3	19.60	110.00	180.00	0.00	20.00	20.00
48309018	●	PXMZ-C20TP25-LL200CS-0	Cylindrical Shank Carbide	4	19.60	140.00	200.00	1.00	25.00	20.00
48309019	●	PXMZ-C20TP25-LL210CS-0	Cylindrical Shank Carbide	4	19.60	145.00	210.00	1.00	25.00	20.00
48309020	●	PXMZ-C25SS25-L200CS-0	Cylindrical Shank Carbide	3	24.00	98.00	200.00	0.00	25.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench included with body.

PXT





DESIGNATION EXPLANATION

PXMZ-C12 SS 12-S 100 (CS)-O

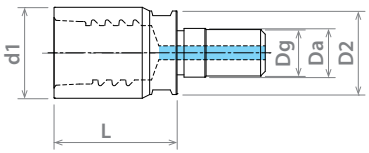
Series	Connection Size	Body Type	Shank Diameter	Body Length	Overall Length	Carbide Shank	Coolant-Through

List 78022

STEEL | PACKED 1 PIECE

OSG PHOENIX® PXMJ-O JOINT



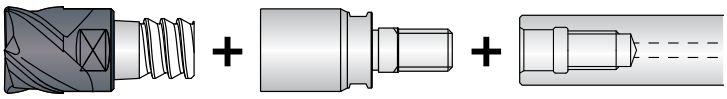


EDP Number		Designation	Body Type	Type	Neck Diameter d1 (mm)	Pilot Diameter Da (mm)	Thread Size Dg (mm)	Flange Diameter D2 (mm)	Overall Length L (mm)	Spanner Wrench	Applicable Head (mm)
7803551	●	PXMJ-C12SF06-O	PXMJ Joint	2	11.70	6.50	M6	11.00	18.00	PXMP8-10	12.00
7803552	●	PXMJ-C16SF08-O	PXMJ Joint	2	15.70	8.50	M8	14.50	21.80	PXMP13-16	16.00
7803553	●	PXMJ-C20SF10-O	PXMJ Joint	2	19.60	10.50	M10	18.00	26.50	PXMP13-16	20.00
7803554	●	PXMJ-C25SF12-O	PXMJ Joint	2	24.00	12.50	M12	23.00	34.00	PXMP21	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: Wrench included with body. PXM heads can be mounted to PHOENIX SF Arbors by attaching the PXM SF Joint.

PXT



PXM Head + **PXM SF Joint** + **SF Arbor SS**

DESIGNATION EXPLANATION

PXMJ-C20 SF 10-O

- PXMJ: Series
- C20: Connection Size
- SF: Body Type
- 10: Thread Size
- O: Coolant-Through

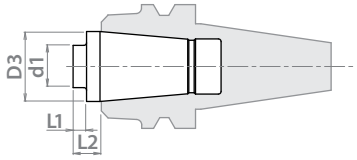
List 78340

STEEL | PACKED 1 PIECE

OSG PHOENIX® PXMC Collet







EDP Number		Designation	Body Type	Neck Diameter d1 (mm)	Body Diameter D3 (mm)	Projection Length L2 (mm)	Neck Length L1 (mm)	Applicable Head (mm)
7834001	●	PXMC-C1205	Extra-Short	11.70	26.00	10.50	5.00	12.00
7834002	●	PXMC-C1605	Extra-Short	15.70	26.00	10.50	5.00	16.00
7834003	●	PXMC-C2005	Extra-Short	19.60	26.00	10.50	5.00	20.00
7834004	●	PXMC-C2505	Extra-Short	24.00	26.00	10.50	5.00	25.00
7834011	●	PXMC-C1230	Short	11.70	26.00	35.50	30.00	12.00
7834012	●	PXMC-C1630	Short	15.70	26.00	35.50	30.00	16.00
7834013	●	PXMC-C2030	Short	19.60	26.00	35.50	30.00	20.00
7834014	●	PXMC-C2530	Short	24.00	26.00	35.50	30.00	25.00

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Note: The PXMC collet is compatible with the HYPRO Shrink Collet System. Wrench sold seperately.

PXT

DESIGNATION EXPLANATION

PXMC-C12 05

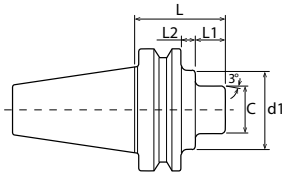
- PXMC — Series
- C12 — Connection Size
- 05 — Neck Length

List 9903

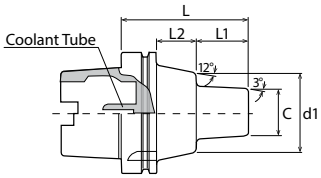
PACKED
1 PIECE

HY-PRO® Shrink Base Holders, For Standard & Coolant-Through the Tool Operations









CAT Holders

EDP Number		Designation	Body Type	Overall Length	Neck Length	Nose Diameter	Neck Diameter
				L	L1	C	d1
				Inch	Inch	Inch	Inch
9910002	●	CT40-SLK12-45	CAT40	1.770	1.020	1.610	1.750
9910004	●	CT50-SLK12-75	CAT50	2.950	1.570	1.500	2.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

BT Holders

EDP Number		Designation	Body Type	Overall Length	Neck Length		Nose Diameter	Neck Diameter
				L	L1	L2	C	d1
				mm	mm	mm	mm	mm
8910000	●	BT30-SLK12-35 - 45 Deg.	BT30	35.0	13.0	-	38.0	-
8910001	●	BT30-SLK12-35 - 60 Deg.	BT30	35.0	13.0	-	38.0	-
8910002	●	BT40-SLK12-45	BT40	45.0	18.0	-	38.0	-
8910003	●	BT40-SLK12-75	BT40	75.0	48.0	-	38.0	-
8910004	●	BT50-SLK12-75	BT50	75.0	25.0	12.0	38.0	65.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

HSK Holders

EDP Number		Designation	Body Type	Overall Length	Neck Length		Nose Diameter	Neck Diameter
				L	L1	L2	C	d1
				mm	mm	mm	mm	mm
9910005	●	HSK-E50-SLK12-75	HSK-E50	75.0	49.0	-	38.0	-
8910005	●	HSK-A63-SLK12-75	HSK-A63	75.0	49.0	-	38.0	-
8910006	●	HSK-A63-SLK12-135	HSK-A63	135.0	109.0	-	38.0	-
9910006	●	HSK-F63M-SLK12-75	HSK-F63M	75.0	49.0	-	38.0	-
8910007	●	HSK-A100-SLK12-105	HSK-A100	105.0	43.0	33.0	38.0	65.0

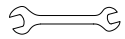
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

List 7808H

OSG PHOENIX® PXM ACCESSORIES

PACKED
1 PIECE

Appearance	EDP No.		Designation	Diameter Range		Recommended Tightening Torque
				Inch	mm	
 Spanner Wrench	7801890	●	PXMP8-10	Ø0.375-0.500	Ø10-14	10.0 Nm, 12.0 Nm
	7801891	●	PXMP13-16	Ø0.625-0.750	Ø16-22	30.0 Nm, 50.0 Nm
	7801892	●	PXMP21	Ø1.000	Ø25	60.0 Nm
	7801897	●	PXMP24	Ø1.250	Ø32	60.0 Nm

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

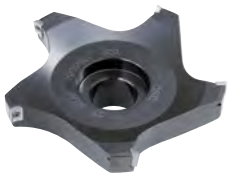
PXT

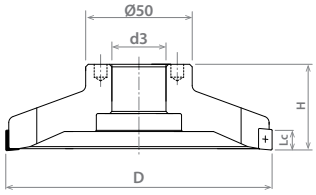
List 6440

EXOCARB® DISC CUTTER® S, For Roughing

WHILE SUPPLIES LAST!

SPEED FEED	INSERTS	ARBORS	ACCS.	STEEL	PACKED
1558	1328	1333-1334	1329		1 PIECE





EDP Number		Designation	Diameter D (mm)	Number of Flutes	Body Height H (mm)	Length of Cut Lc (mm)	Bore Diameter d3 (mm)	Weight (lb)	Max RPM
8070255	●	80XSLX4J	80.00	4	40.00	9.00	25.40	0.97	15,000
8070256	●	100XSLX4J	100.00	4	40.00	9.00	25.40	1.32	13,400
8070257	●	125xSLx5J	125.00	5	40.00	9.00	25.40	2.20	12,000

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Accessories are included.

HTE

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
◎	◎	◎	◎	◎	

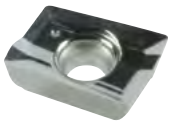
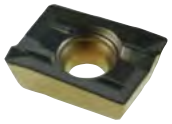
Material recommendation based on inserts compatible with this tool body.

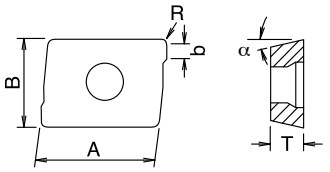
○ Good ◎ Best

List 6442

WHILE SUPPLIES LAST! PACKED 10 PIECE

EXOCARB® DISC CUTTER® S Inserts



EDP Number		Designation	Number of Cutting Edges	Insert Size					Grade
				AxB (mm)	T (mm)	α (°)	R (mm)	b (mm)	
8033300	●	APHT0903PPR-73	2	9.52 x 6.75	3.18	11.00	0.40	1.50	K10T
8059301	●	APKT0903PPR-52	2	9.52 x 6.75	3.18	11.00	0.40	1.20	K15CA
8091278	●	APMT0903PPR-F56	2	9.52 x 6.75	3.18	11.00	0.40	1.20	WQM25

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

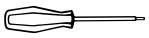
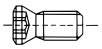
Insert Grade	Chip Breaker	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
K10T	25°				◎		
K15CA	16°			◎			
WQM25	16°	◎	◎			◎	

○ Good ◎ Best

List 6442

EXOCARB® DISC CUTTER® S ACCESSORIES

PACKED 1 PIECE	PACKED 10 PIECE

Appearance	EDP No.		Designation
 Wrench	7808205	●	T8-D (Torx 8)
 Clamping Screw	8009023	●	FS923 (Torx 8)

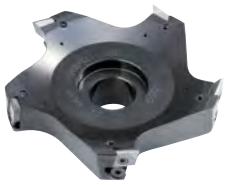
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Packed: Clamping Screws = 10 pcs.; Wrench = 1 pc.

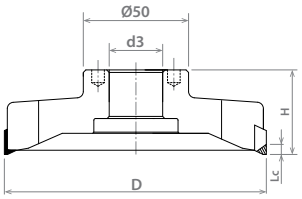
HTE

List 6441

SPEED FEED	INSERTS	ARBORS	ACCS.	STEEL	PACKED
1558	1331	1333-1334	1332		1 PIECE

EXOCARB® DISC CUTTER® PRO, For Finishing





EDP Number		Designation	Diameter D (mm)	Number of Flutes	Body Height H (mm)	Length of Cut Lc (mm)	Bore Diameter d3 (mm)	Weight (lb)	Max RPM
8070265	●	80XSLX3J	80.00	3	40.00	4.00	25.40	1.06	15,500
8070266	●	100XSLX4J	100.00	4	40.00	4.00	25.40	1.54	13,800
8070267	●	125XSLX5J	125.00	5	40.00	4.00	25.40	2.87	12,400

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Accessories are included.

HTE

P	M	K	N	S	H
Steel	Stainless Steel	Cast Iron	Non-Ferrous	HRSA	Hardened Steel
			◎		

Material recommendation based on inserts compatible with this tool body.

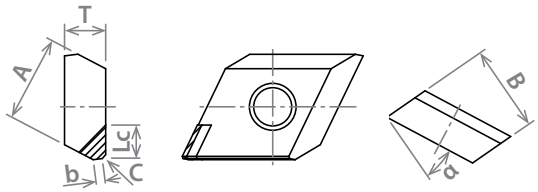
○ Good ◎ Best

List 6541

WHILE SUPPLIES LAST! PACKED 10 PIECE

EXOCARB® DISC CUTTER® PRO Inserts





EDP Number		Designation	Number of Cutting Edges	Insert Size						Grade
				AxB (mm)	T (mm)	α (°)	C (mm)	b (mm)	Lc (mm)	
8080801	●	XOHW1104PDR	1	9.52 x 9.52	4.76	30.00	0.30	1.10	4.00	WDO

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

Insert Grade	Chip Breaker	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	S HRSA	H Hardened Steel
WDO	–				◎		

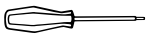
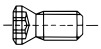
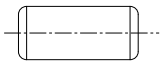
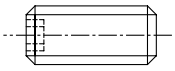
Material recommendation based on inserts compatible with this tool body.

○ Good ◎ Best

List 6541

EXOCARB® DISC CUTTER® PRO ACCESSORIES

PACKED 1 PIECE	PACKED 10 PIECE

Appearance	EDP No.		Designation
 Wrench	7808208	●	T15-D (Torx 15)
 Clamping Screw	8008626	●	FS326 (Torx 15)
 Adjusting Bolt	8008747	●	FS747 (Torx 15)
 Pad	8008748	●	FS748
 Set Screw	8009063	●	FS963

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Packed: Clamping Screws = 10 pcs.; Adjusting Bolts = 10 pcs.; Set Screws = 10 pcs.; Pads = 10 pcs.; Wrench = 1 pc.

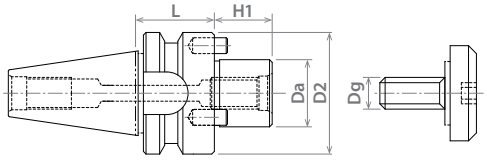
HTE

List 6640

PACKED
1 PIECE

EXOCARB® DISC CUTTER® ARBOR





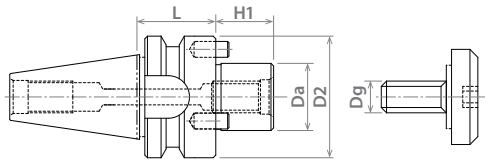
BT30

EDP Number		Designation	Pilot Diameter		Overall Length		Flange Diameter		Pilot Length		Thread Size	Weight
			Da (Inch)	Da (mm)	L (Inch)	L (mm)	D2 (Inch)	D2 (mm)	H1 (Inch)	H1 (mm)	Dg (mm)	lbs
99640	●	BT30-FMOA25.4-29	1.000	25.40	1.142	29.00	1.811	46.00	0.748	19.00	M12	1.32

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE





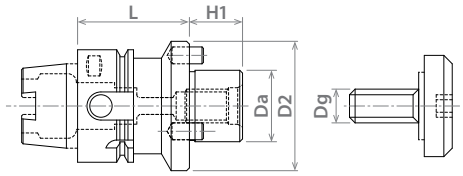
CAT40

EDP Number		Designation	Pilot Diameter		Overall Length		Flange Diameter		Pilot Length		Thread Size	Weight
			Da (Inch)	Da (mm)	L (Inch)	L (mm)	D2 (Inch)	D2 (mm)	H1 (Inch)	H1 (mm)	Dg (mm)	lbs
664001	●	CAT40-FMOA25.4-35U	1.000	25.40	1.378	35.00	1.750	44.45	0.748	19.00	M12	2.43

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE





HSK40A

EDP Number		Designation	Pilot Diameter		Overall Length		Flange Diameter		Pilot Length		Thread Size	Weight
			Da (Inch)	Da (mm)	L (Inch)	L (mm)	D2 (Inch)	D2 (mm)	H1 (Inch)	H1 (mm)	Dg (mm)	lbs
99634	●	HSK40A-FMOA25.4-49	1.000	25.40	1.929	49.00	1.811	46.00	0.748	19.00	M12	1.32

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

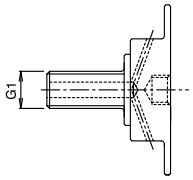
HTE

List 6640

PACKED
1 PIECE

EXOCARB® DISC CUTTER® ARBOR ACCESSORIES





EDP Number		Description	Designation	Thread Size
				Dg (mm)
99632	●	MBAH-M12 COOLANT-THROUGH CLAMPING BOLT	MBAH-M12	M12

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Note: Clamping Bolt for Coolant-Through Spindles (Optional)

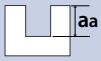
HTE

MILLING
Technical



List 8206 - A Brand AE-VMSS: 4 Flute, Stub Length
List 8226 - A Brand AE-VMSS-RA: 4 Flute, Stub Length, Right Angle Type

Slotting

Hardness	–		Up to 30 HRC		–		–		–		–		30-45 HRC	
Work Material	Carbon Steel Mild Steel Cast Iron		Tool Steel Alloy Steel		Stainless Steel 300SUS, 400SUS		Stainless Steel Precipitation Hardened 13-8PH, 15-5, 17-4PH		Titanium Alloy Ti-6AL-4V		Ni-Based Alloy Inconel 718		Prehardened Steels Hardened Steels	
Cutting Speed (SFM)	330 (260-395)		295 (230-360)		230 (160-260)		230 (195-265)		195 (165 - 230)		80 (65-100)		260 (195-330)	
Depth of Cut 	a_a 1.0D, a_r 1.0D				Dia D≤6: a_a 0.5D; D>6: a_a 1.0D; a_r 1.0D				a_a 0.25D, a_r 1.0D				a_a 1.0D, a_r 1.0D	
Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
1	25,000	19.5	25,000	18.1	19,100	13.4	25,000	12.6	22,280	11.8	9,550	4.7	22,300	14.2
1.5	19,100	24.0	17,000	18.9	12,700	14.2	16,980	14.2	14,850	13.4	6,370	5.1	14,900	16.5
2	14,300	24.8	1,270	20.1	9,600	15.0	12,810	14.2	11,140	13.8	4,770	5.5	11,100	17.3
2.5	11,500	30.7	10,200	22.4	7,600	16.9	10,190	16.1	8,910	15.4	3,820	5.9	8,900	18.1
3	10,600	36.6	9,600	27.2	7,400	18.5	8,540	16.9	7,430	16.1	3,180	6.3	8,500	20.1
4	8,000	37.8	7,200	28.3	5,600	19.3	6,410	18.1	5,570	17.3	2,390	6.7	6,400	20.1
5	6,400	40.2	5,700	31.5	4,000	22.0	5,120	19.3	4,460	18.5	1,910	7.1	5,100	24.0
6	5,300	40.6	4,800	35.4	3,700	14.6	4,270	18.9	3,710	18.1	1,590	7.1	4,200	26.4
8	4,000	35.8	3,600	28.3	2,800	14.6	2,750	17.7	2,390	16.9	1,190	7.9	3,200	25.2
10	3,200	33.1	2,900	27.6	2,200	13.8	2,200	16.5	1,910	15.7	950	7.1	2,500	21.7
12	2,700	31.9	2,400	26.4	1,900	13.0	1,830	16.5	1,590	15.7	800	7.1	2,100	21.7

Note: **For List 8226 please reduce the speed and feed as shown above by 70%**

Side Milling

Hardness	–		Up to 30 HRC		–		–		–		–		30-45 HRC	
Work Material	Carbon Steel Mild Steel Cast Iron		Tool Steel Alloy Steel		Stainless Steel 300SUS, 400SUS		Stainless Steel Precipitation Hardened 13-8PH, 15-5, 17-4PH		Titanium Alloy Ti-6AL-4V		Ni-Based Alloy Inconel 718		Prehardened Steels Hardened Steels	
Cutting Speed (SFM)	430 (330-495)		395 (330-495)		260 (195-330)		265 (230-295)		230 (195-265)		100 (85-130)		330 (260-395)	
Depth of Cut 	a_a 1.5D, a_r 0.2D													
Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
1	25,000	21.7	25,000	23.7	22,300	17.7	25,000	17.7	25,000	350.0	12,730	160.0	25,000	20.1
1.5	25,000	35.5	21,200	29.9	14,900	18.1	19,520	18.1	16,980	400.0	8,490	180.0	17,000	21.3
2	19,900	56.3	17,500	33.1	11,100	18.5	14,640	18.5	12,730	420.0	6,370	190.0	14,300	24.8
2.5	15,900	62.6	14,000	35.4	8,900	18.9	11,710	18.9	10,190	460.0	5,090	210.0	11,500	27.2
3	13,800	65.4	12,700	42.1	8,000	18.9	9,760	18.9	8,490	480.0	4,240	220.0	10,600	29.9
4	10,400	72.0	9,600	45.3	6,000	20.9	7,320	20.9	6,370	530.0	3,180	240.0	8,000	31.5
5	8,300	78.3	7,600	48.0	4,800	22.0	5,860	22.0	5,090	540.0	2,550	250.0	6,400	35.4
6	6,900	81.5	6,400	60.6	4,200	25.2	4,880	25.2	4,240	550.0	2,120	250.0	5,300	41.7
8	5,200	69.7	4,800	60.6	3,200	24.0	3,200	24.0	2,790	430.0	1,590	230.0	4,000	40.9
10	4,100	64.6	3,800	53.9	2,500	22.9	2,560	22.8	2,230	410.0	1,270	220.0	3,200	35.4
12	3,500	55.1	3,200	50.4	2,100	20.9	2,140	20.9	1,860	400.0	1,060	210.0	2,700	29.9

Note: **For List 8226 please reduce the speed and feed as shown above by 70%**

List 8230 - A Brand AE-LN-VMSS: Long Neck
List 8235 - A Brand AE-LN-VMSS: Long Neck

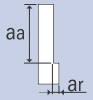
Side Milling

Hardness	–	Up to 30 HRC	–	–	–	–	30-45 HRC
Work Material	Carbon Steel Mild Steel Cast Iron	Tool Steel Alloy Steel	Stainless Steel 300SUS, 400SUS	Stainless Steel Precipitation Hardened 13-8PH, 15-5, 17-4PH	Titanium Alloy Ti-6AL-4V	Ni-Based Alloy Inconel 718	Prehardened Steels Hardened Steels
Cutting Speed (SFM)	345 (265-395)	310 (230-360)	195 (130-265)	195 (165-230)	165 (130-195)	100 (65-115)	230 (165-295)
Depth of Cut 	a_a 1.5D, a_r 0.2D						

Mill Dia.		Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
Inch	mm														
-	6	5,580	65.4	5,010	48.4	3,150	17.7	3,150	16.1	2,670	15.4	1,620	6.9	3,720	29.1
1/4	-	5,270	63	4,740	46.5	2,980	16.7	2,980	15.8	2,520	13.6	1,530	6.8	3,510	28.1
5/16	-	4,220	50	3,790	37.2	2,380	13.3	2,380	13.2	2,020	12.4	1,220	6.5	2,810	22.5
-	8	4,180	55.9	3,760	48.4	2,360	16.9	2,360	12.6	2,000	11.8	1,210	6.5	2,790	28.7
3/8	-	3,510	48	3,160	41.3	1,990	14.3	1,990	12.2	1,680	11.6	1,020	6.2	2,340	24.5
-	10	3,350	51.6	3,010	43.3	1,890	16.1	1,890	11.8	1,600	11.4	970	6.1	2,230	24.8
7/16	-	3,010	46	2,710	39.4	1,700	14.5	1,700	11.6	1,440	11.2	870	5.9	2,010	22.6
-	12	2,790	44.1	2,510	40.2	1,580	14.6	1,580	11.4	1,330	11.0	810	5.7	1,860	20.9
1/2	-	2,640	41	2,370	37.7	1,490	13.9	1,490	10.5	1,260	10.3	760	5.6	1,760	20.0
5/8	-	2,110	33	1,890	30.2	1,190	11.0	1,190	8.7	1,010	8.1	610	4.9	1,410	15.7
3/4	-	1,760	27	1,580	25.2	990	9.2	990	6.6	840	6.4	510	4.3	1,170	13.1
1	-	1,320	21	1,180	19.4	740	6.9	740	5.4	630	5.1	380	3.1	880	9.8

List 8200 - A Brand AE-VMS: 4 Flute, Multiple Lengths
List 8205 - A Brand AE-VMS: 4 Flute, Regular Length
List 8225 - A Brand AE-VMS-RA: 4 Flute, Regular Length, Right Angle Type

Side Milling

Hardness		–		Up to 30 HRC		–		–		–		–		30-45 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel		Precipitation Stainless Steel		Titanium Alloy		Ni-Based Alloy Inconel 718		Prehardened Steels Hardened Steels	
Cutting Speed		330-490 SFM		330-490 SFM		200-330 SFM		230-300 SFM		200-260 SFM		80-130 SFM		260-395 SFM	
Depth of Cut		a_a=1.5D a_r=0.2D 													
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/64	-	25,000	20.0	25,000	20.0	25,000	20.0	25000	20.0	25000	20.0	25000	20.0	25,000	20.0
1/32	-	25,000	20.0	25,000	20.0	25,000	20.0	25000	20.0	25000	20.0	12500	10.0	25,000	20.0
-	1	22,298	17.8	22,298	17.8	22,298	17.8	25000	20.0	22300	17.8	9700	7.8	22,298	17.8
3/64	-	18,728	15.0	18,728	15.0	18,728	15.0	21600	17.3	18740	15.0	8150	6.5	18,728	15.0
-	1.5	14,865	17.8	14,865	17.8	14,865	17.8	17140	20.6	14900	17.9	6470	7.8	14,865	17.8
1/16	-	14,046	16.9	14,046	16.9	14,046	16.9	16200	19.4	14050	16.9	6110	7.3	14,046	16.9
5/64	-	11,237	13.5	11,237	13.5	11,237	13.5	13000	15.6	11250	13.5	4890	5.9	11,237	13.5
-	2	11,149	17.8	11,149	17.8	11,149	17.8	12850	20.6	11160	17.9	4850	7.8	11,149	17.8
3/32	-	9,364	15.0	9,364	15.0	9,364	15.0	10800	17.3	9370	15.0	4075	6.5	9,364	15.0
-	2.5	8,919	17.8	8,919	17.8	8,919	17.8	10285	20.6	8930	17.9	3880	7.8	8,919	17.8
7/64	-	8,724	17.4	8,724	17.4	8,724	17.4	9250	18.5	8030	16.1	3500	7.0	8,724	17.4
–	3	13,896	66.7	12,603	40.3	8,079	19.4	9760	20.1	8490	18.9	4240	8.7	10,664	29.9
–	4	10,422	70.9	9,452	45.4	6,059	21.8	7320	21.7	6370	20.9	3180	9.4	7,998	32.0
3/16	–	8,753	59.5	7,939	38.1	5,089	18.3	6110	22.9	5400	22.6	2650	10.2	6,718	26.9
–	5	8,337	80.0	7,562	48.4	4,847	21.3	5860	22.0	5090	21.3	2550	9.8	6,398	35.8
–	6	6,948	83.4	6,302	60.5	4,201	25.2	4880	22.8	4240	21.7	2120	9.8	5,332	42.7
1/4	–	6,565	78.8	5,954	57.2	3,969	23.8	4580	21.4	4050	20.7	1980	9.2	5,038	40.3
5/16	–	5,252	63.0	4,763	45.7	3,176	19.1	3660	20.2	3240	19.6	1590	9.1	4,031	32.2
–	8	5,211	70.9	4,726	60.5	3,151	23.9	3200	17.7	2790	16.9	1590	9.1	3,999	41.6
3/8	–	4,377	59.5	3,969	50.8	2,646	20.1	2700	17.8	2340	16.9	1320	9.0	3,359	34.9
–	10	4,169	65.0	3,781	52.9	2,521	23.2	2560	16.9	2230	16.1	1270	8.7	3,199	35.8
7/16	–	3,751	58.5	3,402	47.6	2,268	20.9	2310	17.8	2000	16.9	1130	8.8	2,879	32.2
–	12	3,474	54.2	3,151	49.2	2,101	21.0	2140	16.5	1860	15.7	1060	8.3	2,666	29.9
1/2	–	3,282	51.2	2,977	46.4	1,985	19.8	2025	15.6	1760	14.9	990	7.8	2,519	28.2
5/8	–	2,656	41.4	2,382	37.2	1,405	14.0	1380	16.2	1220	16.1	700	8.3	2,015	22.6
–	16	2,600	49.2	2,400	41.7	1,400	17.7	1370	16.1	1190	15.7	700	8.3	2,000	25.2
3/4	–	2,214	41.6	1,985	34.1	1,170	15.0	1150	16.1	1020	16.1	585	8.3	1,679	20.8
–	20	2,100	39.8	1,900	33.1	1,100	14.6	1100	15.4	950	15.0	560	7.9	1,600	20.1
–	25	1,700	32.3	1,500	26.0	900	12.2	880	20.1	760	19.3	320	7.5	1,300	16.5
1	–	1,660	31.2	1,469	25.3	878	11.9	860	19.6	765	19.4	325	7.6	1,260	16.1

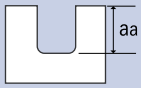
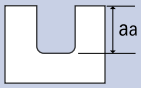
1. The above milling condition is a guidline for overhang length 3xD.
2. Use a rigid and precise machine and holder.
3. The rotational speed is calculated by the median of the recommended cutting speed. Adjustments may be necessary depending on the rigidity or the workpiece, fixture, and machine.
4. Please use a suitable fluid with high smoke retardant properties.
5. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
6. Please use water-soluble coolant when machining stainless steel.
7. Reduce speed and feed as well as depth of cut when high precision is required.
8. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to Parameter Reduction Chart below).

Parameter Reduction Chart by Length to Diameter Ratio

Hardness		–		Up to 30 HRC		–		–		–		–		30-45 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel		Precipitation Stainless Steel		Titanium Alloy		Ni-Based Alloy Inconel 718		Prehardened Steels Hardened Steels	
L/D		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Slotting	4	80%		70%		60%		60%		50%		50%		70%	
	5	70%		60%		50%		50%		50%		50%		60%	
Side Milling	4	90%		90%		70%		70%		60%		60%		80%	
	5	80%		80%		70%		70%		60%		60%		70%	

List 8200 - A Brand AE-VMS: 4 Flute, Multiple Lengths (Cont.)
List 8205 - A Brand AE-VMS: 4 Flute, Regular Length (Cont.)
List 8225 - A Brand AE-VMS-RA: 4 Flute, Regular Length, Right Angle Type (Cont.)

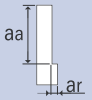
Slotting

Hardness		–		Up to 30 HRC		–		–		–		–		30-45 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel		Precipitation Stainless Steel		Titanium Alloy		Ni-Based Alloy Inconel 718		Prehardened Steels Hardened Steels	
Cutting Speed		260-395 SFM		230-360 SFM		160-260 SFM		200-260 SFM		165-230 SFM		65-100 SFM		195-330 SFM	
Depth of Cut		a_a=1.0D				D≤6, a_a=0.5D D>6, a_a=1.0D		a_a=0.25D						a_a=1.0D	
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/64	-	25,000	10.0	25,000	10.0	25,000	10.0	25000	10.0	25000	10.0	19500	7.8	25,000	10.0
1/32	-	25,000	10.0	25,000	10.0	24,427	19.5	25000	10.0	24400	9.8	9780	3.9	25,000	10.0
-	1	25,000	20.0	25,000	20.0	19,389	15.5	22300	17.8	19400	15.5	7760	6.2	22,298	17.8
3/64	-	24,427	19.5	21,578	17.3	16,285	13.0	18740	15.0	16300	13.0	6520	5.2	18,728	15.0
-	1.5	19,389	23.3	17,127	20.6	12,926	15.5	14880	17.9	12900	15.5	5175	6.2	14,865	17.8
1/16	-	18,321	22.0	16,183	19.4	12,214	14.7	14060	16.9	12220	14.7	4890	5.9	14,046	16.9
5/64	-	14,656	17.6	12,947	15.5	9,771	15.6	11250	13.5	9780	11.7	3900	4.7	11,237	13.5
-	2	14,542	23.3	12,845	20.6	9,695	15.5	11160	17.9	9700	15.5	3880	6.2	11,149	17.8
3/32	-	12,214	19.5	10,789	17.3	8,142	19.5	9370	15.0	8150	13.0	3260	5.2	9,364	15.0
-	2.5	11,634	32.6	10,276	24.7	7,756	18.6	8930	17.9	7760	15.5	3100	6.2	8,919	17.8
7/64	-	10,469	29.3	9,248	22.2	8,201	19.7	8030	16.1	6985	14.0	2800	5.6	8,026	16.1
–	3	10,664	38.4	8,564	24.0	7,594	18.2	8540	16.9	7430	16.1	3180	6.3	7,433	17.8
–	4	7,998	38.4	7,150	28.6	5,696	20.5	6410	18.1	5570	17.3	2390	6.7	5,574	17.8
3/16	–	6,718	32.2	6,005	24.0	4,784	17.2	5400	20.4	4685	19.4	2040	7.6	4,682	15.0
–	5	6,398	41.0	5,720	32.0	4,556	21.9	5120	19.3	4460	18.5	1910	7.1	4,460	21.4
–	6	5,332	42.7	4,767	34.3	3,797	15.2	4270	18.9	3710	18.1	1590	7.1	3,716	23.8
1/4	–	5,038	40.3	4,504	32.4	3,588	14.4	4050	17.9	3510	17.1	1530	6.8	3,511	22.5
5/16	–	4,031	32.2	3,603	25.9	2,870	14.9	3240	20.9	2810	19.9	1220	7.3	2,809	18.0
–	8	3,999	35.2	3,575	28.6	2,848	14.8	2750	17.7	2390	16.9	1190	7.1	2,787	22.3
3/8	–	3,359	29.6	3,003	24.0	2,392	13.4	2340	17.6	2040	16.8	1020	8.5	2,341	18.7
–	10	3,199	33.3	2,860	27.5	2,278	14.6	2200	16.5	1910	15.7	950	7.9	2,230	19.6
7/16	–	2,879	29.9	2,574	24.7	2,050	13.9	2000	18.0	1745	17.2	870	7.7	2,007	17.7
–	12	2,666	32.0	2,383	25.7	1,899	12.9	1830	16.5	1590	15.7	800	7.1	2,101	21.8
1/2	–	2,519	30.2	2,252	24.3	1,794	12.2	1760	15.9	1530	15.1	765	6.8	1,985	20.6
5/8	–	2,015	24.2	1,802	19.5	1,221	12.2	1160	10.4	1000	9.9	520	4.5	1,588	16.5
–	16	2,000	23.6	1,800	19.7	1,200	12.2	1140	10.2	990	9.8	500	4.3	1,600	16.5
3/4	–	1,679	20.2	1,476	15.9	1,018	11.0	970	11.2	840	10.7	430	5.1	1,349	14.0
–	20	1,600	18.9	1,400	15.4	900	9.8	920	10.6	800	10.2	400	4.7	1,300	13.4
–	25	1,300	15.4	1,100	12.2	600	6.7	730	9.8	640	9.4	250	3.5	1,000	10.2
1	–	1,260	15.1	1,088	12.2	592	6.6	725	9.7	630	9.3	245	3.4	992	10.3

1. The above milling condition is a guidline for overhang length 3xD.
2. Use a rigid and precise machine and holder.
3. The rotational speed is calculated by the median of the recommended cutting speed. Adjustments may be necessary depending on the rigidity or the workpiece, fixture, and machine.
4. Please use a suitable fluid with high smoke retardant properties.
5. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
6. Please use water-soluble coolant when machining stainless steel.
7. Reduce speed and feed as well as depth of cut when high precision is required.
8. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to Parameter Reduction Chart previous page).

List 8201 & 8207 - A Brand AE-VML: Multi-Flute, Long Length
List 8202 & 8208 - A Brand AE-NIK-VML: Multi-Flute, Long Length, Nicked
List 8271 & 8277 - A Brand AE-CR-VML: 4 Flute, Long Length, Corner Radius

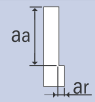
3D Side Milling (Ar=0.05D)

Hardness	–	Up to 30 HRC	30-45 HRC	–	–	–	–
Work Material	Mild Steels Carbon Steels Cast Iron	Tool Steel Alloy Steel	Pre-Hardened & Hardened Steel P20, H13	Stainless Steel 300, 400 (<=200HB)	Precipitation Hardened Stainless Steel	Titanium Alloy Ti-6Al-4V	Ni-Based Alloy Inconel 718
Cutting Speed	525 (450-590) SFM	490 (425-560) SFM	460 (390-525) SFM	410 (330-460) SFM	375 (295-425) SFM	345 (260-395) SFM	280 (230-295) SFM
Depth of Cut	aa=3D ar=0.05D 						

Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
inch	mm														
-	6	8500	97.6	8000	85.8	7400	79.1	6600	65.4	6100	60.2	5600	55.1	4500	42.5
1/4	-	8031	93.2	7557	81.6	6992	75.5	6229	62.3	5725	57.3	5267	52.7	4275	41.0
5/16	-	6424	74.5	6046	65.3	5594	60.4	4983	49.8	4580	45.8	4214	42.1	3420	32.8
-	8	6400	73.6	6000	64.2	5600	59.8	5000	49.6	4600	45.7	4200	41.3	3400	32.3
3/8	-	5374	62.3	5038	54.4	4702	50.8	4204	42.0	3817	42.7	3511	37.9	2850	29.6
-	10	5100	68.1	4800	56.7	4500	53.1	4000	44.1	3700	40.9	3300	36.2	2700	28.3
-	12	4200	56.3	4000	47.2	3700	43.7	3300	36.2	3000	33.1	2800	30.7	2200	23.2
1/2	-	3969	54.0	3779	45.3	3496	42.0	3115	33.6	2863	32.1	2634	28.4	2137	22.2
5/8	-	3206	62.5	2992	53.9	2809	50.6	2504	36.3	2290	36.6	2107	33.7	1710	24.8
-	16	3180	62.6	2990	53.1	2790	49.6	2490	36.2	2290	36.2	2090	33.1	1690	24.8
3/4	-	2672	53.4	2494	44.9	2341	42.1	2087	30.3	1908	29.6	1756	28.1	1425	20.7
-	20	2550	50.4	2390	42.5	2230	39.4	1990	28.7	1830	28.7	1670	26.4	1350	20.1
1	-	2004	40.1	1870	33.7	1756	30.7	1565	22.7	1431	22.2	1317	21.1	1069	16.0

1. Use a rigid and precise machine and holder.
2. The rotational speed is calculated by the median of the recommended cutting speed.
   Adjustment may be necessary depending on the rigidity of the workpiece fixture and machine.
3. Please use a suitable fluid with high smoke retardant properties.
4. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
5. Please use water-soluble coolant when machining stainless steel, precipitation stainless steel, titanium alloy, Ni-based alloy.
6. Reduce speed and feed as well as depth of cut when high precision is required.

3D Side Milling (Ar=0.1D)

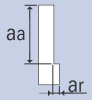
Hardness	–	Up to 30 HRC	30-45 HRC	–	–	–
Work Material	Mild Steels Carbon Steels Cast Iron	Tool Steel Alloy Steel	Pre-Hardened & Hardened Steel P20, H13	Stainless Steel 300, 400 (<=200HB)	Precipitation Hardened Stainless Steel	Titanium Alloy Ti-6Al-4V
Cutting Speed	720 (655-790) SFM	560 (490-620) SFM	440 (360-490) SFM	425 (360-490) SFM	395 (325-460) SFM	360 (295-425) SFM
Depth of Cut	aa=3D ar=0.1D 					

Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
inch	mm												
-	6	11700	125.2	9000	89.4	7200	71.3	6900	63.0	6400	58.3	5800	52.8
1/4	-	11053	119.4	8504	85.0	6809	68.1	6519	60.0	6031	55.5	5496	50.6
5/16	-	8843	95.5	6803	68.0	5447	54.5	5215	48.0	4824	44.4	4397	40.5
-	8	8800	94.1	6800	67.3	5400	53.5	5200	47.6	4800	44.1	4400	40.2
3/8	-	7389	79.8	5710	57.1	4539	45.4	4366	40.2	4020	41.8	3664	38.1
-	10	7000	88.2	5400	59.4	4300	47.2	4100	42.1	3800	39.0	3500	35.8
-	12	5800	73.2	4500	49.6	3600	39.8	3500	35.8	3200	32.7	2900	29.5
1/2	-	5481	70.2	4252	47.6	3405	38.1	3305	34.4	3015	31.4	2748	27.5
5/8	-	4397	76.9	3420	53.0	2687	43.0	2595	36.3	2412	33.8	2198	30.8
-	16	4380	77.6	3380	53.1	2690	42.5	2590	35.8	2390	33.1	2190	30.3
3/4	-	3664	66.0	2850	44.2	2239	34.7	2163	29.2	2010	28.1	1832	24.7
-	20	3500	62.2	2710	42.5	2150	33.9	2070	28.3	1910	26.4	1750	24.0
1	-	2748	49.5	2137	33.1	1679	26.0	1622	21.9	1508	21.1	1374	18.5

1. For Ni-based alloys, use the standard side milling cutting condition table above.

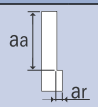
List 8201 & 8207 - A Brand AE-VML: Multi-Flute, Long Length (Cont.)
List 8202 & 8208 - A Brand AE-NIK-VML: Multi-Flute, Long Length, Nicked (Cont.)
List 8271 & 8277 - A Brand AE-CR-VML: 4 Flute, Long Length, CR (Cont.)

3D Side Milling (Ar=0.15D)

Hardness		–		Up to 30 HRC		30-45 HRC		–		–		–	
Work Material		Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Pre-Hardened & Hardened Steel P20, H13		Stainless Steel 300, 400 (<=200HB)		Precipitation Hardened Stainless Steel		Titanium Alloy Ti-6Al-4V	
Cutting Speed		460 (395-525) SFM		330 (260-395) SFM		295 (230-360) SFM		280 (195-330) SFM		395 (325-460) SFM		210 (130-260) SFM	
Depth of Cut		aa=3D ar=0.15D 											
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
inch	mm												
-	6	7400	73.2	5600	51.2	4800	43.7	4500	37.4	4000	33.1	3400	28.3
1/4	-	6992	69.9	5298	48.7	4534	41.7	4260	35.8	6031	50.7	3206	26.9
5/16	-	5594	55.9	4238	39.0	3627	33.4	3408	28.6	4824	40.5	2565	21.5
-	8	5600	55.5	4200	38.2	3600	33.1	3400	28.3	3000	25.2	2600	21.7
3/8	-	4702	47.0	3532	32.5	3023	27.8	2860	24.0	4020	38.6	2137	20.5
-	10	4500	53.1	3300	33.9	2900	29.5	2700	25.6	2400	22.8	2100	20.1
-	12	3700	43.7	2800	28.7	2400	24.4	2300	21.7	2000	18.9	1700	16.1
1/2	-	3496	42.0	2649	27.5	2267	22.7	2176	20.9	3015	28.9	1603	15.4
5/8	-	2809	44.9	2015	28.2	1802	25.2	1710	23.1	2412	32.6	1282	16.7
-	16	2790	44.1	1990	27.6	1790	24.8	1690	22.4	1490	20.1	1290	16.5
3/4	-	2341	36.3	1679	23.5	1501	21.0	1425	19.2	2010	27.1	1069	13.9
-	20	2230	35.0	1590	22.0	1430	19.7	1350	18.1	1190	15.7	1040	13.4
1	-	1756	27.2	1260	17.6	1126	15.8	1069	14.4	1508	19.6	802	10.4

1. For Ni-based alloys, use the standard side milling cutting condition table on page 1340.

3D Side Milling (Ar=0.2D)

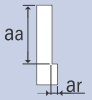
Hardness		–		Up to 30 HRC		30-45 HRC		–		–		–	
Work Material		Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Pre-Hardened & Hardened Steel P20, H13		Stainless Steel 300, 400 (<=200HB)		Precipitation Hardened Stainless Steel		Titanium Alloy Ti-6Al-4V	
Cutting Speed		330 (260-395) SFM		260 (195-330) SFM		230 (165-295) SFM		210 (130-260) SFM		180 (95-230) SFM		145 (65-195) SFM	
Depth of Cut		aa=3D ar=0.2D 											
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
inch	mm												
-	6	5300	48.4	4200	35.0	3700	30.7	3500	26.4	2900	22.0	2400	18.1
1/4	-	5008	46.1	3969	33.3	3496	29.4	3313	25.2	2748	20.9	2214	16.8
5/16	-	4006	36.9	3176	26.7	2797	23.5	2650	20.1	2198	16.7	1771	13.5
-	8	4000	36.6	3200	26.8	2800	23.2	2600	19.7	2200	16.5	1800	13.8
3/8	-	3359	30.9	2687	22.6	2351	19.7	2188	16.6	1832	15.4	1476	13.0
-	10	3200	35.4	2500	23.6	2200	20.9	2100	18.1	1800	15.4	1400	12.2
-	12	2700	29.9	2100	19.7	1900	18.1	1700	14.6	1500	13.0	1200	10.2
1/2	-	2550	28.6	1985	18.3	1794	17.2	1603	13.5	1374	12.1	1107	9.3
5/8	-	2015	32.2	1588	22.2	1405	19.7	1282	16.7	1099	13.7	885	10.6
-	16	1990	31.5	1590	22.0	1390	19.3	1290	16.5	1090	13.8	900	10.6
3/4	-	1679	26.9	1323	17.9	1170	16.4	1069	13.9	916	11.9	738	8.9
-	20	1590	25.2	1270	17.3	1110	15.4	1040	13.4	880	11.4	720	8.7
1	-	1260	20.2	992	13.4	878	12.3	802	10.4	687	8.9	553	6.6

1. For Ni-based alloys, use the standard side milling cutting condition table on page 1340.

CONTINUED

List 8201 & 8207 - A Brand AE-VML: Multi-Flute, Long Length (Cont.)
List 8202 & 8208 - A Brand AE-NIK-VML: Multi-Flute, Long Length, Nicked (Cont.)
List 8271 & 8277 - A Brand AE-CR-VML: 4 Flute, Long Length, CR (Cont.)

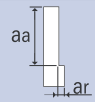
4D Side Milling (Ar=0.05D)

Hardness	–	Up to 30 HRC	30-45 HRC	–	–	–	–
Work Material	Mild Steels Carbon Steels Cast Iron	Tool Steel Alloy Steel	Pre-Hardened & Hardened Steel P20, H13	Stainless Steel 300, 400 (<=200HB)	Precipitation Hardened Stainless Steel	Titanium Alloy Ti-6Al-4V	Ni-Based Alloy Inconel 718
Cutting Speed	460 (395-525) SFM	425 (360-490) SFM	395 (330-460) SFM	375 (295-425) SFM	345 (260-395) SFM	310 (230-360) SFM	245 (195-260) SFM
Depth of Cut	aa=4D ar=0.05D 						

Mill Dia. inch	Mill Dia. mm	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
-	6	7400	79.1	6900	68.5	6400	63.4	6100	55.9	5600	51.2	5000	45.7	4000	34.6
1/4	-	6992	75.5	6519	65.2	6046	60.5	5771	53.1	5267	48.5	4733	43.5	3740	32.9
5/16	-	5594	60.4	5582	55.8	4837	48.4	4617	42.5	4214	38.8	3786	34.8	2992	26.3
-	8	5600	59.8	5200	51.6	4800	47.6	4600	42.1	4200	38.6	3800	34.6	3000	26.0
3/8	-	4702	50.8	4366	43.7	4031	40.3	3868	35.6	3511	36.5	3155	32.8	2494	21.9
-	10	4500	56.7	4100	48.4	3800	44.9	3700	37.8	3300	33.9	3000	30.7	2400	23.2
-	12	3700	46.5	3500	41.3	3200	37.8	3100	31.9	2800	28.7	2500	25.6	2000	19.7
1/2	-	3496	43.4	3305	39.7	3023	36.3	2931	30.5	2634	27.4	2366	24.6	1870	18.7
5/8	-	2809	53.4	2595	46.7	2412	43.4	2290	34.4	2107	30.5	1893	28.4	1496	20.2
-	16	2790	52.4	2590	46.1	2390	42.5	2290	33.9	2090	30.7	1890	28.0	1490	20.5
3/4	-	2341	43.3	2163	37.8	2010	35.2	1908	28.6	1756	26.3	1578	23.7	1247	17.5
-	20	2230	41.7	2070	36.6	1910	33.9	1830	27.2	1670	24.8	1510	22.4	1190	16.5
1	-	1756	32.5	1622	28.4	1508	26.4	1431	21.5	1317	19.8	1183	17.7	935	13.1

1. Use a rigid and precise machine and holder.
2. The rotational speed is calculated by the median of the recommended cutting speed.
   Adjustment may be necessary depending on the rigidity of the workpiece fixture and machine.
3. Please use a suitable fluid with high smoke retardant properties.
4. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
5. Please use water-soluble coolant when machining stainless steel, precipitation stainless steel, titanium alloy, Ni-based alloy.
6. Reduce speed and feed as well as depth of cut when high precision is required.

4D Side Milling (Ar=0.1D)

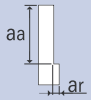
Hardness	–	Up to 30 HRC	30-45 HRC	–	–	–
Work Material	Mild Steels Carbon Steels Cast Iron	Tool Steel Alloy Steel	Pre-Hardened & Hardened Steel P20, H13	Stainless Steel 300, 400 (<=200HB)	Precipitation Hardened Stainless Steel	Titanium Alloy Ti-6Al-4V
Cutting Speed	655 (590-720) SFM	525 (460-590) SFM	425 (360-490) SFM	410 (360-460) SFM	375 (295-425) SFM	345 (260-395) SFM
Depth of Cut	aa=4D ar=0.1D 					

Mill Dia. inch	Mill Dia. mm	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
-	6	10600	105.1	8500	77.6	6900	63.0	6600	55.1	6100	50.8	5600	46.9
1/4	-	10015	100.2	8031	73.9	6519	60.0	6229	52.3	5725	48.1	5267	44.2
5/16	-	8012	80.1	6424	59.1	5215	48.0	4983	41.9	4580	38.5	4214	35.4
-	8	8000	79.5	6400	58.3	5200	47.6	5000	41.7	4600	38.6	4200	35.0
3/8	-	6718	67.2	5374	49.4	4366	40.2	4204	35.3	3817	36.6	3511	33.7
-	10	6400	75.6	5100	52.4	4100	42.1	4000	37.8	3700	35.0	3300	31.1
-	12	5300	62.6	4200	42.9	3500	35.8	3300	31.1	3000	28.3	2800	26.4
1/2	-	5008	60.1	3969	41.3	3305	34.4	3115	29.9	2863	27.5	2634	25.3
5/8	-	4000	66.0	3206	46.5	2595	37.6	2504	35.1	2290	32.1	2107	29.5
-	16	3980	66.5	3180	46.9	2590	38.2	2490	34.3	2290	31.5	2090	28.7
3/4	-	3333	55.0	2672	40.1	2163	32.4	2087	29.2	1908	26.7	1756	23.7
-	20	3180	53.1	2550	37.8	2070	30.7	1990	27.6	1830	25.2	1670	22.8
1	-	2500	41.3	2004	30.1	1622	24.3	1565	21.9	1431	20.0	1317	17.8

1. For Ni-based alloys, use the standard side milling cutting condition table above.

List 8201 & 8207 - A Brand AE-VML: Multi-Flute, Long Length (Cont.)
List 8202 & 8208 - A Brand AE-NIK-VML: Multi-Flute, Long Length, Nicked (Cont.)
List 8271 & 8277 - A Brand AE-CR-VML: 4 Flute, Long Length, CR (Cont.)

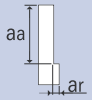
4D Side Milling (Ar=0.15D)

Hardness		–		Up to 30 HRC		30-45 HRC		–		–		–	
Work Material		Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Pre-Hardened & Hardened Steel P20, H13		Stainless Steel 300, 400 (<=200HB)		Precipitation Hardened Stainless Steel		Titanium Alloy Ti-6Al-4V	
Cutting Speed		440 (360-490) SFM		375 (330-460) SFM		280 (195-330) SFM		245 (160-295) SFM		210 (165-260) SFM		180 (130-230) SFM	
Depth of Cut		aa=4D ar=0.15D 											
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
inch	mm												
-	6	7200	65.7	6100	50.8	4500	37.4	4000	30.3	3400	25.6	2900	22.0
1/4	-	6809	62.6	5771	48.5	4260	35.8	3786	28.8	3206	24.4	2748	20.9
5/16	-	5447	50.1	4617	38.8	3408	28.6	3029	23.0	2565	19.5	2198	16.7
-	8	5400	49.2	4600	38.6	3400	28.3	3000	22.8	2600	19.7	2200	16.9
3/8	-	4539	41.8	3868	32.5	2860	24.0	2524	19.2	2137	18.8	1832	16.1
-	10	4300	47.2	3700	35.0	2700	25.6	2400	20.9	2100	18.1	1800	15.7
-	12	3600	39.8	3100	29.1	2300	21.7	2000	17.3	1700	14.6	1500	13.0
1/2	-	3405	38.1	2931	27.0	2176	20.9	1893	16.7	1603	13.5	1374	12.1
5/8	-	2687	43.0	2290	32.1	1710	23.1	1496	18.7	1282	16.7	1099	13.2
-	16	2690	42.5	2290	31.5	1690	23.2	1490	18.9	1290	16.5	1090	13.0
3/4	-	2239	34.7	1908	26.7	1425	19.2	1247	16.2	1069	13.9	916	10.5
-	20	2150	33.9	1830	25.2	1350	18.5	1190	15.4	1040	13.4	880	10.2
1	-	1679	26.0	1431	20.0	1069	14.4	935	12.2	802	10.4	687	7.9

1. For Ni-based alloys, use the standard side milling cutting condition table on page 1342.

List 8245 - A Brand AE-VMFE: SQ, 4 Flute
List 8246 - A Brand AE-CR-VMFE: CR, 4 Flute

Side Milling

Hardness	–	Up to 30 HRC	–	–	–	–	30-45 HRC
Work Material	Mild Steels Carbon Steels Cast Iron	Tool Steel Alloy Steel	Stainless Steel	Precipitation Stainless Steel	Titanium Alloy	Ni-Based Alloy Inconel 718	Prehardened Steels Hardened Steels
Cutting Speed	330-460 SFM	330-460 SFM	330-460 SFM	330-430 SFM	300-400 SFM	200-260 SFM	330-460 SFM
Depth of Cut	a_a=2.0D a_r=0.1D 						

Mill Dia. (Inch)	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
6.0	6,392	99.7	6,392	89.5	6,392	76.7	6149	64.0	5664	54.4	3722	31.3	6,392	81.8
8.0	4,794	74.8	4,794	67.1	4,794	57.5	4612	48.0	4248	40.8	2791	23.4	4,794	61.4
10.0	3,835	59.8	3,835	53.7	3,835	46.0	3690	38.4	3398	32.6	2233	18.8	3,835	49.1
12.0	3,196	49.9	3,196	44.7	3,196	38.4	3075	32.0	2832	27.2	1861	15.6	3,196	40.9

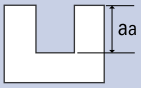
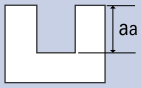
1. The above milling condition is a guidline for overhang length 5xD.
2. Use a rigid and precise machine and holder.
3. Please use a suitable fluid with high smoke retardant properties.
4. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
5. Please use water-soluble coolant when machining stainless steel, precipitation stainless steel, titanium alloy, Ni-based alloy.
6. Reduce speed and feed as well as depth of cut when high precision is required.
7. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to Parameter Reduction Chart below).

Parameter Reduction Chart by Length to Diameter Ratio

Hardness				–		Up to 30 HRC		–		–		–		–		30-45 HRC	
Work Material				Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel		Precipitation Stainless Steel		Titanium Alloy		Ni-Based Alloy Inconel 718		Prehardened Steels Hardened Steels	
L/D		Depth of Cut Aa	Depth of Cut Ar	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Side Milling	6	1.7D	0.08D	80%		80%		80%		80%		80%		80%		80%	
	7	1.6D	0.05D	65%		65%		65%		65%		65%		65%		65%	
	8	1.5D	0.03D	50%		50%		40%		40%		30%		30%		40%	

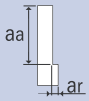
List 8233 - A Brand AE-VTSS: 3 Flute, Stub Length
List 8333 - A Brand AE-VTSS: 3 Flute, Stub Length

Slotting

Hardness		–		Up to 30 HRC		30-45 HRC		–		–		–	
Work Material		Mild Steels Carbon Steels Cast Iron		Alloys Steel Tool Steel		Prehardened Steel Hardened Steel		Stainless Steel		Precipitation Stainless Steel		Titanium Alloy	
Cutting Speed		330 SFM		230 SFM		200 SFM		200 SFM		165 SFM		165 SFM	
Depth of Cut		a_a=0.5xD 								a_a=0.25xD 			
Mill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
Inch	mm	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min
–	3	10,600	25.6	7,400	18.9	6,400	13.8	6,400	13.0	5,300	11.8	5,300	11.0
1/8	–	10,076	25.7	7,011	18.9	6,107	13.7	6,107	13.7	5,038	12.1	5,038	12.1
–	4	8,000	26.4	5,600	19.7	4,800	13.8	4,800	13.4	4,000	12.6	4,000	12.2
3/16	–	6,718	26.2	4,674	21.0	4,071	14.7	4,071	15.9	3,359	12.1	3,359	13.1
–	5	6,400	28.0	4,500	22.0	3,800	16.5	3,800	15.4	3,200	13.4	3,200	13.0
–	6	5,300	29.1	3,700	24.4	3,200	18.1	3,200	10.2	2,700	13.0	2,700	12.6
1/4	–	5,038	30.2	3,505	24.2	3,053	18.3	3,053	10.5	2,519	13.2	2,519	12.8
5/16	–	4,031	24.2	2,804	19.3	2,443	17.6	2,443	10.3	2,015	12.1	2,015	11.5
–	8	4,000	24.8	2,800	19.7	2,400	17.3	2,400	10.2	2,000	12.2	2,000	11.8
3/8	–	3,359	23.2	2,337	19.6	2,036	15.3	2,036	9.8	1,679	11.6	1,679	11.1
–	10	3,200	22.8	2,200	19.3	1,900	15.0	1,900	9.4	1,600	11.4	1,600	11.0
–	12	2,700	22.0	1,900	18.1	1,600	15.0	1,600	9.1	1,300	11.4	1,300	11.0
1/2	–	2,519	21.9	1,753	17.9	1,527	15.3	1,527	9.2	1,260	11.3	1,260	11.3

1. Use a rigid and precise machine and holder.
2. The rotational speed is calculated by the median of the recommended cutting speed.
3. Please use a suitable fluid with smoke retardant properties.
4. During dry (no fluid) milling, please use air blow to remove disposable cihps from the milling area and to eliminate chip packing.
5. Please use water soluble coolant when machining stainless steel, precipitation stainless steel, and titanium alloy.
6. Reduce speed and feed as well as depth of cut when high precision is required.

Side Milling

Hardness		–		Up to 30 HRC		30-45 HRC		–		–		–	
Work Material		Mild Steels Carbon Steels Cast Iron		Alloys Steel Tool Steel		Prehardened Steel Hardened Steel		Stainless Steel		Precipitation Stainless Steel		Titanium Alloy	
Cutting Speed		330 SFM		295 SFM		200 SFM		200 SFM		165 SFM		165 SFM	
Depth of Cut		a_a=1xD a_r=0.2xD 											
Mill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
Inch	mm	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min
–	3	10,600	37.8	9,600	24.0	6,400	18.1	6,400	12.2	5,300	13.0	5,300	12.2
1/8	–	10,076	36.3	9,014	24.3	6,107	18.3	6,107	12.8	5,038	13.6	5,038	12.1
–	4	8,000	41.7	7,200	25.6	4,800	18.9	4,800	9.8	4,000	14.2	4,000	13.4
3/16	–	6,718	42.3	6,009	25.2	4,071	18.3	4,071	9.8	3,359	14.1	3,359	14.1
–	5	6,400	45.3	5,700	27.2	3,800	21.3	3,800	14.6	3,200	14.6	3,200	13.4
–	6	5,300	46.9	4,800	34.3	3,200	24.8	3,200	16.5	2,700	15.0	2,700	14.2
1/4	–	5,038	46.9	4,507	35.2	3,053	24.7	3,053	16.5	2,519	15.1	2,519	14.4
5/16	–	4,031	39.9	3,605	33.5	2,443	24.9	2,443	16.1	2,015	11.5	2,015	10.9
–	8	4,000	40.2	3,600	34.3	2,400	24.4	2,400	15.7	2,000	11.8	2,000	11.0
3/8	–	3,359	37.3	3,005	30.6	2,036	20.8	2,036	15.9	1,679	11.1	1,679	10.6
–	10	3,200	37.8	2,900	30.7	1,900	20.9	1,900	15.0	1,600	11.0	1,600	10.6
–	12	2,700	31.9	2,400	28.3	1,600	17.3	1,600	14.2	1,300	11.0	1,300	9.8
1/2	–	2,519	30.2	2,253	26.4	1,527	16.5	1,527	13.7	1,260	11.0	1,260	9.8

1. Use a rigid and precise machine and holder.
2. The rotational speed is calculated by the median of the recommended cutting speed.
3. Please use a suitable fluid with smoke retardant properties.
4. During dry (no fluid) milling, please use air blow to remove disposable cihps from the milling area and to eliminate chip packing.
5. Please use water soluble coolant when machining stainless steel, precipitation stainless steel, and titanium alloy.
6. Reduce speed and feed as well as depth of cut when high precision is required.

CONTINUED

List 8233 - A Brand AE-VTSS: 3 Flute, Stub Length
List 8333 - A Brand AE-VTSS: 3 Flute, Stub Length

Plunging

Hardness		–		Up to 30 HRC		30-45 HRC		–		–		–	
Work Material		Mild Steels Carbon Steels Cast Iron		Alloys Steel Tool Steel		Prehardened Steel Hardened Steel		Stainless Steel		Precipitation Stainless Steel		Titanium Alloy	
Cutting Speed		330 SFM		230 SFM		200 SFM		200 SFM		165 SFM		165 SFM	
Depth of Cut		$a_a \leq 0.5xD$ 											
Mill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
Inch	mm	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min
–	3	10,600	9.8	7,400	4.5	6,400	4.3	6,400	4.3	5,300	2.4	5,300	2.4
1/8	–	10,076	10.1	7,011	4.4	6,107	4.6	6,107	4.6	5,038	2.5	5,038	2.5
–	4	8,000	9.8	5,600	4.5	4,800	4.3	4,800	4.3	4,000	2.4	4,000	2.4
3/16	–	6,718	10.1	4,674	4.4	4,071	4.6	4,071	4.6	3,359	2.5	3,359	2.5
–	5	6,400	11.2	4,500	4.7	3,800	4.3	3,800	4.3	3,200	2.6	3,200	2.6
–	6	5,300	12.6	3,700	4.7	3,200	4.3	3,200	4.3	2,700	2.8	2,700	2.8
1/4	–	5,038	12.6	3,505	4.4	3,053	4.6	3,053	4.6	2,519	2.5	2,519	2.5
5/16	–	4,031	12.6	2,804	4.4	2,443	3.8	2,443	4.6	2,015	2.5	2,015	2.5
–	8	4,000	11.8	2,800	4.3	2,400	3.9	2,400	3.9	2,000	2.6	2,000	2.6
3/8	–	3,359	11.3	2,337	4.4	2,036	3.8	2,036	3.8	1,679	2.5	1,679	2.5
–	10	3,200	11.4	2,200	4.1	1,900	3.7	1,900	3.7	1,600	2.4	1,600	2.4
–	12	2,700	10.8	1,900	3.9	1,600	3.5	1,600	3.5	1,300	2.2	1,300	2.2
1/2	–	2,519	10.1	1,753	3.5	1,527	3.8	1,527	3.8	1,260	2.5	1,260	2.5

1. Use a rigid and precise machine and holder.
2. The rotational speed is calculated by the median of the recommended cutting speed.
3. Please use a suitable fluid with smoke retardant properties.
4. During dry (no fluid) milling, please use air blow to remove disposable cihps from the milling area and to eliminate chip packing.
5. Please use water soluble coolant when machining stainless steel, precipitation stainless steel, and titanium alloy.
6. Reduce speed and feed as well as depth of cut when high precision is required.

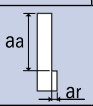
List 8441, 8541: Multi-Flute, Stub Length, Reduced Neck, Square End

Side Milling

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed (SFM)		360 - 425		260 - 330		195 - 260		165 - 230		130 - 200	
Depth of Cut		ap≤1.5D ae≤0.1D ae Max=1mm 		ap≤1.5D ae≤0.05D ae Max=0.5mm				ap≤1.5D ae≤0.03D ae Max=0.3mm			
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm										
1/16	-	24,061	48.1	18,076	35.3	14,046	21.0	12,031	15.8	10,015	9.9
5/64	-	19,249	48.1	14,461	35.3	11,237	21.0	9,624	15.8	8,012	9.9
3/32	-	16,041	48.1	12,051	35.3	9,364	21.0	8,020	15.8	6,677	9.9
7/64	-	13,749	48.1	10,329	35.3	8,026	21.0	6,875	15.8	5,723	9.9
-	3	12,740	48.0	9,550	34.6	7,430	20.9	6,370	15.7	5,310	9.8
1/8	-	12,031	48.1	9,038	35.3	7,023	21.0	6,015	15.8	5,008	9.9
5/32	-	9,624	48.1	7,231	35.3	5,618	21.0	4,812	15.8	4,006	9.9
-	4	9,550	48.0	7,170	35.0	5,570	20.9	4,780	15.7	3,980	9.8
3/16	-	8,020	48.1	6,025	35.3	4,682	21.0	4,010	15.8	3,338	9.9
-	5	7,640	48.0	5,730	36.2	4,460	21.3	3,820	15.7	3,180	9.8
7/32	-	6,875	48.1	5,165	35.3	4,013	21.0	3,437	15.8	2,862	9.9
-	6	6,370	72.0	4,780	53.1	3,720	31.5	3,180	23.6	2,650	15.0
1/4	-	6,015	72.1	4,519	52.9	3,511	31.5	3,008	23.6	2,504	14.9
9/32	-	5,347	72.1	4,017	52.9	3,121	31.5	2,673	23.6	2,226	14.9
5/16	-	4,812	72.1	3,615	52.9	2,809	31.5	2,406	23.6	2,003	14.9
-	8	4,780	72.4	3,580	53.1	2,790	31.5	2,390	23.6	1,990	15.0
3/8	-	4,010	72.1	3,013	52.9	2,341	31.5	2,005	23.6	1,669	14.9
-	10	3,820	72.0	2,870	52.8	2,230	31.5	1,910	23.6	1,590	15.0
7/16	-	3,437	72.1	2,582	52.9	2,007	31.5	1,719	23.6	1,431	14.9
-	12	3,180	72.0	2,390	52.4	1,860	31.5	1,590	23.6	1,330	15.0
1/2	-	3,008	72.1	2,260	52.9	1,756	31.5	1,504	23.6	1,252	14.9

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use an air blow or a suitable cutting fluid with high smoke retardant properties.

High Speed Milling

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed (SFM)		950 - 1,020		785 - 850		490 - 560		425 - 490		295 - 360	
Depth of Cut		ap≤1.5D ae≤0.02D ae Max=0.2mm 						ap≤1.5D ae≤0.01D ae Max=0.1mm			
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm										
1/16	-	50,000	112.5	50,000	112.5	32,122	60.2	28,092	49.2	20,031	28.0
5/64	-	48,171	135.5	40,110	112.8	25,698	60.2	22,473	49.2	16,024	28.0
3/32	-	40,142	135.5	33,425	112.8	21,415	60.2	18,728	49.2	13,354	28.0
7/64	-	34,408	135.5	28,650	112.8	18,356	60.2	16,052	49.2	11,446	28.0
-	3	31,850	135.4	26,540	113.0	16,990	60.2	14,860	46.9	10,620	28.3
1/8	-	30,107	135.5	25,069	112.8	16,061	60.2	14,046	49.2	10,015	28.0
5/32	-	24,085	135.5	20,055	112.8	12,849	60.2	11,237	49.2	8,012	28.0
-	4	23,890	135.4	19,900	113.0	12,740	60.2	11,150	46.9	7,960	28.3
3/16	-	20,071	135.5	16,712	112.8	10,707	60.2	9,364	49.2	6,677	28.0
-	5	19,110	135.4	15,920	113.0	10,190	60.2	8,920	46.9	6,370	28.3
7/32	-	17,204	135.5	14,325	112.8	9,178	60.2	8,026	49.2	5,723	28.0
-	6	15,920	203.1	13,270	169.3	8,490	90.2	7,430	70.1	5,310	42.5
1/4	-	15,053	203.2	12,534	169.2	8,031	90.3	7,023	73.7	5,008	42.1
9/32	-	13,381	203.2	11,142	169.2	7,138	90.3	6,243	73.7	4,451	42.1
5/16	-	12,043	203.2	10,027	169.2	6,424	90.3	5,618	73.7	4,006	42.1
-	8	11,940	203.1	9,950	169.3	6,370	90.2	5,570	69.7	3,980	42.5
3/8	-	10,036	203.2	8,356	169.2	5,354	90.3	4,682	46.0	3,338	42.1
-	10	9,550	203.1	7,960	169.3	5,100	90.2	4,460	46.1	3,180	42.5
7/16	-	8,602	203.2	7,162	169.2	4,589	90.3	4,013	46.0	2,862	42.1
-	12	7,960	203.1	6,630	169.3	4,250	90.2	3,720	46.1	2,650	42.5
1/2	-	7,527	203.2	6,267	169.2	4,015	90.3	3,511	46.0	2,504	42.1

1. Tools can cause sparks. Do not use flammable fluids.
2 Use an air blow or a suitable cutting fluid with high smoke retardant properties.

List 8440, 8540, 8470, 8570: Multi-Flute, Regular Length, Square & Corner Rad.

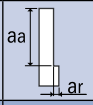
Side Milling

Hardness	Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material	Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed (SFM)	360 - 425		260 - 330		195 - 260		165 - 230		130 - 200	
Depth of Cut	Dia: D≤Ø1.5 aa 1.5D ar 0.02D; Ø1.5<D≤2.5 aa 1.5D ar 0.05D; Ø2.5<D aa 1.5D ar 0.1D; ar Max=1mm		aa 1.5D ar 0.05D; ar Max=1mm		aa 1.5D ar 0.03D; ar Max=0.5mm		aa, ar		aa 1D ar 0.02D; ar Max=0.5mm	
Mill Dia. Inch	Mill Dia. mm	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
-	1	38,220	60.2	28,660	45.3	22,290	24.4	19,110	18.1	15,920	13.0
1/16	-	24,061	60.2	18,076	45.3	14,046	24.4	12,031	18.1	10,015	13.0
-	1.5	25,480	60.2	19,110	45.3	14,860	24.4	12,740	18.1	10,620	13.0
5/64	-	19,249	60.2	14,461	45.3	11,237	24.4	9,624	18.1	8,012	13.0
-	2	19,110	60.2	14,330	45.3	11,150	24.4	9,550	18.1	7,960	13.0
3/32	-	16,041	60.2	12,051	45.3	9,364	24.4	8,020	18.1	6,677	13.0
-	2.5	15,290	60.2	11,460	45.3	8,920	24.4	7,640	18.1	6,370	13.0
7/64	-	13,749	60.2	10,329	45.3	8,026	24.4	6,875	18.1	5,723	13.0
-	3	12,740	60.2	9,550	45.3	7,430	24.4	6,370	18.1	5,310	13.0
1/8	-	12,031	60.2	9,038	45.3	7,023	24.4	6,015	18.1	5,008	13.0
5/32	-	9,624	60.2	7,231	45.3	5,618	24.4	4,812	18.1	4,006	13.0
-	4	9,550	60.2	7,170	45.3	5,570	24.4	4,730	18.1	3,980	13.0
3/16	-	8,020	60.2	6,025	45.3	4,682	24.4	4,010	18.1	3,338	13.0
-	5	7,640	60.2	5,730	45.3	4,460	24.4	3,820	18.1	3,180	13.0
7/32	-	6,875	60.2	5,165	45.3	4,013	24.4	3,437	18.1	2,862	13.0
-	6	6,370	90.2	4,780	67.7	3,720	37.0	3,180	27.2	2,650	20.1
1/4	-	6,015	90.2	4,519	67.7	3,511	37.0	3,008	27.2	2,504	20.1
9/32	-	5,347	90.2	4,017	67.7	3,121	37.0	2,673	27.2	2,226	20.1
5/16	-	4,812	90.2	3,615	67.7	2,809	37.0	2,406	27.2	2,003	20.1
-	8	4,780	90.2	3,580	67.7	2,790	37.0	2,390	27.2	1,990	20.1
3/8	-	4,010	90.2	3,013	67.7	2,341	37.0	2,005	27.2	1,669	20.1
-	10	3,820	90.2	2,870	67.7	2,230	37.0	1,910	27.2	1,590	20.1
7/16	-	3,437	90.2	2,582	67.7	2,007	37.0	1,719	27.2	1,431	20.1
-	12	3,180	90.2	2,390	67.7	1,860	37.0	1,590	27.2	1,330	20.1
1/2	-	3,008	90.2	2,260	67.7	1,756	37.0	1,504	27.2	1,252	20.1
5/8	-	2,406	90.2	1,808	67.7	1,405	37.0	1,203	27.2	1,002	20.1
-	16	2,390	90.2	1,790	67.7	1,390	37.0	1,190	27.2	1,000	20.1
3/4	-	2,005	90.2	1,506	67.7	1,170	37.0	1,003	27.2	835	20.1
-	20	1,910	90.2	1,430	67.7	1,110	37.0	960	27.2	800	20.1
1	-	1,504	90.2	1,130	67.7	878	37.0	752	27.2	626	20.1

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use an air blow or a suitable cutting fluid with high smoke retardant properties.

List 8440, 8540, 8470, 8570: Multi-Flute, Regular Length, Square & Corner Rad. (Cont.)

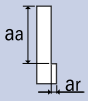
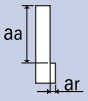
High Speed Milling

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed (SFM)		950 - 1,020		785 - 850		490 - 560		425 - 490		295 - 360	
Depth of Cut		 aa 1D, ar 0.05D; ar Max=0.5mm		aa 1D, ar 0.03D; ar Max=0.5mm		aa 1D, ar 0.02D; ar Max=0.2mm		aa 1D, ar 0.01D; ar Max=0.2mm			
Mill Dia. Inch	Mill Dia. mm	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
-	1	50,000	78.7	50,000	78.7	50,000	63.0	44,590	49.2	31,850	27.6
1/16	-	50,000	125.0	50,000	125.0	32,122	64.2	28,092	49.2	20,031	31.0
-	1.5	50,000	118.1	50,000	118.1	33,970	64.2	29,720	49.2	21,230	29.9
5/64	-	48,171	150.5	40,110	125.3	25,698	64.2	22,473	49.2	16,024	31.0
-	2	47,770	150.4	39,810	125.2	25,480	64.2	22,290	49.2	15,920	31.5
3/32	-	40,142	150.5	33,425	125.3	21,415	64.2	18,728	49.2	13,354	31.0
-	2.5	38,220	150.4	31,850	125.6	20,380	64.2	17,830	49.2	12,740	31.9
7/64	-	34,408	150.5	28,650	125.3	18,356	64.2	16,052	49.2	11,446	31.0
-	3	31,850	150.4	26,540	125.2	16,990	64.2	14,860	49.2	10,620	31.9
1/8	-	30,107	150.5	25,069	125.3	16,061	64.2	14,046	49.2	10,015	31.0
5/32	-	24,085	150.5	20,055	125.3	12,849	64.2	11,237	49.2	8,012	31.0
-	4	23,890	150.4	19,900	125.2	12,740	64.2	11,150	49.2	7,960	31.9
3/16	-	20,071	150.5	16,712	125.3	10,707	64.2	9,364	49.2	6,677	31.0
-	5	19,110	150.4	15,920	125.2	10,190	64.2	8,920	49.2	6,370	31.9
7/32	-	17,204	150.5	14,325	125.3	9,178	64.2	8,026	49.2	5,723	31.0
-	6	15,920	225.6	13,270	188.2	8,490	96.5	7,430	73.6	5,310	47.6
1/4	-	15,053	225.8	12,534	188.0	8,031	96.4	7,023	73.7	5,008	46.6
9/32	-	13,381	225.8	11,142	188.0	7,138	96.4	6,243	73.7	4,451	46.6
5/16	-	12,043	225.8	10,027	188.0	6,424	96.4	5,618	73.7	4,006	46.6
-	8	11,940	225.6	9,950	188.2	6,370	96.5	5,570	73.6	3,980	47.6
3/8	-	10,036	225.8	8,356	188.0	5,354	96.4	4,682	73.7	3,338	46.6
-	10	9,550	225.6	7,960	188.2	5,100	96.5	4,460	73.6	3,180	47.6
7/16	-	8,602	225.8	7,162	188.0	4,589	96.4	4,013	73.7	2,862	46.6
-	12	7,960	225.6	6,630	188.2	4,250	96.5	3,720	73.6	2,650	47.6
1/2	-	7,527	225.8	6,267	188.0	4,015	96.4	3,511	73.7	2,504	46.6
5/8	-	6,021	225.8	5,014	188.0	3,212	96.4	2,809	73.7	2,003	46.6
-	16	5,970	225.8	4,980	188.0	3,180	96.4	2,790	73.7	1,990	46.6
3/4	-	5,018	225.8	4,178	188.0	2,677	96.4	2,340	73.7	1,669	46.6
-	20	4,780	225.8	3,980	188.0	2,550	96.4	2,230	73.7	1,590	46.6
1	-	3,763	225.8	3,134	188.0	2,008	96.4	1,756	73.7	1,252	46.6

1. Tools can cause sparks. Do not use flammable fluids.
2 Use an air blow or a suitable cutting fluid with high smoke retardant properties.

List 8442, 8542: Multi-Flute, Long Length, Square

Side Milling

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed (SFM)		195 SFM		145 SFM		100 SFM		65 SFM		50 SFM	
Depth of Cut		 aa 3D, ar 0.01D; ar Max=0.0079″				 aa 3D, ar 0.005D; ar Max=0.0039″					
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm										
–	3	6,370	25.6	4,780	14.6	3,180	6.7	2,120	3.9	1,590	2.4
1/8	–	5,954	25.3	4,427	14.4	3,053	6.9	1,985	3.9	1,527	2.4
–	4	4,780	25.6	3,580	14.6	2,390	6.7	1,590	3.9	1,190	2.4
3/16	–	3,969	25.3	2,952	14.4	2,036	6.9	1,323	3.9	1,018	2.4
–	5	3,820	25.6	2,870	14.6	1,910	6.7	1,270	3.9	960	2.4
–	6	3,180	38.2	2,390	22.0	1,590	10.2	1,060	5.9	800	3.5
1/4	–	2,977	38.0	2,214	21.6	1,527	10.3	992	5.8	763	3.5
5/16	–	2,382	38.0	1,771	21.6	1,221	10.3	794	5.8	611	3.5
–	8	2,390	38.2	1,790	22.0	1,190	10.2	800	5.9	600	3.5
3/8	–	1,985	38.0	1,476	21.6	1,018	10.3	662	5.8	509	3.5
–	10	1,910	38.2	1,430	22.0	960	10.2	640	5.9	480	3.5
–	12	1,590	38.2	1,190	22.0	800	10.2	530	5.9	400	3.5
1/2	–	1,489	38.0	1,107	21.6	763	10.3	496	5.8	382	3.5

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use an air blow or a suitable cutting fluid with high smoke retardant properties.

List 8830, 8930, 8870, 8970: 3-Flute, Regular Length, Reduced Neck

Slotting

Work Material		Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
Cutting Speed		600 - 1700 SFM		600 - 1700 SFM		400 - 1000 SFM	
Depth of Cut		Aa=1xD				Aa=0.5xD	
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm						
-	1	25,000	25.0	25,000	25.0	25,000	25.0
-	1.5	25,000	37.5	25,000	37.5	25,000	37.5
-	2	25,000	50.0	25,000	50.0	25,000	50.0
-	2.5	25,000	62.5	25,000	62.5	25,000	62.5
-	3	25,000	79.7	25,000	79.7	22,600	72.1
1/8	-	25,000	88.6	25,000	88.6	21,400	75.8
-	4	25,000	102.8	25,000	102.8	17,000	69.9
3/16	-	25,000	118.1	25,000	118.1	14,200	67.1
-	5	25,000	128.4	25,000	128.4	13,600	69.9
-	6	21,000	129.5	21,000	129.5	11,300	69.7
1/4	-	19,800	128.6	19,800	128.6	10,700	69.5
5/16	-	15,900	131.5	15,900	131.5	8,500	70.3
-	8	15,800	129.9	15,800	129.9	8,500	69.9
3/8	-	13,200	124.7	13,200	124.7	7,100	67.1
-	10	12,600	129.5	12,600	129.5	6,800	69.9
-	12	10,500	129.5	10,500	129.5	5,700	70.3
1/2	-	9,900	128.6	9,900	128.6	5,300	68.9

1. The above milling condition is a guideline for the overhang length is 4×D.
2. Use a rigid and precise machine and holder.
3. The indicated speeds and feeds are for milling with water-soluble coolant.
4. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
5. Reduce speed and feed as well as depth of cut when high precision is required.
6. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to p.1352).
7. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

Side Milling

Work Material		Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
Cutting Speed		800 - 2200 SFM		800 - 2200 SFM		600 - 1200 SFM	
Depth of Cut		Aa = 1.5xD Ar = 0.2xD				Aa = 1.5xD Ar = 0.1xD	
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm						
-	1	25,000	25.0	25,000	25.0	25,000	25.0
-	1.5	25,000	37.5	25,000	37.5	25,000	37.5
-	2	25,000	50.0	25,000	50.0	25,000	50.0
-	2.5	25,000	62.5	25,000	62.5	25,000	62.5
-	3	25,000	79.7	25,000	79.7	25,000	79.7
1/8	-	25,000	88.6	25,000	88.6	25,000	88.6
-	4	25,000	102.8	25,000	102.8	21,800	89.6
3/16	-	25,000	118.1	25,000	118.1	18,300	86.5
-	5	25,000	128.4	25,000	128.4	17,500	89.9
-	6	25,000	154.1	25,000	154.1	14,500	89.4
1/4	-	25,000	162.4	25,000	162.4	13,700	89.0
5/16	-	20,800	172.0	20,800	172.0	11,000	90.9
-	8	20,600	169.3	20,600	169.3	10,900	89.6
3/8	-	17,300	163.5	17,300	163.5	9,200	86.9
-	10	16,500	169.5	16,500	169.5	8,700	89.4
-	12	13,700	168.9	13,700	168.9	7,300	90.0
1/2	-	13,000	168.9	13,000	168.9	6,900	89.7

1. The above milling condition is a guideline for the overhang length is 4×D.
2. Use a rigid and precise machine and holder.
3. The indicated speeds and feeds are for milling with water-soluble coolant.
4. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
5. Reduce speed and feed as well as depth of cut when high precision is required.
6. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to p.1352).
7. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

CONTINUED

List 8830, 8930, 8870, 8970: 3-Flute, Regular Length, Reduced Neck (Continued)

Plunging

Work Material		Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
Cutting Speed		495 SFM		495 SFM		248 SFM	
Depth of Cut		Aa = 1xD				Aa = 0.5xD	
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm						
-	1	20000	15.7	20000	15.7	10000	4.7
-	1.5	20000	15.7	20000	15.7	10000	4.7
-	2	20000	15.7	20000	15.7	10000	4.7
-	2.5	20000	15.7	20000	15.7	10000	4.7
-	3	15,900	19.7	15,900	19.7	8,000	5.9
1/8	-	15,110	19.8	15,110	19.8	7,570	6.0
-	4	12,000	19.7	12,000	19.7	6,000	5.9
3/16	-	10,070	19.8	10,070	19.8	5,040	6.0
-	5	9,600	19.7	9,600	19.7	4,800	5.9
-	6	8,000	23.6	8,000	23.6	4,000	7.1
1/4	-	7,550	23.8	7,550	23.8	3,780	7.1
5/16	-	6,040	23.8	6,040	23.8	3,020	7.1
-	8	6,000	27.6	6,000	27.6	3,000	8.3
3/8	-	5,030	27.7	5,030	27.7	2,520	8.2
-	10	4,800	27.6	4,800	27.6	2,400	8.3
-	12	4,000	27.6	4,000	27.6	2,000	8.3
1/2	-	3,770	27.7	3,770	27.7	1,890	8.2

1. The above milling condition is a guideline for the overhang length is 4×D.
2. Use a rigid and precise machine and holder.
3. The indicated speeds and feeds are for milling with water-soluble coolant.
4. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
5. Reduce speed and feed as well as depth of cut when high precision is required.
6. Adjust the speed and feed accordingly when the overhang length is longer than specified (See table below).
7. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

Cutting Condition Guide for Changes in Overhang Length

	Work Material	Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
	L/D	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Slotting	5	70%		70%		70%	
	6	50%		50%		50%	
Side Milling	5	70%		70%		70%	
	6	50%		50%		50%	
Plunging	5	80%		80%		80%	
	6	60%		60%		60%	

List 8630, 8730: 3xD Length of Cut

Slotting

Work Material		Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
Cutting Speed		600 ~ 1500 SFM		600 ~ 1500 SFM		300 ~ 900 SFM	
Depth of Cut		a_a=1xD				a_a=0.5xD	
Mill Dia.		Speed	Feed	Speed	Feed	Speed	Feed
Inch	mm	RPM	in/min	RPM	in/min	RPM	in/min
-	3	25,000	70.9	25,000	70.9	19,400	55.0
1/8	-	25,000	70.9	25,000	70.9	18,300	51.9
-	4	25,000	82.7	25,000	82.7	14,500	48.0
3/16	-	24,400	92.2	24,400	92.2	12,200	46.1
-	5	23,300	96.3	23,300	96.3	11,600	48.0
-	6	19,400	96.2	19,400	96.2	9,700	48.1
1/4	-	18,300	95.1	18,300	95.1	9,200	47.8
5/16	-	14,700	97.2	14,700	97.2	7,300	48.3
-	8	14,500	95.9	14,500	95.9	7,300	48.3
3/8	-	12,200	92.2	12,200	92.2	6,100	46.1
-	10	11,600	95.9	11,600	95.9	5,800	48.0
-	12	9,700	96.2	9,700	96.2	4,800	47.6
1/2	-	9,200	95.6	9,200	95.6	4,600	47.8
5/8	-	7,300	96.6	7,300	96.6	3,700	48.9
3/4	-	6,100	98.0	6,100	98.0	3,100	49.8
1	-	4,600	91.3	4,600	91.3	2,300	45.6

1. Use a rigid and precise machine and holder.
2. The indicated speeds and feeds are for milling with water-soluble coolant.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

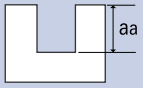
Side Milling

Work Material		Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
Cutting Speed		800 ~ 2200 SFM		800 ~ 2200 SFM		600 ~ 1200 SFM	
Depth of Cut		a_a=3xD • a_r=0.1xD					
Mill Dia.		Speed	Feed	Speed	Feed	Speed	Feed
Inch	mm	RPM	in/min	RPM	in/min	RPM	in/min
-	3	25,000	79.7	25,000	79.7	25,000	79.7
1/8	-	25,000	88.6	25,000	88.6	25,000	88.6
-	4	25,000	102.8	25,000	102.8	21,800	89.6
3/16	-	25,000	118.1	25,000	118.1	18,300	86.5
-	5	25,000	128.4	25,000	128.4	17,500	89.9
-	6	25,000	154.1	25,000	154.1	14,500	89.4
1/4	-	25,000	162.4	25,000	162.4	13,700	89.0
5/16	-	20,800	172.0	20,800	172.0	11,000	90.9
-	8	20,600	169.3	20,600	169.3	10,900	89.6
3/8	-	17,300	163.5	17,300	163.5	9,200	86.9
-	10	16,500	169.5	16,500	169.5	8,700	89.4
-	12	13,700	168.9	13,700	168.9	7,300	90.0
1/2	-	13,000	168.9	13,000	168.9	6,900	89.7
5/8	-	10,400	172.0	10,400	172.0	5,500	90.9
3/4	-	8,700	174.7	8,700	174.7	4,600	92.4
1	-	6,500	161.2	6,500	161.2	3,400	84.3

1. Use a rigid and precise machine and holder.
2. The indicated speeds and feeds are for milling with water-soluble coolant.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

List 3619 - EXOCARB® WXL®: 2 Flute, Square End, Stub Length

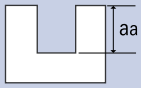
Slotting

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper		Mild Steels		Hardened Steels Pre-hardened Steels			
Cutting Speed	495 SFM		245 SFM		175 SFM		150 SFM	
Depth of Cut	Dia / aa D<1/8 / 0.3D 1/8≤D / 0.5D							
Mill Diameter	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	10.7	15,000	6.2	10,700	4.6	9,200	3.2
5/64	24,200	12.9	12,000	6.6	8,600	4.5	7,300	3.3
3/32	20,200	14.3	10,000	7.2	7,100	4.1	6,100	3.1
7/64	17,300	15.5	8,600	8.3	6,100	4.5	5,200	3.3
1/8	15,100	17.5	7,500	8.6	5,300	4.7	4,600	3.5
5/32	12,100	18.8	6,000	9.6	4,300	5.2	3,700	3.8
3/16	10,100	21.1	5,000	11.0	3,600	5.1	3,000	3.7
1/4	7,600	22.2	3,700	11.2	2,700	5.3	2,300	4.0
5/16	6,000	21.9	3,000	10.7	2,100	4.8	1,800	3.8
3/8	5,000	20.7	2,500	10.7	1,800	5.1	1,500	4.1
7/16	4,300	20.2	2,100	9.9	1,500	4.8	1,300	4.5
1/2	3,800	20.0	1,900	9.8	1,300	4.7	1,200	3.8
5/8	3,000	16.5	1,500	8.3	1,000	4.2	900	3.6
3/4	2,500	13.8	1,200	6.9	900	4.1	800	3.2

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

List 3720 - EXOCARB® WXL®: 2 Flute, Stub Length

Slotting

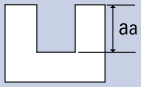
Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloys		Mild Steels Carbon Steels		Hardened Steels, Pre-hardened Steels Stainless Steels			
Cutting Speed	52-682 SFM*		41-323 SFM*		41-241 SFM*		41-208 SFM*	
Depth of Cut			Dia / aa D<1 / 0.1D 1≤D<3 / 0.3D 3≤D / 0.5D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.1	25,000	2.4	25,000	2.0	25,000	1.8	25,000	0.9
0.2	25,000	3.3	25,000	2.7	25,000	2.2	25,000	1.1
0.3	25,000	4.1	25,000	3.4	25,000	2.5	25,000	1.7
0.4	25,000	4.5	25,000	3.7	25,000	2.7	25,000	2.1
0.5	25,000	4.9	25,000	3.8	25,000	3.5	25,000	2.7
0.6	25,000	5.5	25,000	4.4	24,500	4.3	21,000	3.0
0.7	25,000	6.1	25,000	4.9	21,500	4.3	18,500	3.0
0.8	25,000	7.1	25,000	5.5	19,500	4.3	17,000	3.1
0.9	25,000	7.9	23,500	5.9	17,000	4.3	15,000	3.1
1.0	25,000	8.5	22,000	5.9	15,500	4.3	13,500	3.1
1.1	25,000	8.3	20,000	5.9	14,000	4.3	12,500	3.1
1.2	25,000	8.3	18,500	5.9	13,500	4.3	11,500	3.1
1.3	25,000	8.6	17,500	5.9	12,500	4.3	11,000	3.1
1.4	25,000	9.2	16,000	5.9	11,500	4.3	10,000	3.1
1.5	25,000	9.8	15,500	5.9	11,000	4.3	9,900	3.1
1.6	25,000	10.1	15,000	5.9	10,500	4.3	9,400	3.1
1.7	25,000	10.8	14,000	5.9	9,900	4.3	8,800	3.1
1.8	25,000	11.4	13,500	6.3	9,400	4.3	8,500	3.1
1.9	25,000	12.1	12,500	6.3	8,800	4.3	7,900	3.3
2.0	25,000	12.5	12,000	6.3	8,700	4.3	7,900	3.5
2.1	25,000	13.9	11,500	6.7	8,300	4.3	7,400	3.5
2.2	25,000	14.4	11,000	6.7	8,200	4.3	7,200	3.5
2.3	25,000	14.7	11,000	7.1	8,000	4.3	7,000	3.5
2.4	25,000	16.3	10,500	7.1	7,900	4.3	6,900	3.5
2.5	24,500	16.9	10,500	7.9	7,600	4.3	6,600	3.5
2.6	23,500	18.5	9,800	7.9	7,400	4.9	6,300	3.5
2.7	23,000	18.5	9,500	7.9	7,100	4.9	6,100	3.5
2.8	22,000	18.5	9,100	8.3	6,900	4.9	5,800	3.7
2.9	21,500	18.5	8,800	8.3	6,700	4.9	5,700	3.7
3.0	21,000	21.3	8,900	9.1	6,800	5.1	5,700	3.9
3.1	20,000	21.7	8,700	9.4	6,700	5.1	5,600	3.9
3.2	19,500	22.0	8,400	9.4	6,500	5.7	5,400	4.1
3.3	19,000	22.0	8,100	9.8	6,300	5.7	5,200	4.1
3.4	18,000	22.0	7,900	9.8	6,100	5.7	5,100	4.1
3.5	18,000	22.0	7,800	9.8	6,000	6.1	5,000	4.1
3.6	17,500	22.8	7,600	10.6	5,900	6.1	4,900	4.3
3.7	16,500	22.8	7,400	10.6	5,700	6.1	4,700	4.3
3.8	16,000	23.2	7,300	11.0	5,700	6.1	4,600	4.3
3.9	15,500	23.2	7,100	11.0	5,500	6.3	4,500	4.3
4.0	15,500	23.6	7,000	11.0	5,500	6.3	4,500	4.5
4.1	15,500	25.2	6,900	11.4	5,400	6.3	4,400	4.5
4.2	15,000	25.2	6,800	11.4	5,300	6.3	4,400	4.5
4.3	14,000	25.2	6,700	12.2	5,200	6.3	4,300	4.5
4.4	14,000	26.4	6,600	12.6	5,100	6.7	4,200	4.9
4.5	14,000	26.4	6,600	12.6	5,100	6.7	4,200	4.9
4.6	13,500	27.6	6,500	13.0	4,900	6.7	4,100	4.9
4.7	13,500	27.6	6,500	13.8	4,900	6.7	4,100	4.9
4.8	13,500	28.0	6,400	13.8	4,800	6.7	4,100	4.9
4.9	13,500	28.0	6,300	14.2	4,700	6.7	4,000	4.9
5.0	12,500	28.3	6,200	14.6	4,600	6.7	3,900	5.1
5.1	12,500	28.3	6,100	14.6	4,500	6.7	3,900	5.1
5.2	12,000	28.3	6,000	14.6	4,400	6.7	3,800	5.1
5.3	12,000	28.3	5,900	14.6	4,400	6.7	3,800	5.1
5.4	11,500	28.3	5,800	14.6	4,300	6.7	3,600	5.1
5.5	11,500	28.3	5,700	14.6	4,200	6.7	3,500	5.1
5.6	11,500	28.3	5,600	14.6	4,100	6.7	3,500	5.1

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.
*Maximum speed will vary by diameter.

CONTINUED

List 3720 - EXOCARB® WXL®: 2 Flute, Stub Length (Continued)

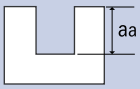
Slotting

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloys		Mild Steels Carbon Steels		Hardened Steels, Pre-hardened Steels Stainless Steels			
Cutting Speed	52-682 SFM*		41-323 SFM*		41-241 SFM*		41-208 SFM*	
Depth of Cut			Dia / aa D<1 / 0.1D 1≤D<3 / 0.3D 3≤D / 0.5D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5.7	11,000	28.3	5,500	14.6	4,000	6.7	3,400	5.1
5.8	11,000	28.0	5,400	14.6	3,900	6.7	3,300	5.1
5.9	10,500	28.0	5,300	14.6	3,800	6.7	3,300	5.1
6.0	10,000	28.0	5,200	14.6	3,800	6.7	3,200	5.1

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.
*Maximum speed will vary by diameter.

List 3620 - EXOCARB® WXL®: Stub Length, 2 Flute
List 3621 - EXOCARB® WXL®: Regular Length, 2 Flute

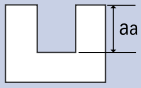
Slotting

Hardness	–	<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy	Mild Steels Carbon Steels		Hardened Steels Pre-hardened Steels, Stainless Steels			
Cutting Speed	495 SFM	245 SFM		175 SFM		150 SFM	
Depth of Cut		Dia / aa D<1/8 / 0.3D 1/8≤D / 0.5D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	10.2	14,700	5.8	10,500	4.4	8,900	3.0
5/64	24,000	12.2	11,800	6.2	8,300	4.2	7,200	3.1
3/32	20,500	13.8	9,800	6.7	7,000	3.9	6,000	3.0
7/64	17,500	15.0	8,400	7.7	6,000	4.3	5,100	3.2
1/8	15,000	16.5	7,300	8.0	5,200	4.5	4,600	3.4
5/32	12,000	17.7	5,900	9.0	4,200	4.9	3,700	3.7
3/16	10,500	20.9	4,900	10.2	3,700	5.1	3,100	3.7
7/32	8,700	21.3	4,300	10.6	3,100	5.1	2,600	3.9
1/4	7,500	20.9	3,700	10.6	2,700	5.1	2,300	3.9
9/32	6,900	20.9	3,400	10.6	2,500	5.1	2,100	3.9
5/16	5,900	20.5	3,000	10.2	2,200	4.9	1,900	3.9
3/8	5,100	20.1	2,500	10.2	1,800	4.9	1,500	4.0
7/16	4,400	19.7	2,100	9.4	1,600	4.9	1,300	4.4
1/2	4,000	20.1	1,900	9.4	1,400	4.9	1,200	3.7
5/8	3,000	15.7	1,500	7.9	1,100	4.5	900	3.5
3/4	2,600	13.6	1,200	6.5	900	3.9	800	3.1

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

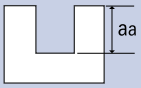
List 3721 - EXOCARB® WXL®: 2 Flute, Stub Length

Slotting

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Mild Steels Carbon Steels		Hardened Steels, Pre-hardened Steels Stainless Steels			
Depth of Cut			Dia / aa: D<1 → 0.1D; 1≤D<3 → 0.3D; 3≤D → 0.5D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.1	25,000	2.0	25,000	2.2	25,000	1.8	25,000	0.9
0.2	25,000	2.8	25,000	2.8	25,000	2.3	25,000	1.1
0.3	25,000	3.3	25,000	3.4	25,000	2.5	25,000	1.7
0.4	25,000	3.7	25,000	3.7	25,000	2.8	25,000	2.1
0.5	25,000	3.9	25,000	3.8	25,000	3.5	22,000	2.4
0.6	25,000	4.5	25,000	4.4	19,500	3.5	17,000	2.4
0.7	25,000	4.9	24,000	4.7	17,000	3.5	15,000	2.4
0.8	25,000	5.7	21,500	4.7	15,500	3.5	13,500	2.6
0.9	25,000	6.4	19,000	4.7	13,500	3.5	12,000	2.6
1.0	25,000	7.3	17,500	4.7	12,500	3.5	11,000	2.6
1.1	25,000	7.8	16,000	4.7	11,500	3.5	9,900	2.6
1.2	25,000	8.3	15,000	4.7	10,500	3.5	9,300	2.6
1.3	25,000	8.5	14,000	4.7	9,900	3.5	8,700	2.6
1.4	25,000	9.3	13,000	4.7	9,200	3.5	8,100	2.6
1.5	25,000	9.8	12,500	4.7	8,900	3.5	7,900	2.6
1.6	25,000	10.2	12,000	4.7	8,500	3.5	7,500	2.6
1.7	25,000	10.9	11,000	4.7	7,900	3.5	7,000	2.6
1.8	25,000	11.2	10,500	5.1	7,500	3.5	6,800	2.7
1.9	25,000	12.1	10,000	5.1	7,100	3.5	6,300	2.7
2.0	24,000	12.2	9,700	5.1	7,000	3.5	6,300	2.8
2.1	23,000	13.0	9,300	5.5	6,600	3.5	5,900	2.8
2.2	22,500	13.0	9,000	5.5	6,500	3.5	5,700	2.8
2.3	22,000	13.0	8,800	5.9	6,400	3.5	5,600	2.8
2.4	20,500	13.8	8,600	5.9	6,300	3.5	5,500	2.8
2.5	20,000	13.8	8,200	6.3	6,100	3.5	5,300	2.8
2.6	19,000	15.0	7,900	6.3	5,900	3.9	5,000	2.8
2.7	18,000	15.0	7,600	6.3	5,700	3.9	4,900	2.8
2.8	17,500	15.0	7,300	6.7	5,500	3.9	4,700	3.0
2.9	17,000	15.0	7,100	6.7	5,300	3.9	4,500	3.0
3.0	16,000	15.7	6,900	6.7	5,300	3.9	4,400	3.0
3.1	15,500	16.1	6,700	7.1	5,100	3.9	4,300	3.0
3.2	15,000	16.5	6,500	7.1	5,000	4.3	4,200	3.1
3.3	14,500	16.5	6,300	7.5	4,800	4.3	4,000	3.1
3.4	14,000	16.5	6,100	7.5	4,600	4.3	3,900	3.1
3.5	14,000	16.5	6,000	7.5	4,600	4.7	3,800	3.1
3.6	13,500	16.9	5,900	7.9	4,500	4.7	3,700	3.3
3.7	12,500	16.9	5,700	7.9	4,400	4.7	3,600	3.3
3.8	12,500	17.3	5,600	8.3	4,400	4.7	3,600	3.3
3.9	12,000	17.3	5,500	8.3	4,200	4.9	3,500	3.3
4.0	12,000	17.7	5,400	8.3	4,200	4.9	3,500	3.5
4.1	11,500	18.9	5,300	8.7	4,100	4.9	3,400	3.5
4.2	11,500	18.9	5,300	8.7	4,100	4.9	3,300	3.5
4.3	11,000	18.9	5,200	9.1	4,000	4.9	3,300	3.5
4.4	11,000	19.7	5,100	9.4	3,900	5.1	3,200	3.7
4.5	10,500	19.7	5,100	9.4	3,900	5.1	3,200	3.7
4.6	10,500	20.5	5,000	9.8	3,800	5.1	3,200	3.7
4.7	10,500	20.5	5,000	10.2	3,800	5.1	3,100	3.7
4.8	10,500	20.9	4,900	10.2	3,700	5.1	3,100	3.7
4.9	10,000	20.9	4,900	10.6	3,600	5.1	3,100	3.7
5.0	9,500	21.3	4,800	10.6	3,500	5.1	3,000	3.9
5.1	9,500	21.3	4,700	10.6	3,500	5.1	3,000	3.9
5.2	9,300	21.3	4,600	10.6	3,400	5.1	2,900	3.9
5.3	9,200	21.3	4,600	10.6	3,400	5.1	2,900	3.9
5.4	9,000	21.3	4,500	10.6	3,300	5.1	2,800	3.9
5.5	8,800	21.3	4,400	10.6	3,200	5.1	2,700	3.9
5.6	8,700	21.3	4,300	10.6	3,100	5.1	2,600	3.9
5.7	8,500	21.3	4,200	10.6	3,100	5.1	2,600	3.9
5.8	8,400	20.9	4,200	10.6	3,000	5.1	2,600	3.9
5.9	8,200	20.9	4,100	10.6	2,900	5.1	2,500	3.9

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

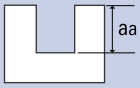
Slotting

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Mild Steels Carbon Steels		Hardened Steels, Pre-hardened Steels Stainless Steels			
Depth of Cut			Dia / aa D<1 / 0.1D 1≤D<3 / 0.3D 3≤D / 0.5D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
6.0	7,900	20.9	4,000	10.6	2,900	5.1	2,500	3.9
6.5	7,500	20.9	3,700	10.6	2,700	5.1	2,300	3.9
7.0	6,900	20.9	3,400	10.6	2,500	5.1	2,100	3.9
7.5	6,400	20.9	3,200	10.6	2,300	5.1	2,000	3.9
8.0	5,900	20.5	3,000	10.2	2,200	4.9	1,900	3.9
8.5	5,600	20.5	2,800	10.2	2,000	4.9	1,700	3.9
9.0	5,300	20.1	2,600	10.2	1,900	4.9	1,500	3.9
9.5	5,100	20.1	2,500	10.2	1,800	4.9	1,400	3.7
10.0	4,700	19.7	2,400	9.8	1,700	4.9	1,500	3.7
11.0	4,400	19.7	2,200	9.8	1,600	4.9	1,100	3.7
12.0	4,000	20.1	2,000	9.8	1,400	4.9	1,200	3.7
16.0	3,000	15.7	1,500	7.9	1,100	4.5	800	3.1
18.0	2,700	14.2	1,300	7.1	900	3.9	700	2.8
20.0	2,400	11.8	1,200	5.9	800	3.5	600	2.4

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

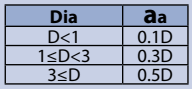
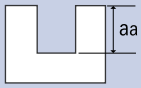
List 3722: 2 Flute, Regular Length

Slotting

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Mild Steels Carbon Steels		Hardened Steels, Pre-hardened Steels Stainless Steels			
Cutting Speed	52-522 SFM		33-251 SFM		33-186 SFM		33-159 SFM	
Depth of Cut			Dia / aa D<1 / 0.1D 1≤D<3 / 0.3D 3≤D / 0.5D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.1	25,000	2.0	25,000	2.2	25,000	1.8	25,000	0.9
0.2	25,000	2.8	25,000	2.8	25,000	2.3	25,000	1.1
0.3	25,000	3.3	25,000	3.4	25,000	2.5	25,000	1.7
0.4	25,000	3.7	25,000	3.7	25,000	2.8	25,000	2.1
0.5	25,000	3.9	25,000	3.8	25,000	3.5	22,000	2.4
0.6	25,000	4.5	25,000	4.4	19,500	3.5	17,000	2.4
0.7	25,000	4.9	24,000	4.7	17,000	3.5	15,000	2.4
0.8	25,000	5.7	21,500	4.7	15,500	3.5	13,500	2.6
0.9	25,000	6.4	19,000	4.7	13,500	3.5	12,000	2.6
1.0	25,000	7.3	17,500	4.7	12,500	3.5	11,000	2.6
1.1	25,000	7.8	16,000	4.7	11,500	3.5	9,900	2.6
1.2	25,000	8.3	15,000	4.7	10,500	3.5	9,300	2.6
1.3	25,000	8.5	14,000	4.7	9,900	3.5	8,700	2.6
1.4	25,000	9.3	13,000	4.7	9,200	3.5	8,100	2.6
1.5	25,000	9.8	12,500	4.7	8,900	3.5	7,900	2.6
1.6	25,000	10.2	12,000	4.7	8,500	3.5	7,500	2.6
1.7	25,000	10.9	11,000	4.7	7,900	3.5	7,000	2.6
1.8	25,000	11.2	10,500	5.1	7,500	3.5	6,800	2.7
1.9	25,000	12.1	10,000	5.1	7,100	3.5	6,300	2.7
2.0	24,000	12.2	9,700	5.1	7,000	3.5	6,300	2.8
2.1	23,000	13.0	9,300	5.5	6,600	3.5	5,900	2.8
2.2	22,500	13.0	9,000	5.5	6,500	3.5	5,700	2.8
2.3	22,000	13.0	8,800	5.9	6,400	3.5	5,600	2.8
2.4	20,500	13.8	8,600	5.9	6,300	3.5	5,500	2.8
2.5	20,000	13.8	8,200	6.3	6,100	3.5	5,300	2.8
2.6	19,000	15.0	7,900	6.3	5,900	3.9	5,000	2.8
2.7	18,000	15.0	7,600	6.3	5,700	3.9	4,900	2.8
2.8	17,500	15.0	7,300	6.7	5,500	3.9	4,700	3.0
2.9	17,000	15.0	7,100	6.7	5,300	3.9	4,500	3.0
3.0	16,000	15.7	6,900	6.7	5,300	3.9	4,400	3.0
3.1	15,500	16.1	6,700	7.1	5,100	3.9	4,300	3.0
3.2	15,000	16.5	6,500	7.1	5,000	4.3	4,200	3.1
3.3	14,500	16.5	6,300	7.5	4,800	4.3	4,000	3.1
3.4	14,000	16.5	6,100	7.5	4,600	4.3	3,900	3.1
3.5	14,000	16.5	6,000	7.5	4,600	4.7	3,800	3.1
3.6	13,500	16.9	5,900	7.9	4,500	4.7	3,700	3.3
3.7	12,500	16.9	5,700	7.9	4,400	4.7	3,600	3.3
3.8	12,500	17.3	5,600	8.3	4,400	4.7	3,600	3.3
3.9	12,000	17.3	5,500	8.3	4,200	4.9	3,500	3.3
4.0	12,000	17.7	5,400	8.3	4,200	4.9	3,500	3.5
4.1	11,500	18.9	5,300	8.7	4,100	4.9	3,400	3.5
4.2	11,500	18.9	5,300	8.7	4,100	4.9	3,300	3.5
4.3	11,000	18.9	5,200	9.1	4,000	4.9	3,300	3.5
4.4	11,000	19.7	5,100	9.4	3,900	5.1	3,200	3.7
4.5	10,500	19.7	5,100	9.4	3,900	5.1	3,200	3.7
4.6	10,500	20.5	5,000	9.8	3,800	5.1	3,200	3.7
4.7	10,500	20.5	5,000	10.2	3,800	5.1	3,100	3.7
4.8	10,500	20.9	4,900	10.2	3,700	5.1	3,100	3.7
4.9	10,000	20.9	4,900	10.6	3,600	5.1	3,100	3.7
5.0	9,500	21.3	4,800	10.6	3,500	5.1	3,000	3.9
5.1	9,500	21.3	4,700	10.6	3,500	5.1	3,000	3.9
5.2	9,300	21.3	4,600	10.6	3,400	5.1	2,900	3.9
5.3	9,200	21.3	4,600	10.6	3,400	5.1	2,900	3.9
5.4	9,000	21.3	4,500	10.6	3,300	5.1	2,800	3.9
5.5	8,800	21.3	4,400	10.6	3,200	5.1	2,700	3.9
5.6	8,700	21.3	4,300	10.6	3,100	5.1	2,600	3.9

1. Use a rigid and precise machine and holder.
2. Use a suitable cutting fluid with high smoke retardant.
3. When the length of tool extension from the machine is long, reduce the speed and feed.

Slotting

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Mild Steels Carbon Steels		Hardened Steels, Pre-hardened Steels Stainless Steels			
Cutting Speed	52-522 SFM		33-251 SFM		33-186 SFM		33-159 SFM	
Depth of Cut								
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5.7	8,500	21.3	4,200	10.6	3,100	5.1	2,600	3.9
5.8	8,400	20.9	4,200	10.6	3,000	5.1	2,600	3.9
5.9	8,200	20.9	4,100	10.6	2,900	5.1	2,500	3.9
6.0	7,900	20.9	4,000	10.6	2,900	5.1	2,500	3.9
6.5	7,500	20.9	3,700	10.6	2,700	5.1	2,300	3.9
7.0	6,900	20.9	3,400	10.6	2,500	5.1	2,100	3.9
7.5	6,400	20.9	3,200	10.6	2,300	5.1	2,000	3.9
8.0	5,900	20.5	3,000	10.2	2,200	4.9	1,900	3.9
8.5	5,600	20.5	2,800	10.2	2,000	4.9	1,700	3.9
9.0	5,300	20.1	2,600	10.2	1,900	4.9	1,500	3.9
9.5	5,100	20.1	2,500	10.2	1,800	4.9	1,400	3.7
10.0	4,700	19.7	2,400	9.8	1,700	4.9	1,500	3.7
11.0	4,400	19.7	2,200	9.8	1,600	4.9	1,100	3.7
12.0	4,000	20.1	2,000	9.8	1,400	4.9	1,200	3.7
16.0	3,000	15.7	1,500	7.9	1,100	4.5	800	3.1
18.0	2,700	14.2	1,300	7.1	900	3.9	700	2.8
20.0	2,400	11.8	1,200	5.9	800	3.5	600	2.4

1. Use a rigid and precise machine and holder.
2. Use a suitable cutting fluid with high smoke retardant.
3. When the length of tool extension from the machine is long, reduce the speed and feed.

List 3723: 2 Flute, Long Length

Side Milling

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Mild Steels Carbon Steels		Hardened Steels, Pre-hardened Steels Stainless Steels			
Cutting Speed	66-116 SFM		46-76 SFM		39-76 SFM		57-67 SFM	
Depth of Cut	Dia / aa / ar D<1 / 4D / 0.05D 1≤D / 4D / 0.01D		Dia / aa / ar D<0.3 / 4D / 0.015D 0.3≤D<1 / 4D / 0.03D 1≤D<3 / 4D / 0.05D 3≤D / 4D / 0.1D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.2	25,000	2.8	25,000	1.3	25,000	1.5	-	-
0.3	25,000	3.4	19,730	1.4	18,600	1.3	-	-
0.4	22,070	3.8	14,800	1.6	13,950	1.3	-	-
0.5	17,660	4.2	11,840	1.6	11,160	1.4	-	-
0.6	14,720	4.3	9,860	1.6	9,300	1.5	-	-
0.7	12,610	3.7	8,460	1.6	7,970	1.8	-	-
0.8	11,040	4.3	7,400	1.6	6,970	1.8	-	-
0.9	9,810	3.9	6,580	1.6	6,200	1.8	-	-
1.0	8,830	4.3	5,920	1.8	5,580	1.6	-	-
1.1	8,030	4.7	5,380	1.8	5,070	1.6	-	-
1.2	7,360	4.4	4,930	1.8	4,650	1.6	-	-
1.3	6,790	4.3	4,550	1.8	4,290	1.6	-	-
1.4	6,310	4.3	4,230	1.8	3,990	1.6	-	-
1.5	5,890	4.3	3,950	1.8	3,720	1.6	-	-
1.6	5,520	4.1	3,700	1.8	3,490	1.6	-	-
1.7	5,190	4.0	3,480	1.7	3,280	1.5	-	-
1.8	4,910	4.0	3,290	1.8	3,100	1.6	-	-
1.9	4,650	4.0	3,120	1.7	2,940	1.5	-	-
2.0	4,410	4.0	2,960	1.7	2,790	1.6	-	-
2.1	4,200	4.1	2,820	1.7	2,660	1.5	-	-
2.2	4,010	4.5	2,690	2.0	2,540	1.5	-	-
2.3	3,840	4.4	2,570	1.9	2,430	1.5	-	-
2.4	3,680	4.3	2,470	2.1	2,320	1.5	-	-
2.5	3,530	4.7	2,370	2.1	2,230	1.4	-	-
2.6	3,400	4.8	2,280	2.1	2,150	1.4	-	-
2.7	3,270	5.2	2,190	2.1	2,070	1.6	-	-
2.8	3,150	5.2	2,110	2.1	1,990	1.6	-	-
2.9	3,040	5.1	2,040	2.3	1,920	1.6	-	-
3.0	2,940	5.1	1,970	2.2	1,860	1.7	2,010	3.1
3.1	2,850	5.6	1,910	2.3	1,800	1.8	1,940	3.2
3.2	2,760	5.8	1,850	2.4	1,740	1.7	1,880	3.3
3.3	2,680	5.8	1,790	2.4	1,690	1.9	1,820	3.4
3.4	2,600	5.8	1,740	2.7	1,640	2.0	1,770	3.3
3.5	2,520	5.7	1,690	2.6	1,590	1.9	1,720	3.4
3.6	2,450	5.7	1,640	2.5	1,550	2.0	1,670	3.5
3.7	2,390	5.9	1,600	2.6	1,510	2.1	1,630	3.6
3.8	2,320	6.2	1,560	2.5	1,470	2.0	1,580	3.5
3.9	2,260	6.3	1,520	2.8	1,430	2.1	1,540	3.4
4.0	2,210	6.2	1,480	2.7	1,390	2.2	1,500	3.8
4.1	2,150	6.4	1,440	2.7	1,360	2.2	1,470	3.7
4.2	2,100	6.8	1,410	2.8	1,330	2.1	1,430	3.6
4.3	2,050	6.7	1,380	2.9	1,300	2.2	1,400	3.5
4.4	2,010	7.1	1,350	2.8	1,270	2.2	1,370	3.7
4.5	1,960	7.4	1,320	2.9	1,240	2.1	1,340	3.8
4.6	1,920	7.2	1,290	2.9	1,210	2.1	1,310	3.8
4.7	1,880	7.0	1,260	3.0	1,190	2.0	1,280	3.7
4.8	1,840	6.9	1,230	2.9	1,160	2.0	1,250	3.6
4.9	1,800	7.4	1,210	3.1	1,140	2.1	1,230	3.5
5.0	1,770	7.3	1,180	3.2	1,120	2.0	1,200	3.6
5.1	1,730	7.5	1,160	3.1	1,090	2.0	1,180	3.9
5.2	1,700	7.4	1,140	3.0	1,070	2.0	1,160	3.8
5.3	1,670	7.7	1,120	3.2	1,050	2.1	1,140	3.7
5.4	1,640	7.5	1,100	3.2	1,030	2.0	1,110	3.7
5.5	1,610	7.4	1,080	3.1	1,010	2.0	1,090	3.9

1. Use a rigid and precise machine and holder.
2. Use a suitable cutting fluid with high smoke retardant.
3. When the length of tool extension from the machine is long, reduce the speed and feed.

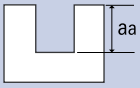
Side Milling

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Mild Steels Carbon Steels		Hardened Steels, Pre-hardened Steels Stainless Steels			
Cutting Speed	66-116 SFM		46-76 SFM		39-76 SFM		57-67 SFM	
Depth of Cut	Dia / aa / ar D<1 / 4D / 0.05D 1≤D / 4D / 0.01D		Dia / aa / ar D<0.3 / 4D / 0.015D 0.3≤D<1 / 4D / 0.03D 1≤D<3 / 4D / 0.05D 3≤D / 4D / 0.1D 					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5.6	1,580	7.7	1,060	3.0	1,000	2.0	1,070	3.8
5.7	1,550	7.5	1,040	3.0	980	1.9	1,060	3.8
5.8	1,520	7.4	1,020	3.2	960	2.1	1,040	3.7
5.9	1,500	7.7	1,000	3.1	950	2.0	1,020	4.0
6.0	1,470	7.6	990	3.1	930	2.0	1,000	3.9
8.0	1,100	7.9	740	3.1	700	2.0	750	3.7
10.0	880	7.7	590	3.0	560	2.0	600	3.6
12.0	740	7.2	490	2.9	460	2.0	500	3.6

1. Use a rigid and precise machine and holder.
2. Use a suitable cutting fluid with high smoke retardant.
3. When the length of tool extension from the machine is long, reduce the speed and feed.

List 3791 - EXOCARB® WXL®: 2 Flute, Stub Length

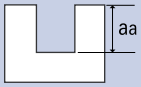
Slotting

Hardness	–			<32 HRC			33-41 HRC			42-50 HRC		
Work Material	Copper Copper Alloy			Mild Steels Carbon Steels			Hardened Steels Pre-hardened Steels Stainless Steels					
Cutting Speed	45-376 SFM*			41-309 SFM*			41-309 SFM*			40-258 SFM*		
Depth of Cut												
D (mm)	L2 (mm)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)
0.2	0.5	25,000	13.7	0.0009	25,000	13.8	0.0007	25,000	13.8	0.0006	25,000	8.5	0.0005
	1	25,000	10.6	0.0006	25,000	10.8	0.0005	25,000	10.8	0.0004	25,000	6.8	0.0004
	1.5	25,000	8.6	0.0004	25,000	8.8	0.0003	25,000	8.8	0.0003	25,000	5.9	0.0002
	2	24,000	8.7	0.0002	22,000	7.9	0.0002	22,000	7.9	0.0002	20,000	4.7	0.0001
	2.5	22,000	7.5	0.0002	20,000	7.1	0.0002	20,000	6.7	0.0002	20,000	3.9	0.0001
	3	22,000	7.1	0.0002	20,000	6.7	0.0001	20,000	6.3	0.0001	20,000	3.5	0.0001
	3.5	22,000	5.9	0.0002	20,000	5.5	0.0001	20,000	5.1	0.0001	20,000	3.1	0.0001
	4	22,000	1.6	0.0001	20,000	1.6	0.0001	20,000	1.4	0.0001	20,000	1.2	0.0001
0.3	1	25,000	12.3	0.0013	25,000	12.3	0.0011	25,000	10.8	0.0009	25,000	10.2	0.0007
	1.5	25,000	11.0	0.0011	25,000	11.1	0.0009	25,000	9.2	0.0008	25,000	8.5	0.0006
	2	25,000	10.6	0.0009	25,000	10.5	0.0008	25,000	8.8	0.0007	25,000	7.9	0.0005
	2.5	25,000	9.7	0.0007	25,000	9.8	0.0006	25,000	8.1	0.0005	25,000	7.5	0.0003
	3	25,000	11.1	0.0004	22,000	9.8	0.0004	22,000	6.3	0.0003	20,000	5.9	0.0002
	4	24,000	8.7	0.0003	20,000	7.5	0.0003	20,000	5.9	0.0002	20,000	5.1	0.0001
	5	24,000	7.5	0.0002	20,000	6.3	0.0002	20,000	5.5	0.0001	18,000	4.7	0.0001
	6	24,000	3.9	0.0001	20,000	3.5	0.0001	20,000	3.1	0.0001	16,000	2.4	0.0001
	9	19,000	1.2	0.0001	16,000	1.2	0.0001	16,000	1.2	0.0001	13,000	0.8	0.0001
0.4	1.5	25,000	13.3	0.0013	25,000	13.5	0.0011	25,000	11.7	0.0009	25,000	11.2	0.0007
	2	25,000	12.3	0.0012	25,000	12.3	0.0010	25,000	10.8	0.0009	25,000	10.2	0.0007
	3	25,000	10.6	0.0008	25,000	10.5	0.0007	25,000	8.8	0.0006	25,000	7.9	0.0004
	4	25,000	11.1	0.0006	22,000	9.8	0.0005	22,000	7.9	0.0004	20,000	5.9	0.0003
	5	24,000	9.4	0.0003	20,000	7.9	0.0002	20,000	6.3	0.0002	20,000	5.1	0.0001
	6	24,000	8.3	0.0002	20,000	7.1	0.0002	20,000	5.5	0.0002	20,000	4.7	0.0001
	7	24,000	6.3	0.0002	20,000	5.5	0.0002	20,000	4.7	0.0001	20,000	4.3	0.0001
	8	24,000	5.9	0.0001	20,000	5.1	0.0001	20,000	4.3	0.0001	20,000	3.9	0.0001
	9	24,000	5.5	0.0001	20,000	4.7	0.0001	20,000	3.9	0.0001	20,000	3.1	0.0001
	10	24,000	5.1	0.0001	20,000	4.3	0.0001	20,000	3.3	0.0001	18,000	2.8	0.0001
	12	24,000	3.9	0.0001	20,000	3.5	0.0001	20,000	3.1	0.0001	16,000	2.4	0.0001
0.5	1.5	25,000	16.9	0.0021	25,000	16.9	0.0018	25,000	12.9	0.0015	25,000	11.2	0.0012
	2	25,000	15.3	0.0021	25,000	15.4	0.0018	25,000	12.3	0.0015	25,000	10.2	0.0012
	3	25,000	14.8	0.0014	25,000	14.8	0.0012	25,000	11.8	0.0011	25,000	10.2	0.0009
	4	25,000	14.1	0.0010	25,000	14.1	0.0008	25,000	11.2	0.0007	25,000	9.8	0.0006
	5	25,000	13.2	0.0007	25,000	13.4	0.0006	25,000	11.8	0.0004	22,000	9.1	0.0003
	6	25,000	15.6	0.0003	22,000	13.8	0.0002	22,000	8.7	0.0002	20,000	7.1	0.0002
	7	24,000	15.0	0.0002	20,000	12.6	0.0002	20,000	7.9	0.0002	20,000	6.7	0.0001
	8	24,000	12.6	0.0002	20,000	10.6	0.0002	20,000	7.1	0.0001	20,000	5.9	0.0001
	9	24,000	11.8	0.0001	20,000	9.8	0.0001	18,000	6.3	0.0001	18,000	5.5	0.0001
	10	24,000	9.4	0.0001	20,000	7.9	0.0001	18,000	5.9	0.0001	18,000	5.1	0.0001
	12	24,000	7.5	0.0001	20,000	6.3	0.0001	18,000	4.7	0.0001	18,000	3.9	0.0001
	15	21,500	3.9	0.0001	18,000	3.5	0.0001	16,000	3.1	0.0001	16,000	2.8	0.0001
0.6	2	25,000	18.4	0.0026	25,000	18.5	0.0021	25,000	12.3	0.0018	25,000	10.9	0.0014
	3	25,000	16.9	0.0024	25,000	16.9	0.0020	25,000	11.1	0.0016	25,000	10.2	0.0012
	4	25,000	15.9	0.0019	25,000	15.8	0.0016	25,000	10.5	0.0013	25,000	7.9	0.0010
	5	25,000	14.1	0.0014	25,000	14.1	0.0012	25,000	8.7	0.0008	22,000	7.1	0.0008
	6	25,000	11.1	0.0009	22,000	9.8	0.0007	22,000	7.9	0.0006	20,000	5.9	0.0005
	7	25,000	11.1	0.0005	22,000	9.8	0.0004	22,000	7.9	0.0003	20,000	5.9	0.0003
	8	25,000	11.1	0.0003	22,000	9.8	0.0003	22,000	7.9	0.0002	20,000	5.9	0.0002
0.6	10	24,000	9.4	0.0002	20,000	7.9	0.0002	18,000	5.9	0.0002	18,000	5.1	0.0001
	12	21,500	8.7	0.0001	18,000	7.5	0.0001	18,000	5.9	0.0001	18,000	4.7	0.0001
	15	21,500	5.9	0.0001	18,000	5.1	0.0001	16,000	4.3	0.0001	16,000	3.9	0.0001
	18	18,000	3.5	0.0001	15,000	3.1	0.0001	14,000	2.8	0.0001	14,000	2.4	0.0001
0.7	2	25,000	18.4	0.0030	25,000	18.5	0.0025	25,000	15.4	0.0021	25,000	15.1	0.0017
	4	25,000	15.9	0.0022	25,000	15.8	0.0018	25,000	10.5	0.0015	22,000	11.8	0.0012
	6	25,000	15.9	0.0014	25,000	15.8	0.0011	25,000	7.0	0.0010	22,000	7.9	0.0008
	8	25,000	11.1	0.0008	22,000	9.8	0.0007	22,000	7.9	0.0006	20,000	5.9	0.0004
	10	25,000	11.1	0.0004	22,000	9.8	0.0003	22,000	7.9	0.0003	20,000	5.9	0.0002

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

* Maximum speed will vary by diameter.

Slotting

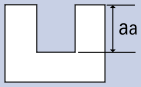
Hardness		–			<32 HRC			33-41 HRC			42-50 HRC		
Work Material		Copper Copper Alloy			Mild Steels Carbon Steels			Hardened Steels Pre-hardened Steels Stainless Steels					
Cutting Speed		45-376 SFM*			41-309 SFM*			41-309 SFM*			40-258 SFM*		
Depth of Cut													
D (mm)	L2 (mm)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)
0.8	4	25,000	18.4	0.0025	25,000	18.5	0.0021	25,000	18.5	0.0017	25,000	15.7	0.0014
	6	25,000	17.1	0.0016	25,000	17.0	0.0013	25,000	15.1	0.0011	21,000	11.8	0.0009
	8	25,000	15.6	0.0011	22,000	13.8	0.0009	22,000	11.8	0.0008	18,000	9.8	0.0006
	10	25,000	15.6	0.0005	22,000	13.8	0.0004	22,000	11.8	0.0003	18,000	9.4	0.0002
	12	20,500	14.2	0.0003	17,000	11.8	0.0003	17,000	11.8	0.0002	15,000	7.9	0.0002
	14	20,500	12.6	0.0002	17,000	10.6	0.0001	17,000	9.8	0.0001	13,000	6.7	0.0001
	16	19,000	10.6	0.0001	16,000	9.1	0.0001	16,000	8.7	0.0001	12,000	5.9	0.0001
	20	17,000	7.9	0.0001	14,000	6.7	0.0001	14,000	6.3	0.0001	12,000	5.1	0.0001
	24	14,500	3.9	0.0001	12,000	3.5	0.0001	12,000	3.1	0.0001	10,000	2.8	0.0001
0.9	4	25,000	37.1	0.0028	25,000	36.9	0.0024	25,000	28.2	0.0024	23,000	25.6	0.0016
	6	25,000	32.8	0.0028	25,000	32.8	0.0023	25,000	27.4	0.0020	22,000	23.6	0.0016
	8	25,000	30.5	0.0018	25,000	30.3	0.0015	25,000	23.6	0.0013	19,000	15.7	0.0010
	10	24,000	28.3	0.0013	20,000	23.6	0.0011	20,000	19.7	0.0009	16,000	11.8	0.0007
	15	20,500	14.2	0.0004	17,000	11.8	0.0003	17,000	11.8	0.0002	16,000	11.8	0.0002
1.0	3	25,000	39.6	0.0043	25,000	39.4	0.0035	25,000	36.1	0.0031	22,000	31.5	0.0024
	4	25,000	38.3	0.0038	25,000	37.7	0.0031	25,000	36.1	0.0028	22,000	25.6	0.0020
	5	25,000	35.5	0.0038	25,000	36.1	0.0031	25,000	33.4	0.0028	20,000	23.6	0.0018
	6	25,000	36.3	0.0033	25,000	36.5	0.0028	25,000	34.1	0.0024	20,000	23.6	0.0016
	7	25,000	39.4	0.0024	25,000	39.4	0.0020	24,000	31.5	0.0020	20,000	19.7	0.0012
	8	25,000	34.4	0.0019	23,000	31.5	0.0016	22,000	27.6	0.0016	18,000	15.7	0.0012
	9	24,000	33.1	0.0014	20,000	27.6	0.0012	19,000	23.6	0.0012	18,000	15.7	0.0010
	10	23,000	28.3	0.0014	19,000	23.6	0.0012	18,000	19.7	0.0011	15,000	11.8	0.0008
	12	23,000	28.3	0.0009	19,000	23.6	0.0008	18,000	19.7	0.0007	15,000	11.8	0.0004
	14	18,000	18.9	0.0005	15,000	15.7	0.0004	15,000	15.7	0.0004	12,000	7.9	0.0003
	16	18,000	14.2	0.0004	15,000	11.8	0.0003	15,000	11.8	0.0003	12,000	7.9	0.0002
	18	15,500	10.6	0.0003	13,000	9.1	0.0002	13,000	8.7	0.0002	11,000	7.1	0.0002
	20	14,500	8.7	0.0002	12,000	7.5	0.0002	11,000	7.1	0.0002	10,000	5.1	0.0001
	22	13,000	7.5	0.0002	11,000	6.3	0.0001	10,000	5.9	0.0001	9,000	3.9	0.0001
	25	11,000	3.9	0.0002	9,000	3.5	0.0001	9,000	3.3	0.0001	8,500	3.1	0.0001
	30	9,600	1.6	0.0001	8,000	1.6	0.0001	8,000	1.4	0.0001	8,000	1.2	0.0001
1.2	4	25,000	44.1	0.0043	24,000	43.3	0.0035	23,000	39.4	0.0031	18,000	27.6	0.0024
	6	25,000	42.9	0.0038	23,000	39.4	0.0031	22,000	35.4	0.0028	17,000	23.6	0.0020
	8	24,000	33.1	0.0033	20,000	27.6	0.0028	19,000	27.6	0.0020	14,000	15.7	0.0016
	10	24,000	33.1	0.0024	20,000	27.6	0.0020	19,000	27.6	0.0016	14,000	15.7	0.0012
	12	20,500	28.3	0.0019	17,000	23.6	0.0016	16,000	19.7	0.0012	11,000	11.8	0.0008
	14	18,000	21.3	0.0007	15,000	17.7	0.0006	13,000	15.0	0.0005	11,000	9.8	0.0004
	16	14,500	14.2	0.0004	12,000	11.8	0.0003	11,000	9.8	0.0003	10,000	8.7	0.0002
	20	12,000	9.4	0.0002	10,000	7.9	0.0002	10,000	7.5	0.0002	9,000	7.1	0.0002
1.4	6	24,000	47.2	0.0061	20,000	39.4	0.0051	19,000	35.4	0.0043	15,000	23.6	0.0035
	8	21,500	37.8	0.0043	18,000	31.5	0.0035	17,000	27.6	0.0031	13,000	15.7	0.0024
	10	21,500	37.8	0.0028	18,000	31.5	0.0024	17,000	27.6	0.0020	13,000	15.7	0.0016
	12	21,500	37.8	0.0024	18,000	31.5	0.0020	17,000	27.6	0.0016	13,000	15.7	0.0012
	14	18,000	28.3	0.0019	15,000	23.6	0.0016	14,000	19.7	0.0014	11,000	11.8	0.0012
	16	18,000	28.3	0.0014	15,000	23.6	0.0012	14,000	19.7	0.0008	11,000	11.8	0.0008
	22	12,000	11.8	0.0002	10,000	9.8	0.0002	9,000	8.3	0.0002	8,000	7.1	0.0002

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.
* Maximum speed will vary by diameter.

CONTINUED

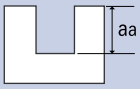
List 3791 - EXOCARB® WXL®: 2 Flute, Stub Length (Continued)

Slotting

Hardness	–			<32 HRC			33-41 HRC			42-50 HRC		
Work Material	Copper Copper Alloy			Mild Steels Carbon Steels			Hardened Steels Pre-hardened Steels Stainless Steels					
Cutting Speed	45-376 SFM*			41-309 SFM*			41-309 SFM*			40-258 SFM*		
Depth of Cut												
D (mm)	L2 (mm)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)
1.5	4	21,500	47.2	0.0066	18,000	39.4	0.0055	18,000	35.4	0.0043	14,000	23.6	0.0035
	6	21,500	47.2	0.0066	18,000	39.4	0.0055	18,000	35.4	0.0043	14,000	23.6	0.0035
	8	19,000	37.8	0.0047	16,000	31.5	0.0039	15,000	27.6	0.0031	12,000	15.7	0.0028
	10	19,000	37.8	0.0038	16,000	31.5	0.0031	15,000	27.6	0.0028	12,000	15.7	0.0020
	12	19,000	37.8	0.0028	16,000	31.5	0.0024	15,000	27.6	0.0020	12,000	15.7	0.0016
	14	19,000	37.8	0.0024	16,000	31.5	0.0020	15,000	27.6	0.0018	12,000	15.7	0.0014
	16	17,000	28.3	0.0024	14,000	23.6	0.0020	13,000	19.7	0.0016	10,000	11.8	0.0012
	18	17,000	28.3	0.0014	14,000	23.6	0.0012	13,000	19.7	0.0008	10,000	11.8	0.0008
	20	14,500	19.7	0.0009	12,000	16.5	0.0008	11,000	15.0	0.0006	10,000	11.8	0.0004
	25	12,000	13.4	0.0004	10,000	11.4	0.0003	9,000	9.1	0.0003	8,000	8.3	0.0002
	30	9,000	7.9	0.0002	7,500	6.7	0.0002	7,400	5.9	0.0002	7,000	5.1	0.0001
	38	8,150	3.9	0.0002	6,800	3.5	0.0002	6,700	3.3	0.0001	6,000	3.0	0.0001
	40	7,200	3.5	0.0002	6,000	3.0	0.0001	5,900	2.8	0.0001	5,600	2.4	0.0001
	45	6,600	2.0	0.0002	5,500	1.8	0.0001	5,400	1.6	0.0001	5,400	1.6	0.0000
1.6	6	20,500	47.2	0.0071	17,000	39.4	0.0059	17,000	35.4	0.0051	13,000	23.6	0.0039
	8	18,000	37.8	0.0066	15,000	31.5	0.0055	15,000	27.6	0.0047	11,000	15.7	0.0039
	10	18,000	37.8	0.0052	15,000	31.5	0.0043	15,000	27.6	0.0035	11,000	15.7	0.0028
	12	18,000	37.8	0.0033	15,000	31.5	0.0028	15,000	27.6	0.0024	11,000	15.7	0.0020
	14	18,000	37.8	0.0028	15,000	31.5	0.0024	15,000	27.6	0.0020	11,000	15.7	0.0016
	16	15,500	28.3	0.0024	13,000	23.6	0.0020	13,000	19.7	0.0016	9,000	11.8	0.0014
	18	15,500	28.3	0.0019	13,000	23.6	0.0016	13,000	19.7	0.0012	9,000	11.8	0.0012
	20	15,500	28.3	0.0009	13,000	23.6	0.0008	13,000	19.7	0.0008	9,000	11.8	0.0004
1.8	6	19,000	51.2	0.0104	16,000	43.3	0.0087	15,000	39.4	0.0071	12,000	27.6	0.0055
	8	19,000	51.2	0.0099	16,000	43.3	0.0083	15,000	39.4	0.0067	12,000	27.6	0.0051
	10	17,000	37.8	0.0057	14,000	31.5	0.0047	14,000	27.6	0.0039	10,000	19.7	0.0031
	12	17,000	37.8	0.0047	14,000	31.5	0.0039	14,000	27.6	0.0031	10,000	19.7	0.0028
	14	17,000	37.8	0.0038	14,000	31.5	0.0031	14,000	27.6	0.0024	10,000	19.7	0.0020
	16	17,000	37.8	0.0033	14,000	31.5	0.0028	14,000	27.6	0.0020	10,000	19.7	0.0016
	18	14,500	28.3	0.0024	12,000	23.6	0.0020	12,000	19.7	0.0018	8,000	15.7	0.0014
	20	14,500	28.3	0.0019	12,000	23.6	0.0016	12,000	19.7	0.0016	8,000	15.7	0.0012
	25	9,600	14.2	0.0004	8,000	11.8	0.0004	7,000	9.8	0.0003	6,000	7.9	0.0003
2.0	6	18,000	51.2	0.0146	15,000	43.3	0.0122	14,000	39.4	0.0102	11,000	27.6	0.0083
	8	18,000	51.2	0.0123	15,000	43.3	0.0102	14,000	39.4	0.0087	11,000	27.6	0.0071
	10	15,500	37.8	0.0113	13,000	31.5	0.0094	12,000	27.6	0.0079	9,000	19.7	0.0063
	12	15,500	37.8	0.0061	13,000	31.5	0.0051	12,000	27.6	0.0043	9,000	19.7	0.0035
	14	15,500	37.8	0.0052	13,000	31.5	0.0043	12,000	27.6	0.0035	9,000	19.7	0.0028
	16	15,500	37.8	0.0038	13,000	31.5	0.0031	12,000	27.6	0.0028	9,000	19.7	0.0024
	18	15,500	37.8	0.0033	13,000	31.5	0.0028	12,000	27.6	0.0024	9,000	19.7	0.0020
	20	13,000	28.3	0.0024	11,000	23.6	0.0020	10,000	19.7	0.0020	7,000	15.7	0.0016
	25	13,000	28.3	0.0014	11,000	23.6	0.0012	10,000	19.7	0.0008	7,000	15.7	0.0008
2.0	30	13,000	28.3	0.0009	11,000	23.6	0.0008	10,000	19.7	0.0004	7,000	15.7	0.0004
	35	11,000	18.1	0.0004	9,000	15.4	0.0004	8,000	15.0	0.0003	6,000	10.6	0.0003
	40	7,800	9.4	0.0002	6,500	7.9	0.0002	6,000	7.1	0.0002	6,000	5.5	0.0001
	50	6,950	4.7	0.0001	5,800	3.9	0.0001	5,700	3.7	0.0001	5,000	3.1	0.0001
	60	6,000	2.4	0.0000	5,000	2.0	0.0000	5,000	1.8	0.0000	5,000	1.6	0.0000

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.
* Maximum speed will vary by diameter.

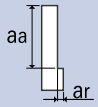
Slotting

Hardness	–			<32 HRC			33-41 HRC			42-50 HRC		
Work Material	Copper Copper Alloy			Mild Steels Carbon Steels			Hardened Steels Pre-hardened Steels Stainless Steels					
Cutting Speed	45-376 SFM*			41-309 SFM*			41-309 SFM*			40-258 SFM*		
Depth of Cut												
D (mm)	L2 (mm)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)
2.5	8	14,500	51.2	0.0184	12,000	43.3	0.0154	11,000	39.4	0.0130	9,000	27.6	0.0102
	10	14,500	51.2	0.0156	12,000	43.3	0.0130	11,000	39.4	0.0110	9,000	27.6	0.0087
	12	14,500	51.2	0.0109	12,000	43.3	0.0091	11,000	39.4	0.0075	9,000	27.6	0.0059
	14	12,000	37.8	0.0080	10,000	31.5	0.0067	9,000	27.6	0.0055	7,000	19.7	0.0043
	16	12,000	37.8	0.0057	10,000	31.5	0.0047	9,000	27.6	0.0039	7,000	19.7	0.0031
	18	12,000	37.8	0.0052	10,000	31.5	0.0043	9,000	27.6	0.0035	7,000	19.7	0.0028
	20	12,000	37.8	0.0043	10,000	31.5	0.0035	9,000	27.6	0.0031	7,000	19.7	0.0024
	25	9,600	28.3	0.0038	8,000	23.6	0.0031	8,000	19.7	0.0024	6,000	15.7	0.0020
	30	9,600	28.3	0.0014	8,000	23.6	0.0012	8,000	19.7	0.0012	6,000	15.7	0.0008
	40	7,800	13.0	0.0003	6,500	11.0	0.0003	6,000	10.6	0.0002	6,000	9.4	0.0002
	50	6,950	7.9	0.0001	5,800	6.7	0.0001	5,700	6.3	0.0001	5,000	5.1	0.0001
3.0	8	12,000	51.2	0.0170	10,000	43.3	0.0142	10,000	39.4	0.0118	8,000	27.6	0.0094
	10	12,000	51.2	0.0137	10,000	43.3	0.0114	10,000	39.4	0.0094	8,000	27.6	0.0075
	12	12,000	51.2	0.0128	10,000	43.3	0.0106	10,000	39.4	0.0091	8,000	27.6	0.0071
	14	12,000	51.2	0.0118	10,000	43.3	0.0098	10,000	39.4	0.0083	8,000	27.6	0.0067
	16	12,000	37.8	0.0094	10,000	31.5	0.0079	9,000	27.6	0.0067	6,000	19.7	0.0051
	18	12,000	37.8	0.0066	10,000	31.5	0.0055	9,000	27.6	0.0047	6,000	19.7	0.0039
	20	12,000	37.8	0.0061	10,000	31.5	0.0051	9,000	27.6	0.0043	6,000	19.7	0.0031
	25	12,000	37.8	0.0052	10,000	31.5	0.0043	9,000	27.6	0.0035	6,000	19.7	0.0028
	30	9,600	28.3	0.0043	8,000	23.6	0.0035	7,000	19.7	0.0031	5,000	15.7	0.0024
	35	9,600	28.3	0.0033	8,000	23.6	0.0028	7,000	19.7	0.0024	5,000	15.7	0.0020
	40	9,600	28.3	0.0019	8,000	23.6	0.0016	7,000	19.7	0.0012	5,000	15.7	0.0008
	50	6,950	12.6	0.0004	5,800	10.6	0.0004	5,700	9.4	0.0002	5,000	7.9	0.0002
4.0	12	8,550	53.1	0.0180	7,000	43.3	0.0150	7,000	39.4	0.0126	6,000	27.6	0.0102
	16	8,550	53.1	0.0170	7,000	43.3	0.0142	7,000	39.4	0.0118	6,000	27.6	0.0094
	20	8,550	38.2	0.0161	7,000	31.5	0.0134	6,000	27.6	0.0110	5,000	19.7	0.0087
	25	8,550	38.2	0.0123	7,000	31.5	0.0102	6,000	27.6	0.0087	5,000	19.7	0.0071
	30	8,550	38.2	0.0090	7,000	31.5	0.0075	6,000	27.6	0.0063	5,000	19.7	0.0051
	35	8,550	38.2	0.0080	7,000	31.5	0.0067	6,000	27.6	0.0055	5,000	19.7	0.0043
	40	7,300	28.7	0.0066	6,000	23.6	0.0055	5,000	23.6	0.0047	4,000	15.7	0.0039
	45	7,300	28.7	0.0057	6,000	23.6	0.0047	5,000	23.6	0.0039	4,000	15.7	0.0031
	50	7,300	28.7	0.0024	6,000	23.6	0.0020	5,000	23.6	0.0016	4,000	15.7	0.0012
	60	6,100	13.4	0.0009	5,000	11.0	0.0008	5,000	10.6	0.0008	4,000	9.8	0.0004
5.0	16	7,300	53.1	0.0213	6,000	43.3	0.0177	5,000	35.4	0.0150	5,000	23.6	0.0118
	20	7,300	45.3	0.0203	6,000	37.4	0.0169	5,000	30.7	0.0142	5,000	23.6	0.0114
	25	6,100	38.2	0.0198	5,000	31.5	0.0165	5,000	27.6	0.0138	5,000	23.6	0.0110
	30	6,100	38.2	0.0180	5,000	31.5	0.0150	5,000	27.6	0.0118	5,000	23.6	0.0098
	35	6,100	38.2	0.0156	5,000	31.5	0.0130	5,000	27.6	0.0110	5,000	23.6	0.0087
	40	6,100	28.7	0.0134	5,000	23.6	0.0110	4,000	22.8	0.0079	4,000	19.7	0.0071
	50	4,900	24.0	0.0071	4,000	19.7	0.0059	3,000	15.7	0.0051	3,000	15.7	0.0039
	60	4,900	16.5	0.0028	4,000	13.8	0.0024	3,000	13.0	0.0024	3,000	11.8	0.0016

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.
* Maximum speed will vary by diameter.

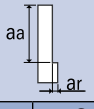
List 3604 - EXOCARB® WXL®: Regular Length, 4 Flute

Side Milling

Hardness	–	<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Aluminum Copper Alloy	Cast Iron, Carbon Steel, Alloy Steels, Stainless, Die Steels		Hardened Steels Pre-hardened Steels, P20, H13, S7, A2			
Cutting Speed	974 SFM	250 SFM		172 SFM		153 SFM	
Depth of Cut	Dia / aa / ar: D<7/64: 1.5D / 0.05D; 7/64≤D: 1.5D / 0.10D 					aa=1.0D ar=0.02D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	40.0	14,000	22.4	8,200	13.1	7,400	11.8
5/64	25,000	50.0	12,000	24.0	7,000	14.0	6,350	12.7
3/32	25,000	60.0	10,800	25.9	6,600	15.8	5,950	14.3
7/64	25,000	70.0	8,900	24.9	5,750	16.1	5,150	14.4
1/8	25,000	90.0	7,000	25.2	4,800	15.4	4,200	13.4
5/32	25,000	130.0	6,050	31.5	4,250	20.4	3,700	16.3
3/16	21,500	137.6	5,500	35.2	3,900	23.4	3,425	19.2
7/32	17,500	140.0	4,100	32.8	2,950	20.1	2,650	18.0
1/4	14,000	128.8	3,800	35.0	2,600	20.8	2,300	18.4
9/32	12,500	130.0	3,400	35.4	2,400	23.0	2,100	18.5
5/16	12,000	144.0	3,050	36.6	2,200	25.5	1,950	19.5
3/8	10,100	141.4	2,750	38.5	1,975	22.9	1,750	19.6
7/16	8,700	139.2	2,250	36.0	1,600	21.8	1,425	18.2
1/2	7,400	133.2	1,900	34.2	1,350	18.9	1,200	15.8
5/8	6,000	110.4	1,500	27.6	1,100	16.3	995	13.9
3/4	5,000	94.0	1,275	24.0	950	16.3	850	13.9
1	3,750	69.4	950	17.6	690	11.8	630	10.3

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

High Speed Light Milling

Hardness	–	<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Aluminum Copper Alloy	Cast Iron, Carbon Steel, Alloy Steels, Stainless, Die Steels		Hardened Steels Pre-hardened Steels, P20, H13, S7, A2			
Cutting Speed	1,627 SFM	1,231 SFM		803 SFM		482 SFM	
Depth of Cut	Dia / aa / ar: D<5/16: 1.5D / 0.01D; 5/16≤D: 1.5D / 0.02D 					Dia / aa / ar: D<5/16: 1.0D / 0.01D; 5/16≤D: 1.0D / 0.02D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
7/32	25,000	200.0	20,000	160.0	13,000	88.4	7,950	54.1
1/4	22,500	207.0	19,000	174.8	11,500	92.0	7,000	56.0
9/32	24,000	249.6	17,500	182.0	10,500	100.8	6,250	55.0
5/16	19,500	234.0	14,500	174.0	9,900	114.8	5,950	59.5
3/8	17,500	245.0	13,250	185.5	8,900	103.2	5,350	59.9
7/16	14,250	228.0	10,950	175.2	7,275	98.9	4,350	55.7
1/2	12,000	216.0	9,200	165.6	6,125	85.8	3,675	48.5
5/8	9,700	178.5	7,450	137.1	4,950	73.3	2,950	41.3
3/4	9,150	172.0	6,275	118.0	4,175	71.8	2,500	41.0
1	6,200	114.7	4,700	88.4	3,050	51.9	1,850	30.5

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

List 3704 - EXOCARB® WXL®: Regular Length, 4 Flute

Side Milling

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Mild Steels Carbon Steels		Hardened Steels Prehardended Steels Stainless Steels			
Cutting Speed	516-990 SFM		248-254 SFM		143-184 SFM		129-164 SFM	
Depth of Cut			Dia / aa / ar D<3 / 1.5D / 0.05D 3≤D / 1.5D / 0.10D				aa = 1.0D ar = 0.02D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1.0	25,000	8.7	24,000	8.3	14,000	3.1	12,500	2.8
1.5	25,000	19.2	16,000	12.2	9,250	4.5	8,400	4.1
2.0	25,000	22.8	12,000	11.6	7,000	4.3	6,350	3.9
2.5	25,000	49.2	9,600	18.9	6,200	5.5	5,550	4.9
3.0	25,000	49.2	8,150	16.9	5,300	4.9	4,750	4.3
4.0	24,000	66.9	6,050	17.7	4,250	5.3	3,700	4.5
5.0	19,000	78.7	4,900	20.5	3,550	5.5	3,150	4.9
6.0	16,000	78.7	4,100	20.5	2,950	5.7	2,650	5.1
8.0	12,000	74.8	3,050	19.9	2,200	5.7	1,950	5.1
10.0	9,500	74.8	2,450	19.9	1,750	5.7	1,550	5.1
12.0	7,900	74.8	2,050	19.9	1,450	5.7	1,300	5.1
14.0	6,800	74.8	1,750	19.5	1,250	5.7	1,100	4.9
15.0	6,300	74.8	1,600	19.3	1,150	5.3	1,050	4.7
16.0	5,900	70.9	1,500	18.9	1,100	5.1	995	4.5
18.0	5,300	70.9	1,350	18.5	990	4.5	880	4.1
20.0	4,800	68.4	1,200	17.5	890	4.1	795	3.7
25.0	3,800	55.1	970	14.2	710	3.3	635	3.0
30.0	3,200	44.7	815	11.8	590	2.8	530	2.4

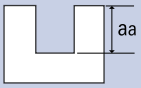
1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

High Speed Milling

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Mild Steels Carbon Steels		Hardened Steels Pre-hardened Steels			
Cutting Speed	1597-1625 SFM		1197-1238 SFM		805-820 SFM		480-492 SFM	
Depth of Cut			Dia / aa / ar D<3 / 1.5D / 0.01D 3≤D / 1.5D / 0.02D				aa = 1.0D ar = 0.02D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
6	25,000	109.8	20,000	90.6	13,000	59.1	7,950	31.3
8	19,500	118.1	14,500	90.6	9,900	57.1	5,950	31.3
10	15,500	114.2	12,000	90.6	7,950	57.1	4,750	31.3
12	13,000	118.1	9,900	90.6	6,600	57.1	3,950	31.1
14	11,100	110.2	8,500	86.6	5,650	53.1	3,400	29.1
15	10,500	110.2	7,950	84.6	5,250	53.1	3,150	28.7
16	9,700	106.3	7,450	82.7	4,950	53.1	2,950	28.1
18	8,600	106.3	6,600	82.7	4,400	51.2	2,650	27.8
20	7,800	102.4	5,950	78.7	3,950	51.2	2,350	26.2
25	6,200	78.7	4,750	63.0	3,150	41.3	1,900	22.0
30	5,200	66.9	3,950	53.1	2,650	35.0	1,550	17.9

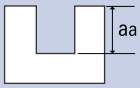
List 3794: 4 Flute, Long Neck, Stub Length

Slotting

Hardness	–			<32 HRC			33-41 HRC			42-50 HRC		
Work Material	Copper Copper Alloy			Mild Steels Carbon Steels			Hardened Steels Pre-hardened Steels Stainless Steels					
Cutting Speed	173-374 SFM			144-309 SFM			130-309 SFM			101-248 SFM		
Depth of Cut												
D (mm)	L2 (mm)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)
1.0	4	25,000	62.8	0.0031	21,980	54.8	0.0028	21,300	46.1	0.0028	16,930	29.7	0.0020
	6	25,000	57.5	0.0031	21,980	51.3	0.0028	21,300	43.5	0.0024	16,930	30.0	0.0016
	8	25,000	51.9	0.0020	21,980	45.1	0.0016	21,300	40.0	0.0016	16,930	22.2	0.0012
	10	25,000	47.1	0.0016	21,980	42.8	0.0012	21,300	34.9	0.0011	16,930	20.0	0.0008
	12	25,000	47.1	0.0008	21,980	42.8	0.0008	21,300	34.9	0.0007	16,930	20.0	0.0004
	16	25,000	26.3	0.0004	21,980	23.1	0.0003	21,300	25.2	0.0003	16,930	16.7	0.0002
1.2	6	22,110	60.2	0.0039	18,310	50.2	0.0031	17,750	42.9	0.0028	14,110	29.4	0.0020
	8	22,110	52.6	0.0031	18,310	43.3	0.0028	17,750	38.6	0.0020	14,110	23.8	0.0016
	10	22,110	39.9	0.0024	18,310	33.9	0.0020	17,750	38.6	0.0016	14,110	23.8	0.0012
	12	22,110	46.7	0.0020	18,310	39.9	0.0016	17,750	32.8	0.0012	14,110	22.7	0.0008
	16	22,110	36.0	0.0004	18,310	30.0	0.0003	17,750	23.5	0.0003	14,110	18.3	0.0002
1.4	6	18,960	60.6	0.0055	15,700	49.4	0.0047	15,210	42.6	0.0043	12,090	28.6	0.0035
	8	18,960	50.3	0.0043	15,700	41.2	0.0035	15,210	37.0	0.0031	12,090	22.0	0.0024
	10	18,960	50.3	0.0028	15,700	41.2	0.0024	15,210	37.0	0.0020	12,090	22.0	0.0016
	12	18,960	50.3	0.0024	15,700	41.2	0.0020	15,210	37.0	0.0016	12,090	22.0	0.0012
	14	18,960	45.6	0.0020	15,700	38.7	0.0016	15,210	32.1	0.0014	12,090	19.5	0.0012
	16	18,960	45.6	0.0016	15,700	38.7	0.0012	15,210	32.1	0.0008	12,090	19.5	0.0008
	22	18,960	31.7	0.0004	15,700	26.6	0.0002	15,210	20.6	0.0002	12,090	16.1	0.0002
1.5	6	17,690	66.4	0.0055	14,650	54.5	0.0047	14,200	41.9	0.0043	11,290	28.6	0.0035
	8	17,690	53.2	0.0047	14,650	43.3	0.0039	14,200	39.1	0.0031	11,290	22.2	0.0028
	10	17,690	53.2	0.0039	14,650	43.3	0.0031	14,200	39.1	0.0028	11,290	22.2	0.0020
	12	17,690	53.2	0.0028	14,650	43.3	0.0024	14,200	39.1	0.0020	11,290	22.2	0.0016
	14	17,690	53.2	0.0024	14,650	43.3	0.0020	14,200	39.1	0.0018	11,290	22.2	0.0014
	16	17,690	45.1	0.0024	14,650	38.7	0.0020	14,200	32.2	0.0016	11,290	20.0	0.0012
	18	17,690	45.1	0.0016	14,650	38.7	0.0012	14,200	32.2	0.0008	11,290	20.0	0.0008
	20	17,690	38.4	0.0008	14,650	32.2	0.0008	14,200	29.0	0.0006	11,290	20.0	0.0004
1.6	6	16,590	65.3	0.0067	13,740	54.1	0.0055	13,310	41.6	0.0051	10,580	28.8	0.0039
	8	16,590	56.2	0.0063	13,740	46.9	0.0051	13,310	36.7	0.0047	10,580	22.7	0.0039
	10	16,590	52.6	0.0051	13,740	43.3	0.0043	13,310	36.7	0.0035	10,580	22.7	0.0028
	12	16,590	52.6	0.0031	13,740	43.3	0.0028	13,310	36.7	0.0024	10,580	22.7	0.0020
	14	16,590	52.6	0.0028	13,740	43.3	0.0024	13,310	36.7	0.0020	10,580	22.7	0.0016
	16	16,590	46.3	0.0024	13,740	39.1	0.0020	13,310	30.2	0.0016	10,580	20.8	0.0014
	18	16,590	46.3	0.0020	13,740	39.1	0.0016	13,310	30.2	0.0012	10,580	20.8	0.0012
	20	16,590	46.3	0.0008	13,740	39.1	0.0008	13,310	30.2	0.0008	10,580	20.8	0.0004
	25	16,590	34.2	0.0004	13,740	27.9	0.0004	13,310	21.2	0.0004	10,580	15.0	0.0003
1.8	6	14,740	68.7	0.0094	12,210	57.1	0.0079	11,830	46.6	0.0071	9,410	32.4	0.0055
	8	14,740	77.9	0.0091	12,210	57.1	0.0075	11,830	46.6	0.0067	9,410	32.4	0.0051
	10	14,740	49.5	0.0055	12,210	41.2	0.0047	11,830	34.9	0.0039	9,410	27.8	0.0031
	12	14,740	49.5	0.0047	12,210	41.2	0.0039	11,830	34.9	0.0031	9,410	27.8	0.0028
	14	14,740	49.5	0.0039	12,210	41.2	0.0031	11,830	34.9	0.0024	9,410	27.8	0.0020
	16	14,740	49.5	0.0031	12,210	41.2	0.0028	11,830	34.9	0.0020	9,410	27.8	0.0016
	18	14,740	44.0	0.0024	12,210	37.7	0.0020	11,830	29.1	0.0018	9,410	27.8	0.0014
	20	14,740	44.0	0.0020	12,210	37.7	0.0016	11,830	29.1	0.0016	9,410	27.8	0.0012
	25	14,740	34.5	0.0004	12,210	28.8	0.0004	11,830	24.6	0.0003	9,410	18.5	0.0003

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.
4. When length of the tool extension from the machine is long, reduce the speed and feed.

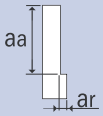
Slotting

Hardness		–			<32 HRC			33-41 HRC			42-50 HRC		
Work Material		Copper Copper Alloy			Mild Steels Carbon Steels			Hardened Steels Pre-hardened Steels Stainless Steels					
Cutting Speed		173-374 SFM			144-309 SFM			130-309 SFM			101-248 SFM		
Depth of Cut													
D (mm)	L2 (mm)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)	Speed (RPM)	Feed (in/min)	aa (in)
2.0	6	13,270	68.2	0.0134	10,990	54.8	0.0110	10,650	44.9	0.0102	8,470	31.8	0.0083
	8	13,270	68.2	0.0122	10,990	54.8	0.0102	10,650	44.9	0.0087	8,470	31.8	0.0071
	10	13,270	54.3	0.0114	10,990	43.3	0.0094	10,650	36.7	0.0079	8,470	27.8	0.0063
	12	13,270	50.6	0.0063	10,990	39.9	0.0051	10,650	36.7	0.0043	8,470	27.8	0.0035
	14	13,270	50.6	0.0051	10,990	39.9	0.0043	10,650	36.7	0.0035	8,470	27.8	0.0028
	16	13,270	50.6	0.0039	10,990	39.9	0.0031	10,650	36.7	0.0028	8,470	27.8	0.0024
	18	13,270	50.6	0.0031	10,990	39.9	0.0028	10,650	36.7	0.0024	8,470	27.8	0.0020
	20	13,270	46.2	0.0024	10,990	37.0	0.0020	10,650	31.4	0.0020	8,470	28.6	0.0016
	25	13,270	46.2	0.0016	10,990	37.0	0.0012	10,650	31.4	0.0008	8,470	28.6	0.0008
	30	13,270	46.2	0.0008	10,990	37.0	0.0008	10,650	31.4	0.0004	8,470	28.6	0.0004
2.5	8	10,610	67.7	0.0165	8,790	54.8	0.0138	8,520	45.7	0.0130	6,770	31.1	0.0102
	12	10,610	67.7	0.0110	8,790	54.8	0.0091	8,520	45.7	0.0075	6,770	31.1	0.0059
	16	10,610	52.2	0.0055	8,790	41.5	0.0047	8,520	39.1	0.0039	6,770	28.6	0.0031
	20	10,610	52.2	0.0043	8,790	41.5	0.0035	8,520	39.1	0.0031	6,770	28.6	0.0024
	25	10,610	50.1	0.0039	8,790	40.7	0.0031	8,520	31.4	0.0024	6,770	26.7	0.0020
3.0	8	8,850	68.2	0.0150	7,330	54.8	0.0126	7,100	41.9	0.0118	5,640	29.2	0.0094
	12	8,850	62.4	0.0126	7,330	50.5	0.0106	7,100	41.9	0.0091	5,640	29.2	0.0071
	16	8,850	43.5	0.0094	7,330	34.6	0.0079	7,100	32.6	0.0067	5,640	27.8	0.0051
	20	8,850	43.5	0.0063	7,330	34.6	0.0051	7,100	32.6	0.0043	5,640	27.8	0.0031
	25	8,850	43.5	0.0051	7,330	34.6	0.0043	7,100	32.6	0.0035	5,640	27.8	0.0028
	30	8,850	41.7	0.0043	7,330	33.9	0.0035	7,100	29.9	0.0031	5,640	26.7	0.0024

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.
4. When length of the tool extension from the machine is long, reduce the speed and feed.

List 3642 - EXOCARB® WXL-EML: 4 Flute, Square End, Long Length
List 3742 - EXOCARB® WXL-EML: 4 Flute, Square End, Long Length

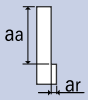
Side Milling

Hardness	Up to 20 HRC		20 to 30 HRC		30 to 38 HRC		38 to 45 HRC		45 to 55 HRC	
Work Material	Mild Steel Carbon Steels Cast Iron		Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Hardened Steels Pre-hardened Steels		Hardened Steels	
Cutting Speed	200 SFM		160 SFM		130 SFM		110 SFM		80 SFM	
Depth of Cut	Dia. / aa / ar D≤20 / 2.5D / 0.05D 20<D / 2.5D / 0.1mm						Dia. / aa / ar D≤8 / 1D / 0.01D 8<D / 1D / 0.5mm		aa = 2.5D ar = 0.02D	
Mill Dia. Inch	Mill Dia. mm	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	-	11,900	8.8	10,000	7.5	7,930	5.9	6,990	0.0	3,960	2.9
5/64	-	9,520	8.8	8,000	7.5	6,350	5.9	5,590	0.0	3,170	2.9
3/32	-	7,930	8.8	6,670	7.5	5,290	5.9	4,660	0.0	2,640	2.9
7/64	-	6,800	8.8	5,710	7.5	4,530	5.9	3,990	0.0	2,260	2.9
-	3.0	6,350	8.9	5,300	7.5	4,200	5.9	3,700	5.2	2,100	2.9
1/8	-	5,950	8.8	5,000	7.5	3,960	5.9	3,490	0.0	1,980	2.9
-	3.5	5,450	8.9	4,540	7.5	3,590	5.9	3,170	5.2	1,790	2.9
5/32	-	4,760	8.8	4,000	7.5	3,170	5.9	2,790	0.0	1,580	2.9
-	4.0	4,750	8.9	3,950	7.5	3,150	5.9	2,750	5.2	1,550	2.9
-	4.5	4,240	8.9	3,530	7.5	2,790	5.9	2,460	5.2	1,390	2.9
3/16	-	3,960	8.8	3,330	7.5	2,640	5.9	2,330	0.0	1,320	2.9
-	5.0	3,800	8.9	3,150	7.5	2,500	5.9	2,200	5.2	1,250	2.9
-	5.5	3,470	8.9	2,890	7.5	2,290	5.9	2,010	5.2	1,140	2.9
7/32	-	3,400	8.8	2,850	7.5	2,260	5.9	2,000	0.0	1,130	2.9
-	6.0	3,150	8.8	2,650	7.5	2,100	5.9	1,850	5.2	1,050	3.0
1/4	-	2,970	8.8	2,500	7.5	1,980	5.9	1,750	0.0	990	3.0
-	6.5	2,930	8.9	2,440	7.5	1,930	5.9	1,700	5.2	960	3.0
-	7.0	2,720	8.9	2,270	7.5	1,790	5.9	1,580	5.2	890	3.0
-	7.5	2,540	8.9	2,110	7.5	1,670	5.9	1,470	5.2	830	3.0
5/16	-	2,380	8.8	2,000	7.5	1,580	5.9	1,400	0.0	790	3.0
-	8.0	2,350	8.8	1,950	7.5	1,550	5.9	1,350	5.1	995	3.8
-	8.5	2,240	8.9	1,870	7.5	1,480	5.9	1,300	5.2	740	3.8
-	9.0	2,120	8.9	1,760	7.5	1,390	5.9	1,230	5.2	690	3.8
-	9.5	2,010	8.9	1,670	7.5	1,320	5.9	1,160	5.2	660	3.8
3/8	-	1,980	8.8	1,660	7.5	1,320	5.9	1,160	0.0	660	3.8
-	10.0	1,900	8.9	1,550	7.5	1,250	5.9	1,100	5.2	795	3.7
-	10.5	1,810	8.9	1,510	7.5	1,190	5.9	1,050	5.2	590	3.7
-	11.0	1,730	8.9	1,440	7.5	1,140	5.9	1,000	5.2	570	3.7
-	11.5	1,660	8.9	1,380	7.5	1,090	5.9	960	5.2	540	3.7
-	12.0	1,550	8.7	1,300	7.5	1,050	6.0	925	5.3	660	3.8
1/2	-	1,480	8.8	1,250	7.5	990	6.0	870	0.0	490	3.8
-	13.0	1,460	8.8	1,220	7.5	960	6.0	850	5.2	480	3.8
-	14.0	1,350	8.8	1,100	7.5	905	6.0	795	5.2	565	3.7
-	15.0	1,270	8.9	1,050	7.5	830	6.0	730	5.2	410	3.7
5/8	-	1,190	8.8	1,000	7.5	790	6.0	700	0.0	390	3.7
-	16.0	1,150	8.6	995	7.5	795	6.2	695	5.4	495	3.8
-	18.0	1,050	8.8	880	7.5	705	6.0	615	5.2	440	3.7
-	20.0	955	8.9	795	7.5	635	5.9	555	5.2	395	3.7
-	23.0	830	8.9	690	7.5	540	5.9	480	5.2	270	3.7
-	24.0	795	8.7	660	7.1	530	5.8	460	5.0	330	3.6
-	25.0	760	8.3	635	6.7	505	5.5	445	4.9	315	3.4
-	26.0	730	7.9	610	6.3	480	5.2	420	4.6	240	3.1

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously,
3. Use a suitable cutting fluid with high smoke retardant.

List 9140: MAX-HARD, Regular Length, 6 Flute
List 9144: MAX-HARD, Regular Length, 6 Flute, Corner Radius

Side Milling

Hardness	–	<40 HRC	40-45 HRC	45-55 HRC	55-60 HRC	60-65 HRC	65-70 HRC
Work Material	Carbon Steels Cast Iron Mild Steels	Hardened Steels Pre-hardened Steels Alloy Steels	Tool Steels Hardened Steels	Hardened Steels Alloy Steels	Hardened Steels		
Cutting Speed	460 SFM	460 SFM	410 SFM	330 SFM	250 SFM	230 SFM	165 SFM
Depth of Cut	Dia / aa / ar: D=1: 1.5D / 0.02D; D=2: 1.5D / 0.05D; D>2: 1.5D / 0.10D; arMax=1.0mm 			aa=1.5D ar=0.05D arMax=1.0mm	aa=1.5D ar=0.03D arMax=0.5mm	aa=1.0D ar=0.02D arMax=0.5mm	

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	20,000	31.5	20,000	31.5	20,000	31.5	20,000	31.5	20,000	22.0	20,000	18.9	16,000	13.4
2	20,000	63.0	20,000	63.0	20,000	63.0	16,000	49.2	12,000	26.4	11,000	21.1	7,950	13.4
3	15,000	70.9	15,000	70.9	13,500	63.0	10,500	49.2	7,950	26.4	7,450	21.1	5,300	13.4
4	11,000	70.9	11,000	70.9	9,950	63.0	7,950	49.2	5,950	26.4	5,550	21.1	4,000	13.4
5	8,900	70.9	8,900	70.9	7,950	63.0	6,350	49.2	4,750	26.4	4,450	21.1	3,200	13.4
6	7,450	104.3	7,450	104.3	6,650	94.5	5,300	74.8	4,000	39.4	3,700	31.5	2,650	19.9
8	5,550	104.3	5,550	104.3	4,950	94.5	4,000	74.8	3,000	39.4	2,800	31.5	2,000	19.9
10	4,450	104.3	4,450	104.3	4,000	94.5	3,200	74.8	2,400	39.4	2,250	31.5	1,600	19.9
12	3,700	104.3	3,700	104.3	3,300	94.5	2,650	74.8	2,000	39.4	1,850	31.5	1,350	19.9

1. Use a rigid and precise machine and holder.
2. We suggest using an air blow or MQL (Mist).
3. When using low speed machines, use the maximum speed and adjust feedrate.
4. During heavy load operations such as corner processing, reduce the speed and feed.
5. The run out of the end mill should be within 10 microns (0.0004")

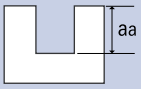
High Speed Light Milling

Hardness	–	<40 HRC	40-45 HRC	45-55 HRC	55-60 HRC	60-65 HRC	65-70 HRC
Work Material	Carbon Steels Cast Iron Mild Steels	Hardened Steels Pre-hardened Steels Alloy Steels	Tool Steels Hardened Steels	Hardened Steels Alloy Steels	Hardened Steels		
Cutting Speed	1030 SFM	985 SFM	985 SFM	820 SFM	525 SFM	490 SFM	330 SFM
Depth of Cut	aa=1.0D ar=0.05D arMax=0.8mm	aa=1.0D ar=0.05D arMax=0.5mm		aa=1.0D ar=0.03D arMax=0.5mm	aa=1.0D ar=0.02D arMax=0.2mm	aa=1.0D ar=0.01D arMax=0.2mm	

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25000	31.5	25000	31.5	25000	39.4	25000	39.4	25000	31.5	25000	28.0	25000	22.0
2	25000	66.9	25000	67.3	25000	78.7	25000	78.7	25000	63.7	24000	53.1	16000	31.5
3	25000	105.7	25000	106.1	25000	116.9	25000	118.9	17000	65.0	16000	53.1	10500	31.5
4	25000	162.1	24000	153.5	24000	149.6	20000	126.0	12500	65.0	12000	53.1	7950	31.5
5	20500	173.2	19000	161.4	19000	149.6	16000	126.0	10000	65.0	9550	53.1	6350	31.5
6	17000	240.2	16000	226.4	16000	226.4	13500	189.0	8500	96.5	7950	78.7	5300	47.2
8	12500	240.2	12000	226.4	12000	226.4	9950	189.0	6350	96.5	5950	78.7	4000	47.2
10	10000	240.2	9550	226.4	9550	226.4	7950	189.0	5100	96.5	4800	78.7	3200	47.2
12	8500	240.2	7950	226.4	7950	226.4	6650	189.0	4250	96.5	4000	78.7	2650	47.2

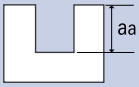
1. Use a rigid and precise machine and holder.
2. We suggest using an air blow or MQL (Mist).
3. When using low speed machines, use the maximum speed and adjust feedrate.
4. During heavy load operations such as corner processing, reduce the speed and feed.
5. The run out of the end mill should be within 10 microns (0.0004")

List 2100: 5 Flute, Square End
List 2106: 5 Flute, Corner Radius
List 2102: 5 Flute, Regular Length, Reduced Neck, Square End
List 2108: 5 Flute, Regular Length, Reduced Neck, Corner Radius

	Side Milling		Slotting	
Cutting Speed	200-265 SFM		100-165 SFM	
Depth of Cut	$a_a \leq 1.8D$ $a_r = 0.2D$ 		$a_a \leq 1D$ 	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/2	1,800	31.9	1,030	10.2
5/8	1,435	25.5	825	8.2
3/4	1,200	25.7	700	8.3
1	900	19.7	515	6.0

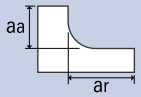
1. Use a rigid and precise machine and holder.
2. The above cutting conditions are to be used as general guidelines. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. Water soluble coolant is highly recommended.

List 2104: 5 Flute, Regular Length, Reduced Neck, Square End
List 2110: 5 Flute, Regular Length, Reduced Neck, Corner Radius

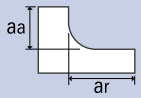
	Side Milling		Slotting	
Cutting Speed	**200-265 SFM**		**100-165 SFM**	
Depth of Cut	$a_a \leq 1.8D$ $a_r = 0.2D$ 		$a_a \leq 1D$ 	
Mill Dia.	**Speed RPM**	**Feed in/min**	**Speed RPM**	**Feed in/min**
12	1,900	33.7	1,100	10.8
16	1,400	24.8	820	8.1
20	1,100	23.6	655	7.7
25	900	19.7	525	6.2

1. Use a rigid and precise machine and holder.
2. The above cutting conditions are to be used as general guidelines. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. Water soluble coolant is highly recommended.

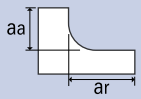
List 2873: 3 Flute, Stub Length

Work Material	Aluminum Alloy	
Depth of Cut	aa 0.4D, ar 1D 	
Mill Dia.	Speed RPM	Feed in/min
5/8	≤33000	≤790 IPM
3/4	≤33000	≤1010 IPM
1	≤33000	≤1280 IPM

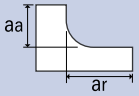
List 2973: 3 Flute, Stub Length

Work Material	Aluminum Alloy	
Depth of Cut	aa 0.4D, ar 1D 	
Mill Dia.	Speed RPM	Feed in/min
20	≤33000	≤1010 IPM
25	≤33000	≤1280 IPM

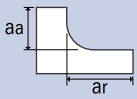
List 2874: 3 Flute, Stub Length, Coolant-Through

Work Material	Aluminum Alloy	
Depth of Cut	aa 0.4D, ar 1D 	
Mill Dia.	Speed RPM	Feed in/min
3/4	≤33000	≤1010 IPM
1	≤33000	≤1280 IPM

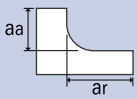
List 2974: 3 Flute, Stub Length, Coolant-Through

Work Material	Aluminum Alloy	
Depth of Cut	aa: 0.4D, ar: 1D 	
Mill Dia.	Speed RPM	Feed in/min
20	≤33000	≤1010 IPM
25	≤33000	≤1280 IPM

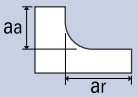
List 2843: 3 Flute, Long Length

Work Material	Aluminum Alloy	
Cutting Speed	3,280 SFM - 9,840 SFM	
Depth of Cut	Dia / aa / ar: 1/2 ≤1.77 ≤ 0.006; 5/8 ≤1.77 ≤ 0.008; 3/4 ≤1.77 ≤ 0.012; 1 ≤1.77 ≤ 0.012 	
Mill Dia.	Speed RPM	Feed in/min
1/2	≤14000	≤157 IPM
5/8	≤14000	≤197 IPM
3/4	≤14000	≤236 IPM
1	≤14000	≤236 IPM

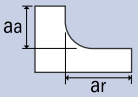
List 2943: 3 Flute, Long Length

Work Material	Aluminum Alloy	
Cutting Speed	3,280 SFM - 9,840 SFM	
Depth of Cut	Dia / aa / ar: 12 ≤1.77 ≤ 0.006; 16 ≤1.77 ≤ 0.008; 20 ≤1.77 ≤ 0.012; 25 ≤1.77 ≤ 0.012 	
Mill Dia.	Speed RPM	Feed in/min
12	≤14000	≤157 IPM
16	≤14000	≤197 IPM
20	≤14000	≤236 IPM
25	≤14000	≤236 IPM

List 2853: 3 Flute, Extra Long Length

Work Material	Aluminum Alloy	
Depth of Cut	aa ≤ 3.74, ar ≤ 0.008 	
Mill Dia.	Speed RPM	Feed in/min
3/4	≤14000	≤236 IPM

List 2953: 3 Flute, Extra Long Length

Work Material	Aluminum Alloy	
Depth of Cut	aa ≤ 3.74, ar ≤ 0.008 	
Mill Dia.	Speed RPM	Feed in/min
20	≤14000	≤236 IPM

List 2022: Regular Length - 2 Flute - Square & Corner Radius
List 2023: Regular Length - 2 Flute - Reduced Neck
List 2024: Long Length - 2 Flute - Reduced Neck

Slotting

Work Material	Aluminum Alloys A6061, A7075		Aluminum Alloy Casting Si<13%	
Cutting Speed	990 SFM		890 SFM	
Depth of Cut	<0.6D Depth of Cut			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	25,000	100	25,000	100
3/16	20,300	160	18,300	145
1/4	15,200	170	13,700	150
3/8	10,100	160	9,100	145
7/16	8,700	175	7,800	160
1/2	7,600	190	6,800	170
5/8	6,100	170	5,500	150
3/4	5,100	160	4,600	145
1	3,800	150	3,400	135

1. Use a rigid and precise machine and holder.
2. Use a water soluble cutting fluid.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.

List 2043: Regular Length - 3 Flute - Reduced Neck - Square & Corner Radius
List 2048: Regular Length - 3 Flute - Reduced Neck - Square & Corner Radius

Slotting

Work Material	Aluminum Alloys A6061, A7075		
Depth of Cut	<0.5D Depth of Cut		
Mill Dia.	Speed RPM	IPT	Feed in/min
1/8	25,000	0.0014	105.0
3/16	20,300	0.0028	170.5
1/4	15,200	0.0039	175.6
3/8	10,100	0.0056	169.7
7/16	8,700	0.0070	182.7
1/2	7,600	0.0088	199.5
5/8	6,100	0.0098	179.3
3/4	5,100	0.0112	171.4
1	3,800	0.0140	159.6

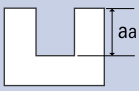
List 8120: Regular Length - 2 Flute

Side Milling

Work Material	Aluminum Alloys		Copper Alloys	
Cutting Speed	650 SFM		245 SFM	
Depth of Cut	a_a=1.5D a_r=0.1D 			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	6.8	23,500	8.7
2	25,000	12.9	11,500	8.5
3	21,000	27.6	7,950	9.8
4	15,500	28.5	5,950	11.0
5	12,500	29.9	4,750	11.6
6	10,500	32.7	3,950	12.2
8	7,950	35.0	2,950	13.8
10	6,350	39.2	2,350	14.4
12	5,300	41.3	1,950	15.4
14	4,500	41.3	1,700	15.6
16	3,950	41.3	1,450	15.4
18	3,500	41.3	1,300	15.4
20	3,150	41.3	1,150	15.2

1. Use a rigid and precise machine and holder.
2. Use a water soluble cutting fluid.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.

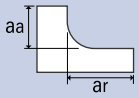
Slotting

Work Material	Aluminum Alloys		Copper Alloys	
Cutting Speed	490 SFM		245 SFM	
Depth of Cut	a_a=1D 			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	6.8	23,500	8.7
2	23,500	12.2	11,500	8.5
3	15,500	20.3	7,950	9.8
4	11,500	21.3	5,950	11.0
5	9,500	22.6	4,750	11.6
6	7,950	24.8	3,950	12.2
8	5,950	26.2	2,950	13.8
10	4,750	29.3	2,350	14.4
12	3,950	31.1	1,950	15.4
14	3,400	31.3	1,700	15.6
16	2,950	31.3	1,450	15.4
18	2,650	31.3	1,300	15.4
20	2,350	30.9	1,150	15.2

1. Use a rigid and precise machine and holder.
2. Use a water soluble cutting fluid.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.

List 7020: Stub Length, 2 Flute
List 7120: Regular Length, 2 Flute
List 7010: Long Length, 2 Flute
List 7110: Ball End, Regular Length, 2 Flute

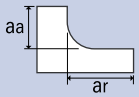
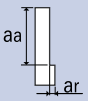
Standard

Work Material	Graphite		Green Ceramic Thermoset Plastic		Fiber Filler Plastics		Aluminum Alloys		Metal Matrix Composite (MMC, AlSiC)		Copper Alloys	
Cutting Speed	160-300 SFM		80-140 SFM		130-800 SFM		160-800 SFM		100-750 SFM		328-649 SFM	
Depth of Cut	Dia / ā a / ā r D≤1/8 / 0.02D / 0.05D D>1/8 / 0.10D / 0.20D						Dia / ā a / ā r D≤1/8 / 0.5D / 0.05D D>1/8 / 1D / 0.1D					
Mill Dia.	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth
1/32	25,000	0.0005–0.0010	13,450	0.0005–0.0010	25,000	0.0004–0.0008	25,000	0.0004–0.0008	25,000	0.0004–0.0008	25,000	0.0004–0.0008
1/16	14,060	0.0010–0.0020	6,720	0.0010–0.0020	25,000	0.0010–0.0020	25,000	0.0010–0.0020	25,000	0.0010–0.0020	25,000	0.0010–0.0020
3/32	9,370	0.0010–0.0020	4,480	0.0010–0.0020	19,560	0.0010–0.0020	19,560	0.0010–0.0020	17,320	0.0010–0.0020	19,890	0.0010–0.0020
1/8	7,030	0.0010–0.0020	3,360	0.0010–0.0020	14,670	0.0010–0.0020	14,670	0.0010–0.0020	12,990	0.0010–0.0020	14,910	0.0010–0.0020
3/16	4,690	0.0010–0.0020	2,240	0.0010–0.0020	9,780	0.0010–0.0020	9,780	0.0010–0.0020	8,660	0.0010–0.0020	9,940	0.0010–0.0020
1/4	3,510	0.0020–0.0040	1,680	0.0020–0.0040	7,330	0.0015–0.0030	7,330	0.0015–0.0030	6,500	0.0015–0.0030	7,460	0.0015–0.0030
5/16	2,810	0.0020–0.0040	1,350	0.0020–0.0040	5,870	0.0020–0.0040	5,870	0.0020–0.0040	5,200	0.0020–0.0040	5,960	0.0020–0.0040
3/8	2,340	0.0030–0.0050	1,120	0.0030–0.0050	4,890	0.0030–0.0050	4,890	0.0030–0.0050	4,330	0.0030–0.0050	4,970	0.0030–0.0050
1/2	1,760	0.0030–0.0050	840	0.0030–0.0050	3,670	0.0030–0.0050	3,670	0.0030–0.0050	3,250	0.0030–0.0050	3,730	0.0030–0.0050

1. Please reduce speed and feed by 20% when L/D>3D.
2. Please reduce speed and feed by 30% when slotting > 0.5D.
3. Please reduce depth of cut if running at elevated speed and feed.

List 7040: Inch, Stub Length, 4 Flute
List 7041: Long Length, 4 Flute
List 7042: Stub Length, 4 Flute, Long Shank
List 7072: Inch, Stub Length, 4 Flute, Long Shank, Corner Radius
List 7030: Ball End, Regular Length, 4 Flute
List 7031: Ball End, Long Length, 4 Flute
List 7032: Inch, Ball End, Stub Length, 4 Flute, Long Shank
List 7173: Metric, Ball End, Stub Length, 4 Flute, Long Shank
List 7132: Metric, Stub Length, 4 Flute, Long Shank, Corner Radius
List 7140: Metric, Stub Length, 4 Flute

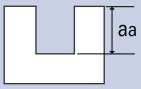
Standard

Work Material	Graphite		Green Ceramic Thermoset Plastic		Fiber Filler Plastics		Aluminum Alloys		Metal Matrix Composite (MMC, AlSiC)		Copper Alloys	
Cutting Speed	160-300 SFM		80-140 SFM		130-800 SFM		160-800 SFM		100-750 SFM		328-649 SFM	
Depth of Cut	Dia / aa / ar D≤1/8: 0.02D / 0.05D D>1/8: 0.10D / 0.20D						Dia / aa / ar D≤1/8: 0.5D / 0.05D D>1/8: 1D / 0.1D					
Mill Dia.	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth	Speed RPM	Feed in/tooth
1/32	25,000	0.0005–0.0010	13,450	0.0005–0.0010	25,000	0.0004–0.0008	25,000	0.0004–0.0008	25,000	0.0004–0.0008	25,000	0.0004–0.0008
1/16	14,060	0.0010–0.0020	6,720	0.0010–0.0020	25,000	0.0010–0.0020	25,000	0.0010–0.0020	25,000	0.0010–0.0020	25,000	0.0010–0.0020
3/32	9,370	0.0010–0.0020	4,480	0.0010–0.0020	19,560	0.0010–0.0020	19,560	0.0010–0.0020	17,320	0.0010–0.0020	19,890	0.0010–0.0020
1/8	7,030	0.0010–0.0020	3,360	0.0010–0.0020	14,670	0.0010–0.0020	14,670	0.0010–0.0020	12,990	0.0010–0.0020	14,910	0.0010–0.0020
3/16	4,690	0.0010–0.0020	2,240	0.0010–0.0020	9,780	0.0010–0.0020	9,780	0.0010–0.0020	8,660	0.0010–0.0020	9,940	0.0010–0.0020
1/4	3,510	0.0020–0.0040	1,680	0.0020–0.0040	7,330	0.0015–0.0030	7,330	0.0015–0.0030	6,500	0.0015–0.0030	7,460	0.0015–0.0030
5/16	2,810	0.0020–0.0040	1,350	0.0020–0.0040	5,870	0.0020–0.0040	5,870	0.0020–0.0040	5,200	0.0020–0.0040	5,960	0.0020–0.0040
3/8	2,340	0.0030–0.0050	1,120	0.0030–0.0050	4,890	0.0030–0.0050	4,890	0.0030–0.0050	4,330	0.0030–0.0050	4,970	0.0030–0.0050
1/2	1,760	0.0030–0.0050	840	0.0030–0.0050	3,670	0.0030–0.0050	3,670	0.0030–0.0050	3,250	0.0030–0.0050	3,730	0.0030–0.0050

1. Please reduce speed and feed by 20% when L/D>3D.
2. Please reduce speed and feed by 30% when slotting > 0.5D.
3. Please reduce depth of cut if running at elevated speed and feed.

List 7440: DG-EML

Contouring

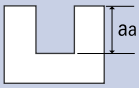
Work Material	Graphite			
	Slotting		Side Milling	
Cutting Speed	246 SFM		246 SFM	
Depth of Cut	 Aa = 0.1D		 Aa = 1D Ar = 0.1D	
Mill Dia. Inch	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	25,000	100	25,000	142
3/64	20,000	66	20,000	95
1/16	15,000	50	15,000	71
3/32	10,000	33	10,000	47
1/8	7,520	25	7,520	35
3/16	5,010	16	5,010	24
1/4	3,860	12	3,860	18
3/8	2,500	8	2,500	12
1/2	1,880	6	1,880	9

Set the ramping angle to be approximately 3°.

1. Adjust the speed, the feed rate, and the depth of cut to suit your operating conditions, such as the milling shape, machine reigidity, tool holder rigidity, and work holding force.
2. If you are unable to reach the speed and feed rate indicated in the table above, lower the speed and feed rate using the same ratio.
3. If the workpiece gets chipped or if the operation requires a higher level of milling precision, lower the feed rate as necessary.
4. Depending on the shape, if the workpiece chatters, lower the speed and feed rate using the same ratio.
5. To mill graphite, use a dedicated milling machine. To prevent inhalation of dust, use a dust collector and a dust mask when working around graphite.
6. During milling, keep the runout at the tip of the end mill to be less than 0.0004 inches (0.01 mm).
7. If a cut involves the shaping of a corner during side milling, use the corner radius process of the program, or adjust the speed so that it will not cause chattering, and reduce the speed at the corner at the same time (approximately 40%).

List 7441: DG-LN-EML

Contouring

Work Material	Graphite			
	Slotting		Side Milling	
Cutting Speed	123 SFM		123 SFM	
Depth of Cut	 Aa = 0.1D		 Aa = 1D Ar = 0.1D	
Mill Dia. Inch	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	15,000	33	15,000	47
3/64	10,000	22	10,000	32
1/16	7,500	16	7,500	23
3/32	5,000	11	5,000	16
1/8	3,760	8	3,760	12
3/16	2,500	5	2,500	8
1/4	1,930	4	1,930	6

Set the ramping angle to be approximately 3°.

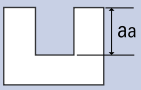
1. Adjust the speed, the feed rate, and the depth of cut to suit your operating conditions, such as the milling shape, machine reigidity, tool holder rigidity, and work holding force.
2. If you are unable to reach the speed and feed rate indicated in the table above, lower the speed and feed rate using the same ratio.
3. If the workpiece gets chipped or if the operation requires a higher level of milling precision, lower the feed rate as necessary.
4. Depending on the shape, if the workpiece chatters, lower the speed and feed rate using the same ratio.
5. To mill graphite, use a dedicated milling machine. To prevent inhalation of dust, use a dust collector and a dust mask when working around graphite.
6. During milling, keep the runout at the tip of the end mill to be less than 0.0004 inches (0.01 mm).
7. If a cut involves the shaping of a corner during side milling, use the corner radius process of the program, or adjust the speed so that it will not cause chattering, and reduce the speed at the corner at the same time (approximately 40%).

List VG441: 4 Flute
List VG434: 4 Flute - Corner Radius
List VG436: 4 Flute - Corner Chamfer

Side Milling

Hardness	<25 HRC		25-30 HRC		30-35 HRC		35-45 HRC		45-50 HRC		<40 HRC		<45 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	400-500 SFM		300-400 SFM		200-350 SFM		200-250 SFM		175-225 SFM		150-250 SFM		100-135 SFM	
Depth of Cut	Aa=1.5D Ar=0.5D 						Aa=1.5D Ar=0.5D		Aa=1.5D Ar=0.5D		Aa=1.5D Ar=0.5D		Aa=1.25D Ar=0.3D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	13,750	44.0	10,695	25.7	8,400	18.6	6,875	15.2	6,110	14.5	6,110	12.9	3,665	9.5
3/16	9,170	46.8	7,130	28.8	5,600	20.6	4,585	16.9	4,075	16.3	4,075	13.7	2,445	10.9
1/4	6,875	46.8	5,350	31.1	4,200	20.3	3,440	16.7	3,050	16.8	3,050	13.9	1,835	11.2
5/16	5,500	48.1	4,210	31.8	3,350	21.4	2,750	17.6	2,450	17.8	2,450	15.1	1,465	11.7
3/8	4,585	47.1	3,565	30.5	2,800	20.6	2,290	16.9	2,040	16.3	2,040	14.6	1,220	11.1
7/16	3,930	45.4	3,055	30.2	2,400	20.1	1,965	16.5	1,750	16.3	1,750	14.0	1,050	11.1
1/2	3,440	45.4	2,675	29.2	2,100	19.5	1,720	15.9	1,525	15.7	1,525	13.9	915	10.8
5/8	2,750	40.6	2,140	27.7	1,700	19.0	1,375	15.4	1,225	14.7	1,225	12.5	730	9.9
3/4	2,290	37.3	1,785	25.3	1,400	16.8	1,150	13.8	1,025	13.5	1,025	11.8	610	9.3
1	1,720	33.0	1,340	22.8	1,050	14.9	860	12.2	765	12.2	765	10.6	460	8.4

Slotting

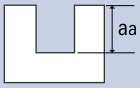
Hardness	<25 HRC		25-30 HRC		30-35 HRC		35-45 HRC		45-50 HRC		< 40 HRC		< 45 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	325-400 SFM		250-325 SFM		175-275 SFM		160-200 SFM		140-180 SFM		125-200 SFM		75-100 SFM	
Depth of Cut	Aa=1D 						Aa=0.75D		Aa=0.75D		Aa=0.75D		Aa=0.25D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	11,240	35.8	8,860	21.3	6,900	15.4	5,500	10.7	4,890	11.6	5,050	10.6	2,750	7.3
3/16	7,495	38.5	5,910	23.9	4,600	17.5	3,670	11.5	3,260	12.8	3,350	11.5	1,835	8.1
1/4	5,620	37.9	4,430	25.5	3,450	17.2	2,750	12.2	2,445	14.0	2,550	11.8	1,375	8.1
5/16	4,500	39.4	3,545	26.8	2,750	18.3	2,200	12.9	1,955	14.2	2,000	11.8	1,100	9.0
3/8	3,750	38.2	2,955	25.5	2,300	17.5	1,835	12.2	1,630	12.8	1,700	11.6	915	8.3
7/16	3,210	37.1	2,530	24.7	1,950	16.7	1,575	11.8	1,395	12.8	1,450	11.8	785	8.3
1/2	2,810	37.2	2,215	24.2	1,700	16.1	1,375	11.5	1,225	12.8	1,300	12.1	690	8.1
5/8	2,250	33.1	1,775	22.5	1,400	15.9	1,100	11.0	975	11.6	1,000	10.0	550	7.6
3/4	1,875	31.1	1,480	20.9	1,150	14.4	920	10.0	815	10.5	850	9.4	460	6.9
1	1,405	26.7	1,110	18.7	875	12.6	685	8.6	610	9.8	650	9.0	345	6.5

List VG446: 4 Flute - Reduced Neck
List VG464: 4 Flute - Extended Length

Side Milling

Hardness	<25 HRC		25-30 HRC		30-35 HRC		35-45 HRC		45-50 HRC		< 40 HRC		< 45 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	400-500 SFM		300-400 SFM		200-350 SFM		200-250 SFM		175-225 SFM		150-250 SFM		100-135 SFM	
Depth of Cut	Aa=1D Ar=0.4D 						Aa=0.75D Ar=0.35D		Aa=0.75D Ar=0.15D		Aa=0.75D Ar=0.35D		Aa=0.75D Ar=0.15D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	6,875	46.8	5,350	31.1	4,200	20.3	3,440	16.7	3,050	16.8	3,050	13.9	1,835	11.2
3/8	4,585	47.1	3,565	30.5	2,800	20.6	2,290	16.9	2,040	16.3	2,040	14.6	1,220	11.1
1/2	3,440	45.4	2,675	29.2	2,100	19.5	1,720	15.9	1,525	15.7	1,525	13.9	915	10.8
5/8	2,750	40.6	2,140	27.7	1,700	19.0	1,375	15.4	1,225	14.7	1,225	12.5	730	9.9
3/4	2,290	37.3	1,785	25.3	1,400	16.8	1,150	13.8	1,025	13.5	1,025	11.8	610	9.3
1	1,720	33.0	1,340	22.8	1,050	14.9	860	12.2	765	12.2	765	10.6	460	8.4

Slotting

Hardness	<25 HRC		25-30 HRC		30-35 HRC		35-45 HRC		45-50 HRC		<40 HRC		<45 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	325-400 SFM		250-325 SFM		175-275 SFM		160-200 SFM		140-180 SFM		125-200 SFM		75-100 SFM	
Depth of Cut	Aa=0.6D 						Aa=0.4D		Aa=0.25D		Aa=0.4D		Aa=0.15D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	5,620	37.9	4,430	25.5	3,450	17.2	2,750	12.2	2,445	14.0	2,550	11.8	1,375	8.1
3/8	3,750	38.2	2,955	25.5	2,300	17.5	1,835	12.2	1,630	12.8	1,700	11.6	915	8.3
1/2	2,810	37.2	2,215	24.2	1,700	16.1	1,375	11.5	1,225	12.8	1,300	12.1	690	8.1
5/8	2,250	33.1	1,775	22.5	1,400	15.9	1,100	11.0	975	11.6	1,000	10.0	550	7.6
3/4	1,875	31.1	1,480	20.9	1,150	14.4	920	10.0	815	10.5	850	9.4	460	6.9
1	1,405	26.7	1,110	18.7	875	12.6	685	8.6	610	9.8	650	9.0	345	6.5

List VGM3-AL: 3 Flute

Side Milling

Work Material	Aluminum Alloy A6061, A7075		Aluminum Alloy Casting		Copper Alloy C1100	
Cutting	600 - 1,700 SFM		600 - 1,700 SFM		400 - 1,200 SFM	
Depth of Cut	Aa = 1.5xD Ar = 0.2xD				Aa = 1.5xD Ar = 0.1xD	
Mill Dia.	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/8	25,000	112.5	25,000	112.5	24,500	73.5
3/16	23,500	158.6	23,500	158.6	16,300	73.4
1/4	17,600	158.4	17,600	158.4	12,300	73.8
5/16	14,100	158.6	14,100	158.6	9,800	73.5
3/8	11,800	159.3	11,800	159.3	8,200	73.8
7/16	10,100	159.1	10,100	159.1	7,000	73.5
1/2	8,800	158.4	8,800	158.4	6,200	74.4
5/8	7,100	159.8	7,100	159.8	4,900	73.5
3/4	5,900	159.3	5,900	159.3	4,100	73.8
1	4,400	158.4	4,400	158.4	3,100	74.4

1. Use a rigid and precise machine and holder.
2. The indicated speeds and feeds are for milling with water-soluble coolant.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys.
6. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

Slotting

Work Material	Aluminum Alloy A6061, A7075		Aluminum Alloy Casting		Copper Alloy C1100	
Cutting	400 - 1,300 SFM		400 - 1,300 SFM		240 - 800 SFM	
Depth of Cut	Aa = 1xD				Aa = 0.5xD	
Mill Dia.	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/8	25,000	93.8	25,000	93.8	15,900	47.7
3/16	17,300	97.3	17,300	97.3	10,600	47.7
1/4	13,000	97.5	13,000	97.5	8,000	48.0
5/16	10,400	97.5	10,400	97.5	6,400	48.0
3/8	8,700	97.9	8,700	97.9	5,300	47.7
7/16	7,500	98.4	7,500	98.4	4,600	48.3
1/2	6,500	97.5	6,500	97.5	4,000	48.0
5/8	5,200	97.5	5,200	97.5	3,200	48.0
3/4	4,400	99.0	4,400	99.0	2,700	48.6
1	3,300	99.0	3,300	99.0	2,000	48.0

1. Use a rigid and precise machine and holder.
2. The indicated speeds and feeds are for milling with water-soluble coolant.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys.
6. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

Plunging

Work Material	Aluminum Alloy A6061, A7075		Aluminum Alloy Casting		Copper Alloy C1100	
Cutting	350 SFM		350 SFM		200 SFM	
Depth of Cut	Aa = 1xD				Aa = 0.5xD	
Mill Dia.	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/8	10,700	12.0	10,700	12.0	6,200	4.7
3/16	7,200	12.2	7,200	12.2	4,100	4.6
1/4	5,400	12.2	5,400	12.2	3,100	4.7
5/16	4,300	12.1	4,300	12.1	2,500	4.7
3/8	3,600	12.2	3,600	12.2	2,100	4.7
7/16	3,100	12.2	3,100	12.2	1,800	4.7
1/2	2,700	12.2	2,700	12.2	1,600	4.8
5/8	2,200	12.4	2,200	12.4	1,300	4.9
3/4	1,800	12.2	1,800	12.2	1,100	5.0
1	1,400	12.6	1,400	12.6	800	4.8

1. Use a rigid and precise machine and holder.
2. The indicated speeds and feeds are for milling with water-soluble coolant.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys.
6. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

List VGM5: 5 Flute

Side Milling

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
Cutting	350-650 SFM		350-650 SFM		200-350 SFM		200-350 SFM		100-200 SFM		150-250 SFM		350-750 SFM		200-350 SFM	
Depth of Cut	Aa = up to Max LOC, Ar= 0.3xD						Aa = up to Max LOC, Ar= 0.2xD		Aa = up to Max LOC, Ar= 0.1xD				Aa = up to Max LOC, Ar= 0.3xD		Aa = up to Max LOC, Ar= 0.15xD	
Mill Dia. Inch	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/8	16,794	84.0	16,794	84.0	7,634	38.2	7,634	38.2	4,580	22.9	6,107	30.5	16,794	84.0	7,634	38.2
5/32	13,435	86.1	13,435	86.1	6,107	39.1	6,107	39.1	3,664	18.3	4,885	24.4	13,435	86.1	6,107	39.1
3/16	11,196	88.2	11,196	88.2	5,089	40.1	5,089	40.1	3,053	22.9	4,071	30.5	11,196	88.2	5,089	40.1
7/32	9,597	90.3	9,597	90.3	4,362	41.0	4,362	41.0	2,617	19.6	3,490	26.2	9,597	90.3	4,362	41.0
1/4	8,397	92.4	8,397	92.4	3,817	42.0	3,817	42.0	2,290	22.9	3,053	30.5	8,397	92.4	3,817	42.0
9/32	7,464	94.5	7,464	94.5	3,393	42.9	3,393	42.9	2,036	20.4	2,714	27.1	7,464	94.5	3,393	42.9
5/16	6,718	96.6	6,718	96.6	3,053	43.9	3,053	43.9	1,832	18.3	2,443	24.4	6,718	96.6	3,053	43.9
3/8	5,598	98.0	5,598	98.0	2,545	44.5	2,545	44.5	1,527	19.1	2,036	25.4	5,598	98.0	2,545	44.5
1/2	4,198	88.2	4,198	88.2	1,908	40.1	1,908	40.1	1,145	14.3	1,527	19.1	4,198	88.2	1,908	40.1
5/8	3,359	70.5	3,359	70.5	1,527	32.1	1,527	32.1	916	11.5	1,221	15.3	3,359	70.5	1,527	32.1
3/4	2,799	61.6	2,799	61.6	1,272	28.0	1,272	28.0	763	9.5	1,018	12.7	2,799	61.6	1,272	28.0
1	2,099	46.2	2,099	46.2	954	21.0	954	21.0	573	8.6	763	11.5	2,099	46.2	954	21.0

1. The above milling condition is a guideline for L/D ratio 1.25 and 1.5.
2. Use a rigid and precise machine and holder.
3. The rotational speed is calculated by the median of the recommended cutting speed.
   Adjustments may be necessary depending on the rigidity or the workpiece, fixture, and machine.
4. Please use a suitable fluid with high smoke retardant properties.
5. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
6. Please use water-soluble coolant when machining stainless steel and titanium alloy.
7. Reduce speed and feed as well as depth of cut when high precision is required.

Speed & Feed Reduction Chart by L/D Ratio

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
L/D Ratio	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2.5	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
3	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
4	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
5	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
6	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%

Aa & Ar Adjustment Chart by L/D Ratio

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
L/D Ratio	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar
2	Up to Max. LOC	0.2 x D	Up to Max. LOC	0.2 x D	Up to Max. LOC	0.2 x D	Up to Max. LOC	0.15 x D	Up to Max. LOC	0.08 x D	Up to Max. LOC	0.08 x D	Up to Max. LOC	0.2 x D	Up to Max. LOC	0.1 x D
2.5		0.2 x D		0.2 x D		0.2 x D		0.15 x D		0.08 x D		0.08 x D		0.2 x D		0.1 x D
3		0.15 x D		0.15 x D		0.15 x D		0.1 x D		0.05 x D		0.05 x D		0.15 x D		0.05 x D
4		0.1 x D		0.1 x D		0.1 x D		0.05 x D		0.03 x D		0.03 x D		0.1 x D		0.03 x D
5		0.1 x D		0.1 x D		0.1 x D		0.05 x D		0.03 x D		0.03 x D		0.1 x D		0.03 x D
6		0.05 x D		0.05 x D		0.05 x D		0.03 x D		0.02 x D		0.02 x D		0.05 x D		0.02 x D

List VGM5-LN: 5 Flute, Long Neck

Side Milling

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
Cutting	350-650 SFM		350-650 SFM		200-350 SFM		200-350 SFM		100-200 SFM		150-250 SFM		350-750 SFM		200-350 SFM	
Depth of Cut	Aa = up to Max LOC, Ar= 0.3xD						Aa = up to Max LOC, Ar= 0.2xD		Aa = up to Max LOC, Ar= 0.1xD				Aa = up to Max LOC, Ar= 0.3xD		Aa = up to Max LOC, Ar= 0.15xD	
Mill Dia. Inch	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/8	16,794	84.0	16,794	84.0	7,634	38.2	7,634	38.2	4,580	22.9	6,107	30.5	16,794	84.0	7,634	38.2
3/16	11,196	88.2	11,196	88.2	5,089	40.1	5,089	40.1	3,053	22.9	4,071	30.5	11,196	88.2	5,089	40.1
1/4	8,397	92.4	8,397	92.4	3,817	42.0	3,817	42.0	2,290	22.9	3,053	30.5	8,397	92.4	3,817	42.0
3/8	5,598	98.0	5,598	98.0	2,545	44.5	2,545	44.5	1,527	19.1	2,036	25.4	5,598	98.0	2,545	44.5
1/2	4,198	88.2	4,198	88.2	1,908	40.1	1,908	40.1	1,145	14.3	1,527	19.1	4,198	88.2	1,908	40.1
5/8	3,359	70.5	3,359	70.5	1,527	32.1	1,527	32.1	906	11.5	1,221	15.3	3,359	70.5	1,527	32.1
3/4	2,799	61.6	2,799	61.6	1,272	28.0	1,272	28.0	763	9.5	1,018	12.7	2,799	61.6	1,272	28.0
1	2,099	46.2	2,099	46.2	954	21.0	954	21.0	573	8.6	763	11.5	2,099	46.2	954	21.0

1. The above milling condition is a guideline for L/D ratio 3.
2. Use a rigid and precise machine and holder.
3. The rotational speed is calculated by the median of the recommended cutting speed.
   Adjustments may be necessary depending on the rigidity or the workpiece, fixture, and machine.
4. Please use a suitable fluid with high smoke retardant properties.
5. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
6. Please use water-soluble coolant when machining stainless steel and titanium alloy.
7. Reduce speed and feed as well as depth of cut when high precision is required.

Speed & Feed Reduction Chart by L/D Ratio

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
L/D Ratio	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
4	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
5	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
6	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
7	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
8	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
9	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
10	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%

Aa & Ar Adjustment Chart by L/D Ratio

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
L/D Ratio	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar
4	1 x D		1 x D		1 x D		1 x D		1 x D		1 x D		1 x D		1 x D	
5	0.75 x D		0.75 x D		0.75 x D		0.75 x D		0.75 x D		0.75 x D		0.75 x D		0.75 x D	
6	0.6 x D		0.6 x D		0.6 x D		0.6 x D		0.6 x D		0.6 x D		0.6 x D		0.6 x D	
7	0.5 x D	0.3 x D	0.5 x D	0.3 x D	0.5 x D	0.3 x D	0.5 x D	0.2 x D	0.5 x D	0.1 x D	0.5 x D	0.1 x D	0.5 x D	0.3 x D	0.5 x D	0.15 x D
8	0.4 x D		0.4 x D		0.4 x D		0.4 x D		0.4 x D		0.4 x D		0.4 x D		0.4 x D	
9	0.2 x D		0.2 x D		0.2 x D		0.2 x D		0.2 x D		0.2 x D		0.2 x D		0.2 x D	
10	0.2 x D		0.2 x D		0.2 x D		0.2 x D		0.2 x D		0.2 x D				0.2 x D	

List VGM6: 6 Flute

Side Milling

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
Cutting	350-550 SFM		350-550 SFM		150-350 SFM		150-350 SFM		100-200 SFM		150-250 SFM		350-650SFM		150-350 SFM	
Depth of Cut	Aa = up to Max LOC, Ar= 0.2xD				Aa = up to Max LOC, Ar= 0.15xD				Aa = up to Max LOC, Ar= 0.08xD				Aa = up to Max LOC, Ar= 0.2xD		Aa = up to Max LOC, Ar= 0.1xD	
Mill Dia. Inch	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/4	6,870	90.7	6,870	90.7	3,817	50.4	3,817	50.4	2,290	27.5	3,053	36.6	7,634	100.8	3,817	50.4
5/16	5,496	98.9	5,496	98.9	3,053	55.0	3,053	55.0	1,832	22.0	2,443	29.3	6,107	109.9	3,053	55.0
3/8	4,580	96.2	4,580	96.2	2,545	53.4	2,545	53.4	1,527	22.9	2,036	30.5	5,089	106.9	2,545	53.4
1/2	3,435	86.6	3,435	86.6	1,908	48.1	1,908	48.1	1,145	17.2	1,527	22.9	3,817	96.2	1,908	48.1
5/8	2,748	69.3	2,748	69.3	1,527	38.5	1,527	38.5	916	13.7	1,221	18.3	3,053	76.9	1,527	38.5
3/4	2,290	60.5	2,290	60.5	1,272	33.6	1,272	33.6	763	11.5	1,018	15.3	2,545	67.2	1,272	33.6
1	1,718	45.3	1,718	45.3	954	25.2	954	25.2	573	10.3	763	13.7	1,908	50.4	954	25.2

1. The above milling condition is a guideline for L/D ratio 1.25 and 1.5.
2. Use a rigid and precise machine and holder.
3. The rotational speed is calculated by the median of the recommended cutting speed.
   Adjustments may be necessary depending on the rigidity or the workpiece, fixture, and machine.
4. Please use a suitable fluid with high smoke retardant properties.
5. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
6. Please use water-soluble coolant when machining stainless steel and titanium alloy.
7. Reduce speed and feed as well as depth of cut when high precision is required.

Speed & Feed Reduction Chart by L/D Ratio

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
L/D Ratio	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2.5	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
3	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
4	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
5	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
6	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%

Aa & Ar Adjustment Chart by L/D Ratio

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
L/D Ratio	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar
2	Up to Max. LOC	0.15 x D	Up to Max. LOC	0.15 x D	Up to Max. LOC	0.1 x D	Up to Max. LOC	0.1 x D	Up to Max. LOC	0.05 x D	Up to Max. LOC	0.05 x D	Up to Max. LOC	0.15 x D	Up to Max. LOC	0.08 x D
2.5		0.15 x D		0.15 x D		0.1 x D		0.1 x D		0.05 x D		0.05 x D		0.15 x D		0.08 x D
3		0.1x D		0.1x D		0.08x D		0.08x D		0.03 x D		0.03 x D		0.1x D		0.05x D
4		0.08x D		0.08x D		0.05x D		0.05x D		0.02 x D		0.02 x D		0.08x D		0.03x D
5		0.08x D		0.08x D		0.05x D		0.05x D		0.02 x D		0.02 x D		0.08x D		0.03x D
6		0.05 x D		0.05 x D		0.03 x D		0.03 x D		0.01 x D		0.01 x D		0.05 x D		0.02 x D

List VGM7: 7 Flute

Side Milling

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
Cutting	350-500 SFM		350-500 SFM		150-350 SFM		150-350 SFM		100-200 SFM		150-250 SFM		350-600SFM		150-350 SFM	
Depth of Cut	Aa = up to Max LOC, Ar= 0.15xD				Aa = up to Max LOC, Ar= 0.1xD				Aa = up to Max LOC, Ar= 0.05xD				Aa = up to Max LOC, Ar= 0.15xD		Aa = up to Max LOC, Ar= 0.08xD	
Mill Dia. Inch	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/4	6,870	105.8	6,870	105.8	3,817	58.8	3,817	58.8	2,290	37.4	3,053	42.7	7,634	117.6	3,817	58.8
5/16	5,496	115.4	5,496	115.4	3,053	64.1	3,053	64.1	1,832	29.9	2,443	34.2	6,107	128.2	3,053	64.1
3/8	4,580	112.2	4,580	112.2	2,545	62.3	2,545	62.3	1,527	31.2	2,036	35.6	5,089	124.7	2,545	62.3
1/2	3,435	101.0	3,435	101.0	1,908	56.1	1,908	56.1	1,145	23.4	1,527	26.7	3,817	112.2	1,908	56.1
5/8	2,748	80.8	2,748	80.8	1,527	44.9	1,527	44.9	916	18.7	1,221	21.4	3,053	89.8	1,527	44.9
3/4	2,290	70.5	2,290	70.5	1,272	39.2	1,272	39.2	763	15.6	1,018	17.8	2,545	78.4	1,272	39.2
1	1,718	52.9	1,718	52.9	954	29.4	954	29.4	573	14.0	763	16.0	1,908	58.8	954	29.4

1. The above milling condition is a guideline for L/D ratio 1.25 and 1.5.
2. Use a rigid and precise machine and holder.
3. The rotational speed is calculated by the median of the recommended cutting speed.
   Adjustments may be necessary depending on the rigidity or the workpiece, fixture, and machine.
4. Please use a suitable fluid with high smoke retardant properties.
5. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
6. Please use water-soluble coolant when machining stainless steel and titanium alloy.
7. Reduce speed and feed as well as depth of cut when high precision is required.

Speed & Feed Reduction Chart by L/D Ratio

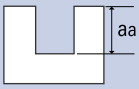
Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
L/D Ratio	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2.5	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
3	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
4	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
5	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
6	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%

Aa & Ar Adjustment Chart by L/D Ratio

Hardness	–		Up to 30 HRC		–		–		–		–		–		35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steel Alloy Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V		Inconel 718		Inconel 625		Cast Iron		Hardened Steel	
L/D Ratio	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar	Aa	Ar
2	Up to Max. LOC	0.1 x D	Up to Max. LOC	0.1 x D	Up to Max. LOC	0.08 x D	Up to Max. LOC	0.08 x D	Up to Max. LOC	0.03 x D	Up to Max. LOC	0.03 x D	Up to Max. LOC	0.1 x D	Up to Max. LOC	0.05 x D
2.5		0.1 x D		0.1 x D		0.08 x D		0.08 x D		0.03 x D		0.03 x D		0.1 x D		0.05 x D
3		0.07x D		0.07x D		0.05x D		0.05x D		0.02 x D		0.02 x D		0.07x D		0.03x D
4		0.05x D		0.05x D		0.03x D		0.03x D		0.02 x D		0.02 x D		0.05x D		0.02x D
5		0.05x D		0.05x D		0.03x D		0.03x D		0.02 x D		0.02 x D		0.05x D		0.02x D
6		0.03 x D		0.03 x D		0.02x D		0.02x D		0.01x D		0.01x D		0.03 x D		0.01x D

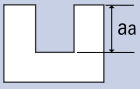
List HP421

Slotting (Fractional)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	360 SFM	330 SFM	260 SFM	220 SFM	180 SFM	120 SFM	80 SFM
Depth of Cut		Dia / aa: D<1/16: 0.1D; 1/16≤D≤1/8: 0.3D; 1/8≤D: 0.5D				Dia / aa: D<1/16: 0.02D; 1/16≤D: 0.05D	Dia / aa: D<1/16: 0.01D; 1/16≤D≤1/8: 0.02D; 1/8≤D: 0.05D
Mill Dia.	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min
1/16	21,990 / 7.9	20,150 / 7.2	15,880 / 7.2	13,440 / 5.1	10,990 / 3.5	7,330 / 2.0	4,890 / 1.3
3/32	14,660 / 9.6	13,440 / 8.8	10,590 / 7.3	8,960 / 5.1	7,330 / 3.7	4,890 / 2.3	3,260 / 1.3
1/8	10,990 / 12.4	10,080 / 11.5	7,940 / 8.0	6,720 / 5.4	5,500 / 4.0	3,660 / 2.5	2,440 / 1.5
5/32	8,790 / 13.6	8,060 / 12.4	6,350 / 9.2	5,370 / 6.1	4230 / 4.2	2,930 / 2.6	1870 / 1.4
3/16	7,190 / 15.4	6,540 / 14.0	5,325 / 10.5	4,455 / 6.0	3,785 / 4.5	2,360 / 2.6	1,590 / 1.4
1/4	5,600 / 16.0	5,090 / 14.5	4,125 / 11.1	3,375 / 6.0	2,870 / 4.7	1,775 / 2.6	1,205 / 1.2
5/16	4,395 / 15.3	4,000 / 13.9	3,270 / 11.1	2,660 / 5.9	2,295 / 4.7	1,390 / 2.4	960 / 1.2
3/8	3,695 / 14.7	3,360 / 13.3	2,735 / 11.0	2,225 / 5.9	1,910 / 4.5	1,200 / 2.4	800 / 1.2
7/16	3,160 / 14.5	2,870 / 13.2	2,345 / 10.9	1,895 / 5.9	1,630 / 4.4	1,035 / 2.3	690 / 1.0
1/2	2,760 / 14.5	2,510 / 13.2	2,030 / 10.6	1,655 / 5.6	1,415 / 4.4	900 / 2.1	600 / 0.9
5/8	2,195 / 12.6	1,995 / 12.3	1,625 / 9.5	1,330 / 4.7	1,150 / 4.0	720 / 1.7	470 / 0.7
3/4	1,760 / 11.1	1,605 / 10.0	1,305 / 7.6	1,095 / 3.8	935 / 3.2	580 / 1.4	410 / 0.6
1	1,360 / 8.5	1,240 / 7.7	1,020 / 6.0	840 / 3.0	720 / 2.6	440 / 0.9	300 / 0.5

For side milling, increase feeds 20% to 50%.

Slotting (Metric)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	360 SFM	330 SFM	260 SFM	220 SFM	180 SFM	120 SFM	80 SFM
Depth of Cut		Dia / aa: D<1: 0.1D; 1≤D≤3: 0.3D; 3≤D: 0.5D				Dia / aa: D<1: 0.02D; 1≤D: 0.05D	Dia / aa: D<1: 0.01D; 1≤D≤3: 0.02D; 3≤D: 0.05D
Mill Dia.	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min	Speed RPM / Feed in/min
1	25,000 / 6.5	25,000 / 6.6	25,000 / 8.4	21,330 / 6.0	17,450 / 4.1	11,634 / 2.0	7,756 / 1.5
2	17,424 / 8.4	15,840 / 7.6	12,096 / 7.0	10,660 / 5.3	9,144 / 4.0	5,688 / 2.3	3,960 / 1.4
3	11,750 / 12.5	10,656 / 11.4	8,400 / 7.8	7,110 / 5.2	5,817 / 3.9	3,960 / 2.6	2,585 / 1.5
4	8,730 / 13.6	8,000 / 12.6	6,300 / 9.4	5,330 / 6.1	4,363 / 4.4	2,908 / 2.6	1,939 / 1.5
5	6,980 / 16.4	6,400 / 15.0	5,040 / 10.9	4,270 / 6.1	3,490 / 4.5	2,327 / 2.7	1,551 / 1.4
6	5,820 / 16.0	5,330 / 14.6	4,200 / 10.8	3,560 / 6.2	2,908 / 4.5	1,939 / 2.8	1,293 / 1.2
8	4,360 / 15.3	4,000 / 14.1	3,150 / 10.8	2,670 / 5.9	2,181 / 4.5	1,454 / 2.5	969 / 1.2
10	3,490 / 14.5	3,200 / 13.3	2,520 / 10.7	2,130 / 6.0	1,745 / 4.3	1,163 / 2.4	776 / 1.2
12	2,910 / 14.5	2,670 / 13.3	2,100 / 10.6	1,780 / 6.0	1,454 / 4.3	969 / 2.2	646 / 1.0
14	2,490 / 14.4	2,290 / 13.2	1,800 / 10.2	1,520 / 5.2	1,246 / 4.4	831 / 2.0	554 / 0.9
16	2,180 / 12.5	2,000 / 12.4	1,580 / 9.2	1,330 / 4.7	1,091 / 3.8	727 / 1.7	485 / 0.7
18	1,940 / 12.2	1,780 / 11.2	1,400 / 8.3	1,190 / 4.2	969 / 3.4	646 / 1.4	431 / 0.7
20	1,750 / 10.9	1,600 / 10.0	1,260 / 7.3	1,070 / 3.7	873 / 3.0	582 / 1.4	388 / 0.6
22	1,590 / 9.9	1,460 / 9.1	1,150 / 6.8	970 / 3.3	793 / 2.8	529 / 1.2	353 / 0.5
25	1,400 / 8.7	1,280 / 7.9	1,010 / 6.0	850 / 3.1	698 / 2.5	465 / 1.0	310 / 0.5

For side milling, increase feeds 20% to 50%.

List HP441

Side Milling (Fractional)

Hardness	–		<20 HRC		<30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Cast Iron		Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	390 SFM		330 SFM		270 SFM		220 SFM		190 SFM		120 SFM		80 SFM	
Depth of Cut	Dia / a_a / a_r D≤1/8 / 1.5D / 0.05D 1/8<D / 1.5D / 0.10D 										a_a=1D a_r=0.02D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	23,820	17.6	20,155	13.9	15,670	11.2	13,435	5.8	11,605	4.9	7,330	2.8	5,400	1.6
3/32	16,305	21.5	13,720	18.1	11,550	14.5	13,435	9.0	13,435	9.6	4,885	3.4	3,260	2.2
1/8	12,060	28.4	10,205	24.0	8,245	16.0	10,075	8.3	10,075	9.6	3,665	3.3	2,445	2.3
5/32	9,630	29.9	8,060	25.0	8,060	17.9	5,170	6.3	4,475	5.3	2,930	3.6	1,955	2.4
3/16	8,075	33.7	6,740	28.3	6,720	22.0	4,455	6.5	3,935	5.7	2,360	3.5	1,565	2.0
1/4	5,955	29.0	5,090	28.9	4,235	20.0	3,375	6.9	3,030	6.1	1,775	3.3	1,205	1.9
5/16	4,820	33.6	4,000	27.8	3,330	19.8	2,660	6.9	2,360	6.1	1,390	3.2	960	1.7
3/8	4,005	33.6	3,360	27.8	2,795	19.8	2,225	6.9	1,970	6.1	1,200	3.8	800	1.7
7/16	3,440	33.6	2,870	27.8	2,405	19.8	1,895	6.9	1,690	6.1	1,035	3.4	690	1.5
1/2	3,010	32.7	2,510	27.5	2,090	19.7	1,655	6.9	1,475	6.0	900	2.7	600	1.3
5/8	2,355	31.4	1,995	26.1	1,630	19.6	1,325	6.1	1,200	5.4	720	2.3	470	0.9
3/4	1,920	29.7	1,605	24.9	1,350	15.7	1,095	5.0	975	4.5	580	1.7	405	1.0
1	1,485	23.3	1,240	19.5	1,050	14.0	840	3.9	750	3.5	440	1.4	300	0.7

For High Speed see milling parameters, pg 1396-1397.

List HP441 (Continued)

Side Milling (Metric)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	390 SFM	330 SFM	270 SFM	220 SFM	190 SFM	120 SFM	80 SFM
Depth of Cut	Dia / aa / ar: D≤3: 1.5D / 0.05D; 3<D: 1.5D / 0.10D 					aa=1D ar=0.02D	

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	13.6	25,000	13.7	25,000	14.4	21,330	7.6	18,420	6.6	11,635	3.9	7,755	2.4
2	18,905	17.6	15,995	14.9	13,090	12.8	10,188	6.1	9,240	5.6	5,772	3.4	4,050	2.3
3	12,605	29.7	10,665	25.1	8,725	17.0	7,110	5.9	6,140	5.8	3,816	3.5	2,585	2.4
4	9,450	29.4	8,000	24.8	6,545	14.5	5,330	6.5	4,605	5.5	2,910	3.6	1,940	2.3
5	7,560	34.7	6,400	30.2	5,235	20.2	4,265	6.8	3,685	5.9	2,325	3.7	1,550	2.1
6	6,300	30.8	5,330	30.2	4,365	20.6	3,555	7.2	3,070	6.2	1,940	3.6	1,295	2.0
8	4,725	32.9	4,000	27.8	3,270	19.4	2,665	6.9	2,300	6.0	1,455	3.4	970	1.7
10	3,780	34.5	3,200	28.8	2,620	20.2	2,135	7.2	1,840	6.2	1,165	4.1	775	1.7
12	3,150	34.3	2,665	29.3	2,180	20.5	1,775	7.4	1,535	6.2	970	2.9	645	1.4
14	2,700	31.2	2,285	27.2	1,870	19.7	1,525	7.0	1,315	5.9	830	2.4	555	1.2
16	2,365	31.5	2,000	26.1	1,635	19.6	1,335	6.2	1,150	5.2	725	2.3	485	1.0
18	2,100	31.0	1,775	26.1	1,455	19.3	1,185	5.4	1,025	4.8	645	2.0	430	1.0
20	1,890	29.3	1,600	24.8	1,310	15.3	1,065	4.9	920	4.3	580	1.7	390	0.9
22	1,720	27.1	1,455	23.0	1,190	16.0	970	4.4	835	3.9	530	1.5	355	0.8
25	1,510	23.7	1,280	20.2	1,045	13.9	855	3.9	735	3.4	465	1.5	310	0.7

For High Speed see milling parameters, pg 1396-1397.

CONTINUED

List HP421, HP441 (Continued)

High Speed Light Milling (Fractional)

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC	
Work Material	Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels	
Cutting Speed	1,310 SFM		1,150 SFM		820 SFM		490 SFM		260 SFM	
Depth of Cut	Dia / aa / ar D<5/16 / 1.5D / 0.01D 5/16≤D<5/8 / 1.5D / 0.02D 5/8≤D / 1.5D / 0.05D						Dia / aa / ar D≤5/16 / 1D / 0.01D 5/16<D / 1D / 0.02D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	14.7	25,000	18.8	25,000	18.4	25,000	16.6	15,900	11.9
3/32	25,000	27.1	25,000	31.2	25,000	32.6	20,800	24.4	11,050	14.2
1/8	25,000	49.3	25,000	49.6	25,000	49	15,200	26	8,050	14.6
5/32	25,000	64.7	25,000	64.4	20,100	52.8	12,000	26.8	6,400	16.1
3/16	25,000	104.5	23,550	81.1	16,850	54.3	10,100	28.7	5,350	17.3
1/4	20,000	96.5	17,600	84.3	12,450	58.7	7,600	31.1	4,000	16.5
5/16	15,650	96.5	13,650	82.7	9,950	57.1	6,000	31.1	3,150	16.5
3/8	13,200	97.6	11,550	82.7	8,400	57.1	5,000	31.1	2,650	16.5
7/16	11,350	97.2	10,000	82.7	7,150	57.1	4,300	31.1	2,250	16.1
1/2	9,950	94.9	8,750	81.1	6,250	55.5	3,750	30.3	1,950	15.7
5/8	8,000	88.6	7,000	76.8	4,950	53.1	2,950	28	1,550	14.6
3/4	6,650	85.4	5,800	73.6	4,150	51.2	2,450	26.8	1,300	14.2
1	4,950	65.7	4,400	58.3	3,100	40.6	1,850	21.7	950	10.6

Reduce feeds 50% for Series HP421 High Speed Light Milling.

List HP421, HP441 (Continued)

High Speed Light Milling (Metric)

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC	
Work Material	Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels	
Cutting Speed	1,310 SFM		1,150 SFM		820 SFM		490 SFM		260 SFM	
Depth of Cut	Dia / a_a / a_r D<8 / 1.5D / 0.01D 8≤D<16 / 1.5D / 0.02D 16≤D / 1.5D / 0.05D						Dia / a_a / a_r D≤8 / 1D / 0.01D 8<D / 1D / 0.02D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	10.9	25,000	12.4	25,000	12.4	25,000	11.2	25,000	12.8
2	25,000	19.2	25,000	24.7	25,000	27.2	23,850	23.6	12,700	14.2
3	25,000	46.8	25,000	47.2	25,000	46.4	15,900	26.0	8,450	14.2
4	25,000	65.6	25,000	65.4	19,900	53.1	11,900	27.2	6,350	16.5
5	25,000	119.8	22,250	83.9	15,900	55.1	9,550	29.5	5,050	17.7
6	21,000	96.5	18,500	84.6	13,000	59.1	7,950	31.3	4,200	16.5
8	15,500	96.5	13,500	82.7	9,900	57.1	5,950	31.3	3,150	16.7
10	12,500	98.4	11,000	82.7	7,950	57.1	4,750	31.5	2,500	16.5
12	10,500	96.5	9,250	82.7	6,600	57.1	3,950	31.1	2,100	16.1
14	9,050	92.5	7,950	78.7	5,650	53.1	3,400	29.1	1,800	15.4
16	7,950	88.6	6,950	76.8	4,950	53.1	2,950	28.1	1,550	14.8
18	7,050	88.6	6,150	74.8	4,400	51.2	2,650	27.8	1,400	14.8
20	6,350	82.7	5,550	72.8	3,950	51.2	2,350	26.2	1,250	14.0
22	5,750	76.8	5,050	66.9	3,600	47.2	2,150	25.0	1,150	12.8
24	5,300	70.9	4,600	61.0	3,300	43.3	1,950	22.6	1,050	11.6
25	5,050	66.9	4,450	59.1	3,150	41.3	1,900	22.0	1,000	11.0

Reduce feeds 50% for Series HP421 High Speed Light Milling.

List HP460

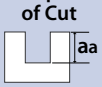
Side Milling

Hardness	–		UP TO 30 HRC		–		–		35-45 HRC		45-55 HRC	
Work Material	Medium Carbon Steels Mild Steels		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Cast Iron		Titanium		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed (SFM)	180		120		180		80		78		60	
Depth of Cut 	aa 1.5D, ar 0.1D											
Mill Dia. (Inch)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
1/4	2,880	12.7	1,920	8.0	2,880	12.7	1222	3.8	1,191	3.4	960	1.4
5/16	2,160	12.7	1,440	8.0	2,160	12.7	978	3.8	960	3.6	720	1.4
3/8	1,832	17.6	1,221	8.6	1,832	17.6	815	5.3	768	3.6	611	1.5
1/2	1,440	17.0	960	8.5	1,440	17.0	611	5.1	595	3.4	480	1.4
5/8	1,080	18.8	720	8.5	1,080	18.8	489	5.6	480	3.6	360	1.4
3/4	916	20.5	611	10.1	916	20.5	407	6.2	384	3.6	305	1.5
1	696	16.6	456	8.5	696	16.6	306	5.0	300	3.6	228	1.4

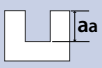
Side Milling

Hardness	–		UP TO 30 HRC		–		–		35-45 HRC		45-55 HRC	
Work Material	Medium Carbon Steels Mild Steels		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Cast Iron		Titanium		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed (SFM)	180		120		180		80		78		60	
Depth of Cut 	aa 1.5D, ar 0.1D											
Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3	5,760	6.1	3,840	4.0	5,760	6.1	2587.4	1.8	2,640	1.8	1,920	0.7
4	4,320	8.5	2,880	5.7	4,320	8.5	1940.6	2.6	1,920	2.4	1,440	0.9
5	3,480	10.4	2,400	7.3	3,480	10.4	1552.4	3.1	1,560	3.9	1,200	1.2
6	2,880	12.8	1,920	8.0	2,880	12.8	1293.7	3.8	1,272	3.5	960	1.4
8	2,160	12.8	1,440	8.0	2,160	12.8	970.3	3.8	960	3.5	720	1.4
10	1,680	16.1	1,140	8.0	1,680	16.1	776.2	4.8	768	3.5	576	1.4
12	1,440	17.0	960	8.5	1,440	17.0	646.9	5.1	636	3.5	480	1.4
16	1,080	18.9	720	8.5	1,080	18.9	485.1	5.7	480	3.5	360	1.4
20	864	19.4	576	9.4	864	19.4	388.1	5.8	384	3.5	288	1.4
25	696	16.5	456	8.5	696	16.5	310.5	5.0	300	3.5	228	1.4

Slotting

Hardness	Up to 20 HRC		20-35 HRC		–		–		35-45 HRC		45-55 HRC	
Work Material	Medium Carbon Steels Mild Steels		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Cast Iron		Titanium		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed (SFM)	150		102		150		70		66		52	
Depth of Cut 	Dia / aa: D<½ 1.0D; D≥½ 0.5D				aa: 0.5D							
Mill Dia. (Inch)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
1/4	2,290	8.9	1,632	5.6	2,290	8.9	1070	2.7	1,008	2.2	816	1.0
5/16	1,836	9.5	1,224	5.6	1,836	9.5	856	2.9	816	2.4	612	1.0
3/8	1,527	11.7	1,038	6.0	1,527	11.7	713	3.5	648	2.4	529	1.1
1/2	1,145	11.0	816	6.1	1,145	11.0	535	3.3	504	2.2	408	1.0
5/8	912	12.7	612	6.1	912	12.7	428	3.8	408	2.4	312	1.0
3/4	744	13.2	492	6.6	744	13.2	357	4.0	324	2.4	265	1.1
1	600	11.3	384	6.1	600	11.3	267	3.4	252	2.4	192	1.0

Slotting

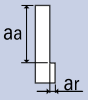
Hardness	Up to 20 HRC		20-35 HRC		–		–		35-45 HRC		45-55 HRC	
Work Material	Medium Carbon Steels Mild Steels		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Cast Iron		Titanium		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed (SFM)	150		102		150		70		66		52	
Depth of Cut 	Dia / aa: D<12 1.0D; D≥12 0.5D				aa: 0.5D							
Mill Dia. (Inch)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3	4,920	4.7	3,296	2.6	4,920	4.7	2,264	1.4	2,133	1.1	1,680	0.5
4	3,720	6.1	2,472	3.4	3,720	6.1	1,698	1.8	1,680	1.7	1,320	0.6
5	3,000	8.0	1,978	4.3	3,000	8.0	1,358	2.4	1,320	2.0	1,008	0.7
6	2,448	9.4	1,632	5.7	2,448	9.4	1,132	2.8	1,080	2.4	816	0.9
8	1,836	9.4	1,224	5.7	1,836	9.4	849	2.8	816	2.4	612	0.9
10	1,428	10.9	972	5.7	1,428	10.9	679	3.3	648	2.4	492	0.9
12	1,224	11.8	816	6.1	1,224	11.8	566	3.5	540	2.4	408	0.9
16	912	12.8	612	6.1	912	12.8	424	3.8	408	2.4	312	0.9
20	744	13.2	492	6.6	744	13.2	340	4.0	324	2.4	240	0.9
25	600	11.3	384	6.1	600	11.3	272	3.4	252	2.4	192	0.9

List HP400

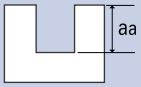
Side Milling (Fractional)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC	
Work Material	Cast Iron		Medium Steels Mild Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels		Stainless Steels Hardened Steels	
Cutting Speed	320-460 SFM		262-393 SFM		230-328 SFM		164-262 SFM		115-213 SFM	
Depth of Cut	ae=1.5D ap=0.4D 						ae=1.5D ap=0.3D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	6,350	29.9	5,300	25.2	4,500	14.2	3,450	11.0	2,650	8.3
5/16	4,750	29.9	4,000	25.2	3,400	16.1	2,600	12.2	2,000	9.4
3/8	3,800	29.9	3,200	25.2	2,700	16.9	2,050	13.0	1,600	10.2
1/2	3,200	30.3	2,650	25.2	2,250	17.7	1,700	13.4	1,350	10.6
5/8	2,400	30.3	2,000	25.2	1,700	18.9	1,300	14.2	1,000	11.0
3/4	1,900	29.9	1,600	24.0	1,350	18.5	1,050	13.8	800	10.2
1	1,500	29.9	1,150	24.0	1,000	18.5	800	13.8	600	10.2

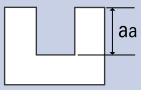
Side Milling (Metric)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC	
Work Material	Cast Iron		Medium Steels Mild Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels		Stainless Steels Hardened Steels	
Cutting Speed	320-460 SFM		262-393 SFM		230-328 SFM		164-262 SFM		115-213 SFM	
Depth of Cut	ae=1.5D ap=0.4D 						ae=1.5D ap=0.3D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3	12,610	25.3	10,590	21.3	9,020	10.7	6,890	8.1	5,300	6.3
4	9,460	25.3	7,940	21.3	6,770	10.7	5,170	8.1	3,980	6.3
5	7,570	28.3	6,360	23.8	5,410	13.3	4,130	10.2	3,180	7.8
6	6,310	28.3	5,300	23.8	4,510	13.3	3,440	10.2	2,650	7.8
8	4,730	29.8	3,970	25.0	3,380	16.0	2,580	12.2	1,990	9.4
10	3,780	29.8	3,180	25.0	2,710	17.9	2,070	13.9	1,590	10.6
12	3,150	29.8	2,650	25.0	2,260	17.1	1,720	13.0	1,330	10.6
16	2,370	29.8	1,990	25.0	1,690	19.2	1,290	14.2	990	10.6
20	1,890	29.8	1,590	25.0	1,350	19.2	1,030	14.2	800	10.6
25	1,510	29.8	1,270	25.0	1,080	19.2	830	14.2	640	10.6

Slotting (Fractional)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC	
Work Material	Cast Iron		Medium Steels Mild Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels		Stainless Steels Hardened Steels	
Cutting Speed	262-393 SFM		230-328 SFM		180-279 SFM		130-230 SFM		95-195 SFM	
Depth of Cut	ae=0.75D 						ae=0.5D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	5,300	25.2	4,500	21.3	3,700	11.8	2,900	9.1	2,400	7.5
5/16	4,000	25.2	3,400	21.3	2,800	13.4	2,200	10.2	1,800	8.7
3/8	3,200	25.2	2,700	21.3	2,250	14.2	1,750	11	1,450	9.1
1/2	2,650	25.2	2,250	21.3	1,850	14.6	1,450	11.4	1,200	9.4
5/8	2,000	25.2	1,700	21.3	1,400	15.4	1,100	12.2	900	9.8
3/4	1,600	25.2	1,350	20.1	1,100	15.4	900	11.8	700	9.1
1	1,150	25.2	950	20.1	800	15.4	700	11.8	500	9.1

Slotting (Metric)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC	
Work Material	Cast Iron		Medium Steels Mild Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels		Stainless Steels Hardened Steels	
Cutting Speed	335 SFM		230 SFM		295 SFM		217 SFM		177 SFM	
Depth of Cut	ae=0.75D 						ae=0.5D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
6	5,400	25.5	3,700	17.5	4,800	15.3	3,480	10.9	2,880	9.0
8	4,100	25.5	2,800	17.5	3,600	17.2	2,640	12.3	2,160	10.4
10	3,300	25.5	2,200	17.5	2,900	18.3	2,100	13.2	1,740	10.9
12	2,700	25.5	1,900	17.5	2,400	18.9	1,740	13.7	1,440	11.3
16	2,000	25.5	1,400	17.5	1,800	20.0	1,320	14.6	1,080	11.8
20	1,600	25.5	1,100	16.4	1,450	20.0	1,080	14.2	840	10.9
25	1,300	25.5	900	23.5	1,150	18.1	840	13.0	680	9.8

Standard 2 Flute and 3 Flute Carbide

Side Milling (Fractional)

Hardness	–		–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Cast Iron		Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	330-400 SFM		100-150 SFM		100-150 SFM		80-115 SFM		80-100 SFM		50 SFM	
Depth of Cut	a_a=1.5D a_r=0.1D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.015	25,000	3.9	25,000	3.1	25,000	1.7	24,810	1.2	2,290	0.1	12,725	0.2
0.02	25,000	7.1	23,855	5.2	23,855	2.6	18,605	1.6	17,175	0.8	9,540	0.4
0.03	25,000	11.1	15,905	4.9	15,905	2.7	12,405	1.7	11,450	0.8	6,360	0.4
3/64	25,000	14.0	10,180	5.0	10,180	3.1	7,940	2.4	7,330	1.3	4,070	0.5
1/16	22,290	18.6	7,635	5.5	7,635	3.4	5,955	2.7	5,495	1.4	3,055	0.6
5/64	17,830	19.7	6,105	8.4	6,105	3.7	4,765	2.9	4,395	1.5	2,445	1.0
1/8	11,145	15.8	3,815	9.5	3,815	5.0	2,975	3.9	2,750	1.6	1,525	1.0
5/32	8,915	17.5	3,055	10.2	3,055	5.9	2,380	4.2	2,200	1.7	1,220	1.0
3/16	7,430	18.5	2,545	10.7	2,545	7.2	1,985	4.6	1,830	1.7	1020	1.1
1/4	5,575	16.5	1,910	9.6	1,910	6.4	1,490	4.3	1,375	1.5	765	1.0
5/16	4,460	18.5	1,525	10.0	1,525	6.7	1,190	4.4	1,100	1.7	610	1.0
3/8	3,715	19.5	1,270	11.2	1,270	8.1	990	4.6	915	1.7	510	1.1
1/2	2,785	19.5	955	10.0	955	7.2	745	4.3	685	1.5	380	1.0
5/8	2,230	20.8	765	12.6	765	8.3	595	4.9	550	1.7	305	1.0
3/4	1,860	21.5	635	13.2	635	8.8	495	5.5	460	1.7	255	1.1
1	1,395	18.3	475	12.6	475	8.3	370	4.8	345	1.3	190	0.8

1. Increase speeds & feeds 5-10% for Series 412 and 422.
2. Reduce speeds & feeds 20-30% for Series 462.
3. Reduce speeds & feeds 40-50% for Series 482.
4. Increase speeds & feeds 20-30% for 402 TiN.
5. Column for Hardened Steels (40-50 HRC) is for Series 402 TiN and 403 TiN only.
6. Increase speeds & feeds 20-30% for Series 403 and 445.
7. Increase speeds & feeds 20-40% for Series 403 TiN.

Side Milling (Metric)

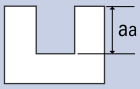
Hardness	–		–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Cast Iron		Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	330-400 SFM		100-150 SFM		100-150 SFM		80-115 SFM		80-100 SFM		50 SFM	
Depth of Cut	a_a=1.5D a_r=0.1D 											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.3	25,000	3.9	25,000	3.1	25,000	1.6	25,000	1.2	25,000	0.6	16,160	0.3
0.5	25,000	7.1	24,235	5.3	24,235	2.6	18,905	1.6	17,450	0.8	9,695	0.4
0.8	25,000	11.1	15,145	4.7	15,145	2.6	11,815	1.6	10,905	0.8	6,060	0.4
1.0	25,000	14.1	12,120	6.0	12,120	3.7	9,450	2.8	8,725	1.5	4,845	0.6
1.5	23,590	19.7	8,080	5.9	8,080	3.6	6,300	2.8	5,815	1.5	3,230	0.6
2.0	17,695	19.6	6,060	8.4	6,060	3.7	4,725	2.8	4,365	1.5	2,425	0.6
3.0	11,795	16.7	4,040	10.0	4,040	5.3	3,150	4.2	2,910	1.6	1,615	1.0
4.0	8,845	17.4	3,030	10.1	3,030	5.9	2,365	4.2	2,180	1.6	1,210	1.0
5.0	7,075	17.6	2,425	10.2	2,425	6.8	1,890	4.4	1,745	1.6	970	1.0
6.0	5,900	17.5	2,020	10.1	2,020	6.7	1,575	4.6	1,455	1.6	810	1.0
8.0	4,425	18.3	1,515	9.9	1,515	6.6	1,180	4.4	1,090	1.6	605	1.0
10.0	3,540	18.6	1,210	10.7	1,210	7.7	945	4.4	875	1.6	485	1.0
12.0	2,950	20.6	1,010	10.6	1,010	7.6	790	4.6	725	1.6	405	1.0
16.0	2,210	20.6	755	12.4	755	8.3	590	4.9	545	1.6	305	1.0
20.0	1,770	20.5	605	12.6	605	8.4	475	5.3	435	1.6	240	1.0
25.0	1,415	18.6	485	12.8	485	8.5	380	4.9	350	1.3	195	0.8

1. Increase speeds & feeds 5-10% for Series 412 and 422.
2. Reduce speeds & feeds 20-30% for Series 462.
3. Reduce speeds & feeds 40-50% for Series 482.
4. Increase speeds & feeds 20-30% for 402 TiN.
5. Column for Hardened Steels (40-50 HRC) is for Series 402 TiN and 403 TiN only.
6. Increase speeds & feeds 20-30% for Series 403 and 445.
7. Increase speeds & feeds 20-40% for Series 403 TiN.

CONTINUED

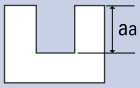
Standard 2 Flute and 3 Flute Carbide: (continued)

Slotting (Fractional)

Hardness	–		–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Cast Iron		Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	330 SFM		100-150 SFM		100-130 SFM		65-100 SFM		65-82 SFM		43 SFM	
Depth of Cut					Dia / aa: D<1/32 → 0.25D; 1/32<D<5/64 → 0.50D; 5/64<D → 1.00D							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.015	25,000	1.8	25,000	3.1	25,000	1.2	20,990	0.7	18,700	0.4	10,940	0.2
0.020	25,000	3.2	23,855	5.2	21,945	1.8	15,745	1.0	14,025	0.7	8,205	0.3
0.030	25,000	4.9	15,905	4.9	14,630	2.6	10,495	1.3	9,350	0.7	5,470	0.3
3/64	25,000	6.3	10,180	4.0	9,365	2.2	6,720	1.1	5,985	0.5	3,500	0.2
1/16	20,155	7.5	7,635	4.4	7,025	2.9	5,040	1.1	4,490	0.7	2,625	0.3
5/64	16,120	11.9	6,105	5.1	5,620	3.5	4,030	1.9	3,590	1.1	2,100	0.5
1/8	10,075	10.6	3,815	5.1	3,510	3.2	2,520	2.4	2,245	1.0	1,315	0.5
5/32	8,060	11.9	3,055	5.4	2,810	3.5	2,015	2.6	1,795	1.1	1,050	0.5
3/16	6,720	12.6	2,545	5.7	2,340	3.7	1,680	2.6	1,495	1.1	875	0.6
1/4	5,040	11.2	1,910	6.4	1,755	3.2	1,260	2.4	1,120	1.0	655	0.5
5/16	4,030	11.9	1,525	7.9	1,405	3.4	1,010	2.6	890	1.1	525	0.5
3/8	3,360	12.6	1,270	8.4	1,170	3.7	840	2.6	750	1.1	440	0.6
1/2	2,520	11.2	955	7.5	880	3.2	630	2.4	560	1.0	330	0.5
5/8	2,015	11.9	765	7.9	700	3.4	505	2.6	450	1.4	265	0.4
3/4	1,680	12.4	635	8.3	585	3.6	420	2.8	375	1.4	220	0.4
1	1,260	11.9	475	7.9	440	3.4	315	2.6	280	1.3	165	0.3

1. Increase speeds & feeds 5-10% for Series 412 and 422.
2. Reduce speeds & feeds 20-30% for Series 462.
3. Reduce speeds & feeds 40-50% for Series 482.
4. Increase speeds & feeds 20-30% for 402 TiN.
5. Column for Hardened Steels (40-50 HRC) is for Series 402 TiN and 403 TiN only.
6. Increase speeds & feeds 20-30% for Series 403 and 445.
7. Increase speeds & feeds 20-40% for Series 403 TiN.

Slotting (Metric)

Hardness	–		–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Cast Iron		Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	330 SFM		100-150 SFM		100-130 SFM		65-100 SFM		65-82 SFM		43 SFM	
Depth of Cut					Dia / aa: D<0.8 → 0.25D; 0.8<D<2 → 0.50D; 2<D → 1.00D							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.3	25,000	1.8	25,000	3.1	25,000	1.1	25,000	0.8	23,750	0.6	13,895	0.2
0.5	25,000	3.2	24,235	5.3	22,300	1.8	15,995	1.0	14,250	0.7	8,335	0.3
0.8	25,000	4.9	15,150	4.7	13,935	2.5	10,000	1.2	8,905	0.7	5,210	0.3
1.0	25,000	6.2	12,120	4.8	11,150	2.6	8,000	1.3	7,125	0.6	4,170	0.3
1.5	21,330	7.9	8,080	4.7	7,435	3.1	5,330	1.1	4,750	0.7	2,780	0.4
2.0	15,995	11.8	6,060	5.0	5,575	3.5	4,000	1.9	3,565	1.1	2,085	0.5
3.0	10,665	11.2	4,040	5.4	3,715	3.4	2,665	2.6	2,375	1.1	1,390	0.5
4.0	8,000	11.8	3,030	5.4	2,785	3.5	2,000	2.6	1,780	1.1	1,040	0.5
5.0	6,400	12.0	2,425	5.5	2,230	3.5	1,600	2.5	1,425	1.1	835	0.6
6.0	5,330	11.9	2,020	6.7	1,860	3.5	1,335	2.6	1,190	1.1	695	0.5
8.0	4,000	11.8	1,515	7.8	1,395	3.4	1,000	2.6	890	1.1	520	0.5
10.0	3,200	12.0	1,210	8.0	1,115	3.5	800	2.5	715	1.1	415	0.5
12.0	2,665	11.9	1,010	8.0	930	3.5	665	2.6	595	1.0	345	0.5
16.0	2,000	11.8	755	7.8	695	3.4	500	2.6	445	1.3	260	0.4
20.0	1,600	11.8	605	7.9	555	3.5	400	2.7	355	1.3	210	0.3
25.0	1,280	12.1	485	8.0	445	3.5	320	2.7	285	1.3	165	0.3

1. Increase speeds & feeds 5-10% for Series 412 and 422.
2. Reduce speeds & feeds 20-30% for Series 462.
3. Reduce speeds & feeds 40-50% for Series 482.
4. Increase speeds & feeds 20-30% for 402 TiN.
5. Column for Hardened Steels (40-50 HRC) is for Series 402 TiN and 403 TiN only.
6. Increase speeds & feeds 20-30% for Series 403 and 445.
7. Increase speeds & feeds 20-40% for Series 403 TiN.

Standard 4 Flute and Multiple Flute Carbide

Side Milling (Fractional)

Hardness	<20 HRC		20-30 HRC		–		–		30-40 HRC		40-50 HRC	
Work Material	Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Cast Iron		Aluminum		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	100-150 SFM		80-115 SFM		100-150 SFM		330-400 SFM		80-100 SFM		50 SFM	
Depth of Cut	ae=1.5D ar=0.1D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.030	15,905	3.7	12,405	2.5	15,905	6.9	25,000	15.5	11,450	1.1	6,360	0.6
3/64	10,180	4.3	7,940	3.3	10,180	7.0	25,000	19.7	7,330	1.8	4,070	0.7
1/16	7,635	4.8	5,955	3.7	7,635	7.7	22,290	26.1	5,495	2.0	3,055	0.8
5/64	6,105	5.2	4,765	3.9	6,105	11.9	17,830	27.6	4,395	2.2	2,445	0.8
1/8	3,815	7.0	2,975	5.6	3,815	13.3	11,145	22.1	2,750	2.2	1,525	1.3
5/32	3,055	8.3	2,380	6.0	3,055	14.2	8,915	24.6	2,200	2.3	1,220	1.4
3/16	2,545	10.0	1,985	6.3	2,545	15.0	7,430	26.0	1,830	2.4	1,020	1.5
1/4	1,910	8.9	1,490	5.9	1,910	13.4	5,575	23.2	1,375	2.1	765	1.3
5/16	1,525	9.3	1,190	6.0	1,525	14.0	4,460	25.9	1,100	2.3	610	1.4
3/8	1,270	11.1	990	6.3	1,270	15.7	3,715	27.3	915	2.4	510	1.5
1/2	955	9.9	745	5.9	955	14.0	2,785	27.1	685	2.1	380	1.3
5/8	765	11.7	595	7.0	765	17.6	2,230	29.0	550	2.3	305	1.4
3/4	635	12.3	495	7.8	635	18.5	1,860	30.1	460	2.4	255	1.5
1	475	11.7	375	7.0	475	17.6	1,395	25.7	345	1.8	190	1.1

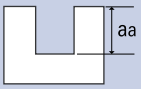
1. Reduce speeds & feeds 20-30% for Series 464.
2. Reduce speeds & feeds 40-50% for Series 484.
3. Slotting is not recommended for Series 484.
4. Increase speeds & feeds 20-30 % for Series 404 TiN.
5. Column for Hardened Steels (40-50 HRC), is for Series 404 TiN only.

Side Milling (Metric)

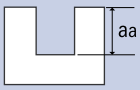
Hardness	<20 HRC		20-30 HRC		–		–		30-40 HRC		40-50 HRC	
Work Material	Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Cast Iron		Aluminum		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	100-150 SFM		80-115 SFM		100-150 SFM		330-400 SFM		80-100 SFM		50 SFM	
Depth of Cut	ae=1.5D ar=0.1D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.8	15,150	3.6	11,815	2.3	15,150	6.5	25,000	15.5	10,905	1.1	6,060	0.6
1.0	12,120	5.2	9,450	4.0	12,120	8.4	25,000	19.7	8,725	2.1	4,845	0.8
1.5	8,080	5.1	6,300	4.0	8,080	8.2	23,590	27.6	5,815	2.1	3,230	0.8
2.0	6,060	5.2	4,725	4.0	6,060	11.8	17,695	27.4	4,365	2.1	2,425	0.8
3.0	4,040	7.4	3,150	5.9	4,040	14.1	11,795	23.4	2,910	2.3	1,615	1.4
4.0	3,030	8.2	2,365	6.0	3,030	14.1	8,845	24.4	2,180	2.3	1,210	1.4
5.0	2,425	9.5	1,890	6.0	2,425	14.3	7,075	24.7	1,745	2.3	970	1.4
6.0	2,020	9.4	1,575	6.2	2,020	14.2	5,900	24.5	1,455	2.3	810	1.4
8.0	1,515	9.3	1,180	6.0	1,515	13.9	4,425	25.7	1,090	2.3	605	1.4
10.0	1,210	10.5	945	6.0	1,210	15.0	3,540	26.0	875	2.3	485	1.4
12.0	1,010	10.4	790	6.2	1,010	14.8	2,950	28.8	725	2.2	405	1.4
16.0	755	11.6	590	6.9	755	17.3	2,210	28.8	545	2.3	305	1.4
20.0	605	11.7	475	7.4	605	17.6	1,770	28.6	435	2.3	240	1.4
25.0	485	11.9	380	7.0	485	17.9	1,415	26.0	350	1.8	195	1.1

1. Reduce speeds & feeds 20-30% for Series 464.
2. Reduce speeds & feeds 40-50% for Series 484.
3. Slotting is not recommended for Series 484.
4. Increase speeds & feeds 20-30 % for Series 404 TiN.
5. Column for Hardened Steels (40-50 HRC), is for Series 404 TiN only.

Slotting (Fractional)

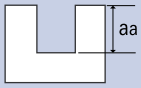
Hardness	<20 HRC		20-30 HRC		–		–		30-40 HRC		40-50 HRC	
Work Material	Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Cast Iron		Aluminum		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	100-130 SFM		65-100 SFM		100-150 SFM		330 SFM		65-82 SFM		43 SFM	
Depth of Cut					Dia / aa: D<1/32 → 0.2D; 1/32<D<5/64 → 0.3D; 5/64<D → 0.5D							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.030	14,630	3.7	10,495	1.8	15,905	6.9	25,000	6.9	9,350	0.9	5,470	0.4
3/64	9,365	3.1	6,720	1.5	10,180	5.7	25,000	8.7	5,985	0.7	3,500	0.3
1/16	7,025	4.0	5,040	1.6	7,635	6.3	20,155	10.5	4,490	1.0	2,625	0.5
5/64	5,620	4.9	4,030	2.7	6,105	7.1	16,120	16.6	3,590	1.5	2,100	0.8
1/8	3,510	4.5	2,520	3.4	3,815	7.1	10,075	14.8	2,245	1.5	1,315	0.7
5/32	2,810	4.9	2,015	3.6	3,055	7.7	8,060	16.6	1,795	1.5	1,050	0.8
3/16	2,340	5.1	1,680	3.6	2,545	8.1	6,720	17.6	1,495	1.6	875	0.8
1/4	1,755	4.6	1,260	3.4	1,910	8.9	5,040	15.7	1,120	1.5	655	0.7
5/16	1,405	4.8	1,010	3.6	1,525	11.0	4,030	16.6	900	1.5	525	0.8
3/8	1,170	5.1	840	3.6	1,270	11.8	3,360	17.6	750	1.6	440	0.8
1/2	880	4.6	630	3.3	955	10.5	2,520	15.7	560	1.4	330	0.7
5/8	700	4.8	505	3.7	765	11.1	2,015	16.6	450	1.8	265	0.6
3/4	585	5.1	420	3.9	635	11.6	1,680	17.3	375	1.9	220	0.6
1	440	4.8	315	3.7	475	11.0	1,260	16.6	280	1.8	165	0.3

Slotting (Metric)

Hardness	<20 HRC		20-30 HRC		–		–		30-40 HRC		40-50 HRC	
Work Material	Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Cast Iron		Aluminum		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	100-130 SFM		65-100 SFM		100-150 SFM		330 SFM		65-82 SFM		43 SFM	
Depth of Cut					Dia / aa: D<0.8 → 0.2D; 0.8<D<2 → 0.3D; 2<D → 0.5D							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.8	13,935	3.4	10,000	1.7	15,150	6.5	25,000	6.9	8,905	0.9	5,210	0.3
1.0	11,150	3.7	8,000	1.8	12,120	6.8	25,000	8.7	7,125	0.8	4,170	0.3
1.5	7,435	4.3	5,330	1.6	8,080	6.7	21,330	11.1	4,750	1.0	2,780	0.5
2.0	5,575	4.9	4,000	2.7	6,060	7.1	15,995	16.5	3,565	1.5	2,085	0.8
3.0	3,715	4.8	2,665	3.6	4,040	7.5	10,665	15.7	2,375	1.5	1,390	0.8
4.0	2,785	4.9	2,000	3.6	3,030	7.6	8,000	16.5	1,780	1.5	1,040	0.8
5.0	2,230	4.9	1,600	3.5	2,425	7.7	6,400	16.8	1,425	1.5	835	0.8
6.0	1,860	4.8	1,335	3.6	2,020	9.4	5,330	16.6	1,190	1.5	695	0.8
8.0	1,395	4.8	1,000	3.6	1,515	10.9	4,000	16.5	890	1.5	520	0.8
10.0	1,115	4.9	800	3.5	1,210	11.2	3,200	16.8	715	1.5	415	0.7
12.0	930	4.8	665	3.5	1,010	11.1	2,665	16.6	595	1.4	345	0.7
16.0	695	4.8	500	3.7	755	10.9	2,000	16.5	445	1.8	260	0.6
20.0	555	4.9	400	3.8	605	11.1	1,600	16.5	355	1.7	210	0.5
25.0	445	4.9	320	3.8	485	11.3	1,280	16.9	285	1.8	165	0.4

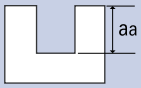
Standard 2 Flute HSS-Co

Slotting

Hardness	<145 Brinell			<20 HRC			20-30 HRC		
Work Material	Mild Steels Brass Bronze			Medium Tensile Steels Mild Steel Forgings Cast Iron Hard Brass and Bronze Copper			High Tensile Steels Unalloyed Titanium Heat Resistant Ferritic Low Alloys		
Cutting Speed	80-150 SFM			80-110 SFM			50-65 SFM		
Depth of Cut	$a_{a=0.5D}$ 								
Mill Dia.	Speed RPM	IPT	Feed in/min	Speed RPM	IPT	Feed in/min	Speed RPM	IPT	Feed in/min
1/64	25,000	0.00002	1.0	23,225	0.00002	0.9	14,000	0.00001	0.3
1/32	14,060	0.00007	2.0	11,610	0.00006	1.4	7,100	0.00005	0.7
3/64	9,370	0.00014	2.6	7,740	0.00012	1.9	4,500	0.00010	0.9
1/16	7,030	0.00020	2.8	5,800	0.00018	2.1	3,550	0.00014	1.0
5/64	5,625	0.00028	3.1	4,645	0.00025	2.3	2,800	0.00020	1.1
3/32	4,685	0.00040	3.7	3,870	0.00035	2.7	2,240	0.00028	1.3
7/64	4,015	0.00047	3.8	3,320	0.00042	2.8	2,000	0.00033	1.3
1/8	3,515	0.00056	3.9	2,900	0.00050	2.9	1,800	0.00040	1.4
9/64	3,125	0.00067	4.2	2,580	0.00060	3.1	1,600	0.00047	1.5
5/32	2,810	0.00080	4.5	2,320	0.00071	3.3	1,400	0.00056	1.6
11/64	2,555	0.00095	4.9	2,110	0.00085	3.6	1,250	0.00067	1.7
3/16	2,340	0.00110	5.2	1,935	0.00100	3.9	1,120	0.00080	1.8
1/4	1,760	0.00160	5.6	1,450	0.00140	4.1	900	0.00112	2.0
5/16	1,400	0.00224	6.3	1,160	0.00200	4.6	710	0.00160	2.3
3/8	1,170	0.00265	6.2	970	0.00236	4.6	630	0.00190	2.4
7/16	1,000	0.00335	6.7	830	0.00300	5.0	500	0.00250	2.5
1/2	880	0.00375	6.6	725	0.00315	4.6	450	0.00265	2.4
9/16	780	0.00400	6.2	645	0.00355	4.6	400	0.00300	2.4
5/8	700	0.00425	6.0	580	0.00375	4.4	355	0.00335	2.4
11/16	640	0.00475	6.1	530	0.00400	4.2	315	0.00355	2.2
3/4	585	0.00475	5.6	485	0.00400	3.9	315	0.00355	2.2
13/16	540	0.00500	5.4	445	0.00400	3.6	280	0.00400	2.2
7/8	500	0.00530	5.3	415	0.00400	3.3	250	0.00400	2.0
15/16	470	0.00560	5.2	390	0.00400	3.1	224	0.00400	1.8
1	440	0.00560	4.9	360	0.00400	2.9	224	0.00400	1.8
1-1/8	390	0.00560	4.4	320	0.00400	2.6	200	0.00400	1.6
1-1/4	350	0.00600	4.2	290	0.00400	2.3	180	0.00400	1.4
1-3/8	320	0.00600	3.8	265	0.00400	2.1	160	0.00400	1.3
1-1/2	295	0.00630	3.7	240	0.00400	1.9	140	0.00400	1.1
1-5/8	270	0.00630	3.4	225	0.00400	1.8	140	0.00400	1.1
1-3/4	250	0.00630	3.2	210	0.00400	1.7	125	0.00400	1.0
1-7/8	235	0.00630	3.0	195	0.00400	1.5	112	0.00400	0.9
2	220	0.00630	2.8	180	0.00400	1.5	112	0.00400	0.9

1) Speeds and Feeds for Lists 520, 522, 540, 541, 542, 543, 548, 620 and 641
2) Reduce Speeds and Feeds 5-10% for Lists 525, 527, 547
3) Reduce Speeds and Feeds 10-20% for Lists 545 and 557
4) Increase Speeds and Feeds 5-15% for Lists 530 and 535 (Aluminum only)
5) Increase Speeds and Feeds 10-20% for List 529
6) Speeds can be increased up to 20% for 520TiN, 522TiN, 540TiN, and 542TiN
7) Speeds can be increased up to 15% for Lists 541TiN/TiCN and 548 TiCN

Slotting

Hardness	30-40 HRC			40-50 HRC			–		
Work Material	High Tensile Steels Tool Steels Medium Strength Stainless Steels and Titanium Alloys			Heat Resistant High Strength Stainless Steels and Titanium Alloys			Aluminum Alloy Aluminum Plastics Woods		
Cutting Speed	80-150 SFM			16-32 SFM			150-165 SFM		
Depth of Cut	$a_{a=0.5D}$ 								
Mill Dia.	**Speed RPM**	**IPT**	**Feed in/min**	**Speed RPM**	**IPT**	**Feed in/min**	**Speed RPM**	**IPT**	**Feed in/min**
1/64	25,000	0.00002	0.8	6,300	0.00001	0.1	25,000	0.00003	1.5
1/32	14,060	0.00004	1.2	3,150	0.00003	0.2	19,250	0.00008	2.9
3/64	9,370	0.00009	1.6	2,000	0.00006	0.2	12,835	0.00014	3.6
1/16	7,030	0.00012	1.7	1,600	0.00008	0.3	9,625	0.00020	3.9
5/64	5,625	0.00017	1.9	1,250	0.00011	0.3	7,700	0.00028	4.3
3/32	4,685	0.00024	2.2	1,000	0.00016	0.3	6,420	0.00038	4.8
7/64	4,015	0.00028	2.2	900	0.00020	0.4	5,500	0.00043	4.7
1/8	3,515	0.00034	2.4	800	0.00024	0.4	4,815	0.00050	4.8
9/64	3,125	0.00040	2.5	710	0.00028	0.4	4,280	0.00060	5.1
5/32	2,810	0.00048	2.7	630	0.00034	0.4	3,850	0.00071	5.5
11/64	2,555	0.00056	2.9	560	0.00040	0.4	3,500	0.00080	5.6
3/16	2,345	0.00067	3.1	500	0.00048	0.5	3,210	0.00095	6.1
1/4	1,760	0.00095	3.3	400	0.00071	0.6	2,400	0.00132	6.4
5/16	1,400	0.00132	3.7	315	0.00100	0.6	1,925	0.00190	7.3
3/8	1,170	0.00160	3.7	280	0.00118	0.7	1,600	0.00212	6.8
7/16	1,000	0.00212	4.3	224	0.00140	0.6	1,375	0.00265	7.3
1/2	880	0.00236	4.1	200	0.00180	0.7	1,200	0.00300	7.2
9/16	780	0.00280	4.4	180	0.00200	0.7	1,070	0.00315	6.7
5/8	700	0.00315	4.4	160	0.00224	0.7	965	0.00335	6.4
11/16	640	0.00355	4.5	140	0.00250	0.7	875	0.00375	6.6
3/4	585	0.00355	4.2	140	0.00250	0.7	800	0.00375	6.0
13/16	540	0.00400	4.3	125	0.00280	0.7	740	0.00400	5.9
7/8	500	0.00400	4.0	112	0.00315	0.7	690	0.00425	5.8
15/16	470	0.00400	3.7	100	0.00355	0.7	640	0.00450	5.8
1	440	0.00400	3.5	100	0.00355	0.7	600	0.00450	5.4
1-1/8	390	0.00400	3.1	90	0.00400	0.7	535	0.00475	5.1
1-1/4	350	0.00400	2.8	80	0.00400	0.6	480	0.00475	4.6
1-3/8	320	0.00400	2.6	71	0.00400	0.6	440	0.00500	4.4
1-1/2	295	0.00400	2.3	63	0.00400	0.5	400	0.00500	4.0
1-5/8	270	0.00400	2.2	63	0.00400	0.5	370	0.00500	3.7
1-3/4	250	0.00400	2.0	56	0.00400	0.4	345	0.00500	3.4
1-7/8	235	0.00400	1.9	50	0.00400	0.4	320	0.00500	3.2
2	220	0.00400	1.8	50	0.00400	0.4	300	0.00500	3.0

1) Based on regular 2FL cutting depth (1/2D) 4FL depth (1/4D) .
2) In case of deeper operation, slow down feed by 20-50%.

Standard 4 Flute and 6 Flute HSS-Co

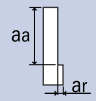
Side Milling

Hardness	<145 Brinell			<20 HRC			20-30 HRC		
Work Material	Mild Steels Brass Bronze			Medium Tensile Steels Mild Steel Forgings Cast Iron Hard Brass and Bronze Copper			High Tensile Steels Unalloyed Titanium Heat Resistant Ferritic Low Alloys		
Cutting Speed	80-150 SFM			80-110 SFM			16-32 SFM		
Depth of Cut	a_a=1.5D a_r= 0.1D								
Mill Dia.	Speed RPM	IPT	Feed in/min	Speed RPM	IPT	Feed in/min	Speed RPM	IPT	Feed in/min
1/16	7,030	0.00020	5.6	5,800	0.00018	4.2	1,465	0.00014	0.8
5/64	5,625	0.00028	6.3	4,645	0.00025	4.6	1,175	0.00020	0.9
3/32	4,685	0.00040	7.5	3,870	0.00036	5.5	980	0.00028	1.1
7/64	4,015	0.00048	7.6	3,320	0.00043	5.6	840	0.00034	1.1
1/8	3,515	0.00056	7.9	2,900	0.00050	5.8	735	0.00040	1.2
9/64	3,125	0.00067	8.4	2,580	0.00060	6.2	650	0.00048	1.2
5/32	2,810	0.00080	9.0	2,320	0.00071	6.6	585	0.00056	1.3
11/64	2,555	0.00095	9.7	2,110	0.00085	7.2	530	0.00067	1.4
3/16	2,340	0.00110	10.3	1,935	0.00100	7.7	490	0.00080	1.6
1/4	1,760	0.00160	11.2	1,450	0.00140	8.1	365	0.00112	1.6
5/16	1,400	0.00224	12.6	1,160	0.00200	9.3	295	0.00160	1.9
3/8	1,170	0.00265	12.4	970	0.00236	9.1	245	0.00190	1.9
7/16	1,000	0.00335	13.5	830	0.00300	10.0	210	0.00250	2.1
1/2	880	0.00375	13.2	725	0.00315	9.1	185	0.00265	1.9
9/16	780	0.00400	12.5	645	0.00355	9.2	160	0.00300	2.0
5/8	700	0.00425	11.9	580	0.00375	8.7	145	0.00335	2.0
11/16	640	0.00475	12.1	530	0.00375	7.9	135	0.00355	1.9
3/4	585	0.00475	11.1	485	0.00375	7.3	120	0.00355	1.7
13/16	540	0.00500	10.8	445	0.00375	6.7	110	0.00400	1.8
7/8	500	0.00530	10.6	415	0.00375	6.2	105	0.00400	1.7
15/16	470	0.00560	10.5	390	0.00375	5.8	100	0.00400	1.6
1	440	0.00560	9.8	365	0.00375	5.4	90	0.00400	1.5
1-1/8	390	0.00560	8.7	320	0.00375	4.8	80	0.00400	1.3
1-1/4	350	0.00600	8.4	290	0.00375	4.4	75	0.00400	1.2
1-3/8	320	0.00600	7.7	265	0.00375	4.0	65	0.00400	1.1
1-1/2	295	0.00630	7.4	240	0.00375	3.6	60	0.00400	1.0
1-3/4	250	0.00630	9.5	210	0.00375	4.7	50	0.00400	1.3
2	220	0.00630	8.3	180	0.00375	4.1	45	0.00400	1.1

1) Speeds and Feeds for Lists 540, 541, 542, 543, 547, 548, 575, and 641
2) Reduce Speeds and Feeds 15-20% for Lists 557
3) Reduce Speeds and Feeds 10-15% for Lists 545, 546, 558 and 646
4) Increase Speeds and Feeds 5-15% for Lists 549

Standard 4 Flute and 6 Flute HSS-Co: (Continued)

Side Milling

Hardness	30-40 HRC			40-50 HRC			–		
Work Material	High Tensile Steels Tool Steels Medium Strength Stainless Steels and Titanium Alloys			Heat Resistant High Strength Stainless Steels and Titanium Alloys			Aluminum Alloyed Aluminum Plastics Woods		
Cutting Speed	30-50 SFM			16-32 SFM			150-390 SFM		
Depth of Cut	a_a=1.5D a_r= 0.1D 								
Mill Dia.	Speed RPM	IPT	Feed in/min	Speed RPM	IPT	Feed in/min	Speed RPM	IPT	Feed in/min
1/16	2,500	0.00012	1.2	1,600	0.00008	0.5	16,500	0.00020	13.2
5/64	2,000	0.00017	1.4	1,250	0.00011	0.6	13,200	0.00028	14.8
3/32	1,600	0.00024	1.5	1,000	0.00016	0.6	11,000	0.00038	16.5
7/64	1,400	0.00028	1.6	900	0.00020	0.7	9,430	0.00043	16.0
1/8	1,250	0.00034	1.7	800	0.00024	0.8	8,250	0.00050	16.5
9/64	1,120	0.00040	1.8	710	0.00028	0.8	7,335	0.00060	17.6
5/32	1,000	0.00048	1.9	630	0.00034	0.8	6,600	0.00071	18.7
11/64	900	0.00056	2.0	560	0.00040	0.9	6,000	0.00080	19.2
3/16	800	0.00067	2.1	500	0.00048	1.0	5,500	0.00095	20.9
1/4	630	0.00095	2.4	400	0.00071	1.1	4,125	0.00132	21.8
5/16	500	0.00132	2.6	315	0.00100	1.3	3,300	0.00190	25.1
3/8	450	0.00160	2.9	280	0.00118	1.3	2,750	0.00212	23.3
7/16	355	0.00212	3.0	224	0.00140	1.3	2,360	0.00265	25.0
1/2	315	0.00236	3.0	200	0.00180	1.4	2,060	0.00300	24.8
9/16	280	0.00280	3.1	180	0.00200	1.4	1,835	0.00315	23.1
5/8	250	0.00315	3.2	160	0.00224	1.4	1,650	0.00335	22.1
11/16	224	0.00355	3.2	140	0.00250	1.4	1,500	0.00375	22.5
3/4	224	0.00355	3.2	140	0.00250	1.4	1,375	0.00375	20.6
13/16	200	0.00400	3.2	125	0.00280	1.4	1,270	0.00400	20.3
7/8	180	0.00400	2.9	112	0.00315	1.4	1,180	0.00425	20.0
15/16	160	0.00400	2.6	100	0.00355	1.4	1,100	0.00450	19.8
1	160	0.00400	2.6	100	0.00355	1.4	1,030	0.00450	18.6
1-1/8	140	0.00400	2.2	90	0.00400	1.4	915	0.00475	17.4
1-1/4	125	0.00400	2.0	80	0.00400	1.3	825	0.00475	15.7
1-3/8	112	0.00400	1.8	71	0.00400	1.1	750	0.00500	15.0
1-1/2	100	0.00400	1.6	63	0.00400	1.0	690	0.00500	13.8
1-3/4	90	0.00400	2.2	56	0.00400	1.3	590	0.00500	17.7
2	80	0.00400	1.9	50	0.00400	1.2	515	0.00500	15.5

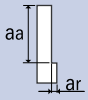
1) Based on regular 4FL end mills. cutting depth (1.5D) x cutting width (0.1D)
2) For finish cut, increase RPM 30-50%.

List 660: Super High-Helix - Regular Length - Multiple Flute

Semi-Roughing Cut

Hardness	<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	1045 1055 Cast Steel Cast Iron		15-5 PH 4140, 4340, 304, 316, 410, 420, 430 A1		6AL-4V 17-4 PH H13 (HRC38) P20, D2 Beryllium Copper		H13 (HRC45) Inconel 718 Hastelloy Waspaloy	
Cutting Speed	80-100 SFM		50-65 SFM		35-45 SFM		20-30 SFM	
Depth of Cut	a_a=1.5D a_r= 0.3D 							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	1,400	3.0	900	1.9	600	1.2	400	0.7
5/16	1,100	2.8	700	1.8	500	1.3	300	0.7
3/8	900	3.2	600	2.1	400	1.4	250	0.7
7/16	780	3.3	500	2.1	355	1.5	224	0.8
1/2	710	3.8	450	2.4	315	1.7	200	0.8
5/8	560	3.8	350	2.3	250	1.7	160	0.9
3/4	450	3.8	300	2.6	200	1.7	140	0.8
7/8	400	4.0	250	2.5	180	1.8	110	0.8
1	315	3.5	200	2.2	160	1.8	100	0.8

Finish Cut

Hardness	<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	1045 1055 Cast Steel Cast Iron		15-5 PH 4140, 4340, 304, 316, 410, 420, 430 A1		6AL-4V 17-4 PH H13 (HRC38) P20, D2 Beryllium Copper		H13 (HRC45) Inconel 718 Hastelloy Waspaloy	
Cutting Speed	80-100 SFM		50-65 SFM		35-45 SFM		20-30 SFM	
Depth of Cut	a_a=1.5D a_r= 0.1D 							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	1,400	5.9	900	3.1	600	2.0	400	1.1
5/16	1,100	6.6	700	3.3	500	2.4	315	1.2
3/8	900	6.3	600	3.5	400	2.3	250	1.2
7/16	780	7.0	500	3.7	355	2.7	224	1.4
1/2	710	6.7	450	3.6	315	2.5	200	1.4
5/8	560	6.3	350	3.5	250	2.5	160	1.5
3/4	450	5.1	300	3.2	200	2.1	140	1.5
7/8	400	6.0	250	3.7	180	2.7	110	1.6
1	350	5.3	200	3.0	160	2.4	100	1.4

List 690: Regular Length - Multiple Flute - Center Hole

Side Milling

Hardness	<20 HRC		20-30 HRC		30-40 HRC		40-45 HRC		<50 HRC	
Work Material	Mild Steels (up to 70x103 lb/in.2)		Medium Tensile Steels (70x103 to 115x103 lb/in.2) Mild Steel Forgings Cast Iron		High Tensile Steels (115x103 to 142x103 lb/in.2) Heat Resistant Ferritic Low Alloys		High Tensile Steels (142x103 to 200x103 lb/in.2) Tool Steels Medium Strength Stainless Steel		High Strength Stainless Steels	
Cutting Speed	130-148 SFM		115-131 SFM		79-83 SFM		55-66 SFM		45-47 SFM	
Depth of Cut	Dia	aa	ar							
	1/2≤D<1-1/8	1.5D	0.5D							
	1-1/4≤D≤2	1D	0.5D							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	2,230	6.0	1,770	4.5	1,250	3.0	940	2.3	700	1.5
5/16	1,700	7.9	1,600	6.3	1,000	3.5	800	2.8	560	1.5
3/8	1,470	10.3	1,180	7.0	835	4.0	660	3.3	470	1.9
1/2	1,100	9.3	900	6.4	630	4.1	425	3.1	355	1.9
5/8	850	12.5	715	8.4	500	6.3	400	4.0	280	2.4
3/4	725	14.8	590	8.4	420	6.0	325	4.3	235	2.4
7/8	630	14.0	500	8.4	350	6.0	280	4.5	200	2.4
1	560	14.0	450	7.9	310	6.0	250	4.5	175	2.3
1-1/8	490	12.1	400	7.0	270	6.0	220	4.3	160	2.4
1-1/4	450	11.8	355	7.0	250	5.5	200	4.0	140	2.3
1-1/2	370	10.1	300	6.6	210	4.5	165	3.3	115	1.9
1-3/4	315	8.8	250	6.0	180	4.0	140	2.8	100	1.5
2	275	7.8	220	5.0	155	3.5	120	2.3	90	1.4



List 573: Regular Length, 2 Flute
List 574: Regular Length, Multiple Flute

Slotting

Hardness	–		<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC	
Work Material	Aluminum Alloyed Aluminum Plastics Woods		Mild Steels Brass Bronze		Medium Tensile Steels Mild Steel Forgings Cast Iron Hard Brass and Bronze Copper		High Tensile Steels Unalloyed Titanium Heat Resistant Ferritic Low Alloys		High Tensile Steels Tool Steels Medium Strength Stainless Steels and Titanium Alloys	
Cutting Speed	250-350 SFM		80-100 SFM		50-65 SFM		35-45 SFM		20-30 SFM	
Depth of Cut	2 Flute: a_a=0.5D 4 Flute: a_a= 0.25D									
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	9,170	9.2	2,750	3.1	1,760	4.2	1,220	1.0	765	0.6
5/32	7,335	10.4	2,200	3.5	1,400	4.8	980	1.1	610	0.6
3/16	6,110	11.6	1,830	4.0	1,170	5.5	815	1.3	510	0.7
1/4	4,585	12.1	1,375	4.4	880	5.9	610	1.4	380	0.8
5/16	3,670	14.0	1,100	4.9	700	6.7	490	1.5	300	0.8
3/8	3,055	12.9	915	4.8	585	6.5	410	1.5	255	0.8
7/16	2,620	13.9	785	5.3	500	7.1	350	1.7	220	0.9
1/2	2,290	13.8	690	5.2	440	6.7	305	1.6	190	0.9
9/16	2,040	12.8	610	4.9	390	6.6	270	1.6	170	1.0
5/8	1,835	12.3	550	4.6	350	6.2	245	1.6	150	1.0
11/16	1,670	12.5	500	4.8	320	5.7	220	1.6	140	1.0
3/4	1,530	11.5	460	4.4	295	5.2	200	1.5	130	0.9
13/16	1,410	11.2	425	4.2	270	4.8	190	1.5	120	1.0
7/8	1,310	11.1	395	4.1	250	4.4	175	1.4	110	0.9
15/16	1,220	11.0	365	4.1	235	4.2	165	1.3	100	0.8
1	1,150	10.3	345	3.9	220	4.0	155	1.2	95	0.7

1) Based on regular 4FL end mills cutting depth (1.5D) x cutting width (0.1D).
2) For 2FL end mill, decrease feed 50%.
3) For finish, increase RPM 1.3 to 1.5 times.

List 574: Regular Length, Multiple Flute (Continued)

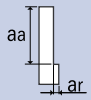
Side Milling

Hardness	–		<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC	
Work Material	Aluminum Alloyed Aluminum Plastics Woods		Mild Steels Brass Bronze		Medium Tensile Steels Mild Steel Forgings Cast Iron Hard Brass and Bronze Copper		High Tensile Steels Unalloyed Titanium Heat Resistant Ferritic Low Alloys		High Tensile Steels Tool Steels Medium Strength Stainless Steels and Titanium Alloys	
Cutting Speed	325-590 SFM		130-165 SFM		105-125 SFM		65-80 SFM		30-50 SFM	
Depth of Cut					a_a=1.5D a_r= 0.1D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	13,980	28.0	4,500	10.1	3,550	7.1	2,240	3.6	1,250	1.6
5/32	11,185	31.8	3,550	11.4	2,800	8.0	1,800	4.0	1,000	1.9
3/16	9,320	35.4	2,800	12.4	2,240	9.0	1,400	4.5	800	2.1
1/4	6,990	36.9	2,240	14.4	1,800	10.1	1,120	5.0	630	2.4
5/16	5,590	42.5	1,800	16.1	1,400	11.3	900	5.8	500	2.6
3/8	4,660	39.5	1,600	17.0	1,250	11.8	800	6.1	450	2.9
7/16	3,995	42.4	1,250	16.8	1,000	12.0	630	6.3	355	3.0
1/2	3,495	41.9	1,120	16.8	900	11.4	560	5.9	315	3.0
9/16	3,100	39.2	1,000	16.0	800	11.4	500	6.0	280	3.1
5/8	2,795	37.5	900	15.3	710	10.6	450	6.0	250	3.1
11/16	2,540	38.1	800	15.3	630	9.5	400	5.6	224	3.1
3/4	2,330	35.0	800	15.3	630	9.5	400	5.6	224	3.1
13/16	2,150	34.4	710	14.3	560	8.4	355	5.6	200	3.3
7/8	2,000	34.0	630	13.4	500	7.5	315	5.0	180	2.9
15/16	1,865	33.6	560	12.5	450	6.8	280	4.5	160	2.5
1	1,750	31.5	560	12.5	450	6.8	280	4.5	160	2.5

1) Based on regular 4FL end mills cutting depth (1.5D) x cutting width (0.1D).
2) For 2FL end mill, decrease feed 50%.
3) For finish, increase RPM 1.3 to 1.5 times.

List 580: Single End, Regular Length, 2 Flute
List 582: Double End, Regular Length, 2 Flute

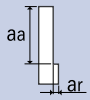
Side Milling

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Med. Strength Titanium Alloys Med. Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Heat Resistant High Alloys High Strength Stainless Steels Titanium Alloys		Aluminum Aluminum Alloys	
Cutting Speed	125-145 SFM		95-110 SFM		50-65 SFM		30-50 SFM		16-32 SFM		160-390 SFM	
Depth of Cut	a_a=1.5D a_r= 0.1D 											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3	4,365	4.1	3,315	3.0	1,860	1.3	1,400	0.8	800	0.4	8,895	7.8
4	3,275	5.1	2,485	3.5	1,395	1.6	1,000	1.0	630	0.4	6,670	9.5
5	2,620	5.8	1,990	3.9	1,115	1.8	800	1.0	500	0.5	5,335	10.5
6	2,185	5.8	1,660	3.8	930	1.8	710	1.1	400	0.6	4,450	9.8
8	1,640	7.3	1,245	4.8	700	2.2	500	1.1	315	0.6	3,335	12.7
10	1,310	8.3	995	5.4	560	2.5	400	1.3	280	0.6	2,670	13.3
12	1,090	8.2	830	5.1	465	2.5	315	1.5	200	0.8	2,220	13.2
14	935	7.4	710	4.9	400	2.4	280	1.6	180	0.8	1,900	11.8
16	820	6.9	620	4.6	350	2.4	250	1.6	160	0.8	1,670	11.3
18	730	6.7	550	4.4	310	2.2	225	1.6	140	0.8	1,480	11.2
20	655	6.5	500	3.9	280	2.2	200	1.6	140	0.8	1,335	10.3
22	595	6.3	450	3.5	255	2.0	180	1.4	112	0.8	1,210	10.2
24	545	6.0	415	3.3	235	1.9	160	1.3	100	0.8	1,110	9.8
25	525	5.8	400	3.2	225	1.8	160	1.3	100	0.6	1,070	9.4
26	500	5.5	385	3.1	215	1.7	160	1.3	90	0.6	1,025	9.0
28	465	5.1	355	2.8	200	1.6	140	1.1	80	0.6	950	8.8
30	435	4.8	330	2.6	185	1.5	140	1.1	70	0.6	890	8.3
32	410	4.8	310	2.5	175	1.4	125	1.0	63	0.5	835	7.8
35	375	4.3	285	2.3	160	1.3	110	0.9	63	0.5	760	7.5
36	365	4.2	275	2.2	155	1.3	110	0.8	63	0.5	740	7.2
40	330	4.1	250	2.0	140	1.1	100	0.8	56	0.4	670	6.6
45	290	3.6	220	1.8	125	1.0	90	0.7	50	0.4	595	5.9
50	260	3.2	200	1.6	110	0.9	80	0.7	50	0.4	535	5.3

In case of deeper operation, slow down feed by 20-50%

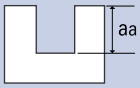
List 531: Single End - Regular Length - 3 Flute
List 532: Double End - Regular Length - 3 Flute
List 536: Single End - Long Length - 3 Flute

Side Milling

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Hard Brass and Bronze Mild Steel Forgings		High Carbon Steel Unalloyed Titanium Ferritic Low Alloys		High Alloys Titanium Alloys High Strength Stainless Steels		Aluminum Aluminum Alloys	
Cutting Speed	155 SFM		115 SFM		70 SFM		40 SFM		395 SFM	
Depth of Cut	a_a=1.5D a_r= 0.2D 									
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	4,700	5.7	3,516	4.1	2,140	2.0	1,223	0.9	12,076	13.4
3/16	3,200	9.1	2,344	6.0	1,427	3.1	815	1.4	8,051	20.1
1/4	2,350	8.3	1,758	5.4	1,070	2.7	611	1.2	6,038	16.9
5/16	1,896	11.0	1,406	7.0	856	3.6	489	1.8	4,831	25.2
3/8	1,580	12.9	1,172	8.3	713	3.9	408	2.0	4,025	25.2
1/2	1,185	11.6	879	6.9	535	3.7	306	1.9	3,019	21.4
5/8	948	10.4	703	6.9	428	3.7	245	2.1	2,415	21.4
3/4	790	10.4	586	6.0	357	3.6	204	2.1	2,013	19.8
1	592	8.4	439	4.6	268	2.9	153	1.6	1,510	17.9
1-1/4	474	6.6	352	3.7	214	2.2	122	1.3	1,208	15.1
1-1/2	395	6.1	293	3.1	178	1.9	102	1.1	1,006	13.2

When using List Number 536, reduce speeds and feeds by 10%.

Slotting

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		–	
Work Material	Mild Steels Brass Bronze Cast Iron		Med. Carbon Steels Hard Brass and Bronze Mild Steel Forgings		High Carbon Steel Unalloyed Titanium Ferritic Low Alloys		High Alloys Titanium Alloys High Strength Stainless Steels		Aluminum Aluminum Alloys	
Cutting Speed	115-150 SFM		90-110 SFM		50-65 SFM		15-35 SFM		325-375 SFM	
Depth of Cut	a_a=1/3D 									
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	4,050	4.9	3,055	3.6	1,760	1.7	765	0.5	10,700	11.8
3/16	2,700	7.7	2,040	5.3	1,170	2.5	500	0.9	7,130	17.8
1/4	2,025	7.1	1,530	4.7	880	2.2	385	0.8	5,350	15.0
5/16	1,620	9.4	1,220	6.1	700	3.0	300	1.1	4,280	22.4
3/8	1,350	11.0	1,020	7.2	585	3.2	255	1.3	3,565	22.3
1/2	1,010	9.9	765	6.0	440	3.0	190	1.2	2,675	18.9
5/8	810	8.9	610	6.0	350	3.1	150	1.3	2,140	18.9
3/4	675	8.9	510	5.3	295	2.9	130	1.3	1,780	17.5
1	500	7.2	385	4.0	220	2.4	95	1.0	1,340	15.8
1-1/4	400	5.7	300	3.2	175	1.8	75	0.8	1,070	13.4
1-1/2	340	5.2	255	2.7	145	1.6	65	0.7	890	11.7

When using List Number 536, reduce speeds and feeds by 10%.

List 581: Regular Length - Multiple Flute - Center Hole

Side Milling

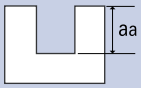
Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Med. Strength Titanium Alloys Med. Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Heat Resistant High Alloys High Strength Stainless Steels Titanium Alloys		Aluminum Aluminum Alloys	
Cutting Speed	130-165 SFM		105-125 SFM		65-85 SFM		30-50 SFM		16-32 SFM		450-590 SFM	
Depth of Cut	a_a=1.5D a_r= 0.1D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3	4,770	8.8	4,000	7.5	2,425	3.4	1,295	1.5	800	0.8	16,820	29.4
4	3,580	11.3	2,800	8.8	1,820	4.0	970	1.8	630	0.9	12,615	35.7
5	2,860	12.6	2,240	9.8	1,455	4.5	775	2.1	500	1.0	10,090	39.8
6	2,385	12.6	2,000	10.4	1,210	4.5	650	2.0	400	1.1	8,410	36.8
8	1,790	15.7	1,400	12.4	910	5.6	485	2.6	315	1.3	6,300	46.6
10	1,430	17.8	1,120	14.0	730	6.5	390	2.8	280	1.4	5,045	49.6
12	1,190	17.9	900	13.2	600	6.4	325	3.0	200	1.5	4,200	48.9
14	1,020	16.1	800	12.4	520	6.2	280	3.1	180	1.5	3,600	44.8
16	895	14.8	710	11.8	455	6.0	240	3.0	160	1.4	3,150	41.7
18	795	14.7	630	11.0	400	5.6	215	3.0	140	1.4	2,800	41.7
20	715	14.1	560	9.8	365	5.7	195	3.0	140	1.4	2,520	39.8
22	650	13.6	500	8.8	330	5.1	175	2.7	112	1.4	2,295	38.4
24	600	13.1	450	7.9	300	4.6	160	2.5	100	1.4	2,100	36.8
25	575	12.6	450	7.9	290	4.5	155	2.4	100	1.4	2,020	35.3
26	550	12.1	450	7.9	280	4.3	150	2.3	90	1.5	1,940	34.0
28	510	11.4	400	7.1	260	4.1	140	2.2	80	1.3	180	33.2
30	480	10.6	400	7.1	240	3.8	130	2.0	71	1.1	1,680	31.0
32	450	9.6	355	6.3	230	3.6	120	1.9	71	1.1	1,575	29.7
35	410	9.4	315	5.5	210	3.2	110	1.8	63	1.0	1,440	28.6
36	400	9.2	315	5.5	200	3.1	105	1.7	63	1.0	1,400	27.8
40	360	8.9	280	4.9	180	2.9	100	1.6	56	1.4	1,260	24.8
45	320	9.3	250	5.5	160	3.1	85	1.7	56	1.4	1,120	27.8
50	285	8.4	224	4.9	145	2.9	80	1.6	50	1.3	1,010	24.7

List 420: Stub Length - Multiple Flute - Fine Pitch
List 450: Multiple Flute - Fine Pitch - Center Hole

Side Milling

Hardness	<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Medium Tensile Steels Mild Steels		High Tensile Steels Unalloyed Titanium Heat Resistant Ferritic Low Alloys		High Tensile Steels Tool Steels Medium Strength Stainless Steels and Titanium Alloys		Heat Resistant High Alloys High Strength and Titanium Alloys Stainless Steels	
Cutting Speed	90-110 SFM		60-75 SFM		45-60 SFM		30-45 SFM	
Depth of Cut	a_a=1.5D a_r= 0.5D							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	1,500	4.0	1,000	2.6	800	1.9	530	1.1
5/16	1,180	4.5	800	3.3	630	2.3	425	1.3
3/8	1,000	4.8	670	3.3	530	2.5	355	1.4
1/2	750	5.8	500	3.9	400	2.9	265	1.6
5/8	600	6.6	400	4.4	315	3.3	224	2.0
3/4	500	7.5	325	4.8	265	3.5	180	2.0
7/8	425	7.9	280	5.3	224	3.5	150	1.9
1	375	7.4	250	4.9	200	3.5	132	1.9
1-1/8	335	7.0	224	4.6	180	3.5	118	1.8
1-1/4	300	6.4	200	4.3	160	3.1	106	1.8
1-1/2	250	5.9	160	3.6	132	2.8	90	1.6
1-3/4	312	5.0	140	3.3	112	2.4	75	1.4
2	190	4.5	125	2.9	100	2.3	67	1.4

Slotting

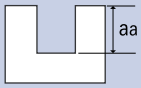
Hardness	<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Medium Tensile Steels Mild Steels		High Tensile Steels Unalloyed Titanium Heat Resistant Ferritic Low Alloys		High Tensile Steels Tool Steels Medium Strength Stainless Steels and Titanium Alloys		Heat Resistant High Alloys High Strength and Titanium Alloys Stainless Steels	
Cutting Speed	90-110 SFM		60-75 SFM		45-60 SFM		30-45 SFM	
Depth of Cut	a_a=0.8D							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	1,500	4.1	1,000	2.5	800	1.5	530	0.9
3/8	1,000	4.6	670	3.0	530	1.9	355	1.0
1/2	750	5.0	500	3.0	400	2.0	265	1.3
5/8	600	5.1	400	3.8	315	2.3	224	1.4
3/4	500	6.1	325	4.0	265	2.9	180	1.5
7/8	425	6.1	280	4.0	224	2.9	150	1.6
1	375	5.8	250	3.9	200	2.8	132	1.6
1-1/4	300	5.4	200	3.6	160	2.5	106	1.5
1-1/2	200	5.0	160	3.3	132	2.4	90	1.4

List 455: Multiple Flute - Fine Pitch - Center Hole

Side Milling

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		<45 HRC	
Work Material	Cast Iron Mild Steel Forgings Brass		Medium Carbon Steels Mild Steel Forgings		High Tensile Steels 4140, 4340 304 Stainless Steels TI-Alloy		D2 H13 17-4PH		Heat Resistant Alloys Inconel 718 Heat Treated Materials	
Cutting Speed	150 SFM		120 SFM		90 SFM		65 SFM		50 SFM	
Depth of Cut	Dia: 1/4≤D≤2 — aa: 1.5D — ar: 0.5D 									
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	2,300	4.6	1,800	3.4	1,400	2.6	1,000	1.7	750	1.5
5/16	1,800	5.7	1,500	4.7	1,100	3.4	800	2.5	600	1.6
3/8	1,500	6.6	1,200	5.4	900	4.0	650	2.8	500	1.7
1/2	1,150	6.3	950	5.1	700	3.6	500	2.6	400	1.5
5/8	900	7.9	750	5.9	550	4.3	400	3.1	300	1.7
3/4	750	8.7	600	6.6	450	5.0	350	3.9	250	1.9
7/8	650	8.4	525	6.5	400	4.9	300	3.5	210	1.8
1	575	8.4	450	5.6	350	4.3	250	3.1	190	1.7
1-1/8	500	8.3	400	6.0	300	4.4	220	3.2	160	1.7
1-1/4	450	8.3	375	7.1	250	4.6	200	3.5	150	1.9
1-1/2	375	7.1	300	5.5	200	3.7	160	2.5	120	1.5
2	285	7.2	230	5.6	170	4.2	125	2.6	95	1.6

Slotting

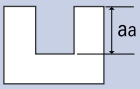
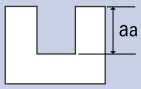
Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		<45 HRC	
Work Material	Cast Iron Mild Steel Forgings Brass		Medium Carbon Steels Mild Steel Forgings		High Tensile Steels 4140, 4340 304 Stainless Steels TI-Alloy		D2 H13 17-4PH		Heat Resistant Alloys Inconel 718 Heat Treated Materials	
Cutting Speed	150 SFM		120 SFM		90 SFM		65 SFM		50 SFM	
Depth of Cut	Dia: 1/4≤D≤2 — aa: 0.8D 									
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	2,300	6.1	1,800	4.6	1,400	3.3	1,000	2.4	750	1.6
5/16	1,800	8.4	1,500	5.9	1,100	3.9	800	2.8	600	1.7
3/8	1,500	10.5	1,200	5.9	900	4.4	650	3.2	500	1.8
1/2	1,150	9.6	950	5.5	700	4.1	500	2.9	400	1.7
5/8	900	12.5	750	7.5	550	4.8	400	3.1	300	2.4
3/4	750	13.9	600	7.2	450	4.4	350	3.6	250	2.7
7/8	650	12.8	525	6.9	400	4.7	300	3.5	210	2.5
1	575	12.0	450	6.6	350	4.4	250	3.3	190	2.1
1-1/4	450	12.5	375	8.7	250	4.6	200	3.6	150	2.4
1-1/2	400	10.7	300	7.8	225	4.2	160	3.1	120	1.9
2	300	8.2	250	7.0	180	3.2	100	1.6	90	1.4

List 460: Multiple Flute - Fine Pitch (Continued)

Side Milling

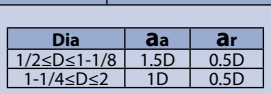
Hardness	–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Medium Carbon Steels Mild Steels		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	390-460 SFM		130-164 SFM		100 SFM		66 SFM		50 SFM	
Depth of Cut	a_a=1.5D a_r= 0.1D 									
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	6,900	21.7	2,400	10.6	1,600	6.7	1,060	3.0	800	1.2
5/16	5,200	21.7	1,800	10.6	1,200	6.7	800	3.0	600	1.2
3/8	4,200	23.6	1,400	13.4	950	6.7	640	3.0	480	1.2
1/2	3,500	23.6	1,200	14.2	800	7.1	530	3.0	400	1.2
5/8	2,600	23.6	900	15.7	600	7.1	400	3.0	300	1.2
3/4	2,100	23.6	720	16.1	480	7.9	320	3.0	240	1.2
1	1,700	23.6	580	13.8	380	7.1	250	3.0	190	1.2

Slotting

Hardness	<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Medium Carbon Steels Mild Steels		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Pre-hardened Steels Stainless Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	110-140 SFM		85 SFM		56 SFM		43 SFM	
Depth of Cut	Dia / a_a: D≤1/2 → 1.0D; 1/2<D → 0.5D 				a_a=0.5D 			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	2,040	7.9	1,360	4.7	900	2.0	680	0.8
5/16	1,530	7.9	1,020	4.7	680	2.0	510	0.8
3/8	1,190	9.1	810	4.7	540	2.0	410	0.8
1/2	1,020	9.8	680	5.1	450	2.0	340	0.8
5/8	760	10.6	510	5.1	340	2.0	260	0.8
3/4	620	11.0	410	5.5	270	2.0	200	0.8
1	500	9.4	320	5.1	210	2.0	160	0.8

List 410: Stub Length - 3 Flute - Regular Pitch
List 490: Multiple Flute - Regular Pitch - General Purpose - Center Hole

Side Milling

Hardness	<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Medium Tensile Steels (up to 115x103 Lb/in2) Mild Steel Forgings Cast Iron Brass and Bronze Copper		High Tensile Steels (115x103~145x103 Lb/in2) Unalloyed Titanium Heat Resistant Ferritic Low Alloys		High Tensile Steels (145x103~200x103 Lb/in2) Tool Steels Medium Strength Stainless Steels Titanium Alloys		Heat Resistant High Alloys High Strength Stainless Steels Titanium Alloys		Aluminum Alloyed Aluminum Plastics Woods	
Cutting Speed	80-100 SFM		60-75 SFM		40-55 SFM		26-40 SFM		195-330 SFM	
Depth of Cut										
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	1,320	2.6	1,000	1.6	750	1.0	500	0.6	4,000	11.1
5/16	1,060	3.0	800	1.9	600	1.1	400	0.8	3,150	12.4
3/8	950	3.1	710	2.0	530	1.0	355	0.8	2,800	13.0
1/2	670	3.8	500	2.4	375	1.5	250	0.9	2,000	15.8
5/8	600	4.8	400	2.6	300	1.6	200	1.0	1,600	17.6
3/4	475	4.5	355	2.8	265	1.8	180	1.0	1,400	18.5
7/8	375	4.5	280	2.8	212	1.8	140	1.0	1,120	18.8
1	335	4.1	250	2.6	190	1.6	125	1.0	1,000	17.8
1-1/8	300	4.0	224	2.5	170	1.6	112	0.9	900	16.9
1-1/4	265	4.6	200	3.0	150	1.9	100	1.0	800	19.9
1-1/2	212	4.1	160	2.6	118	1.6	80	1.0	630	17.6
1-3/4	190	4.0	140	2.5	106	1.5	71	1.0	560	16.5
2	170	3.5	125	2.3	95	1.4	63	0.9	500	14.8

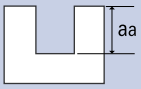
Dia	aa	ar
1/2≤D≤1-1/8	1.5D	0.5D
1-1/4≤D≤2	1D	0.5D

List 430E: For Aluminum - 3 Flute

Side Milling

Work Material	Aluminum Aluminum Alloys	
Cutting Speed	195-330 SFM	
Depth of Cut	Dia: 3/8≤D≤2 — aa: 1.5D — ar: 0.15D 	
Mill Dia.	Speed RPM	Feed in/min
3/8	2,700	11.4
1/2	2,000	12.0
5/8	1,600	10.7
3/4	1,350	10.1
7/8	1,200	10.2
1	1000	9.0
1-1/4	800	7.6
1-1/2	670	6.7
2	500	5.0

Slotting

Work Material	Aluminum Aluminum Alloys	
Cutting Speed	195-330 SFM	
Depth of Cut	Dia: 3/8≤D≤2 — aa: 1/3D 	
Mill Dia.	Speed RPM	Feed in/min
3/8	2,700	22.9
1/2	2,000	24.0
5/8	1,600	21.5
3/4	1,350	20.3
7/8	1,200	20.4
1	1,000	18.0
1-1/4	800	15.2
1-1/2	670	13.4
2	500	15.0

List 470: Regular Length - Multiple Flute - Center Hole

Side Milling

Hardness	<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Medium Tensile Steels (up to 115 x 103 Lb/in2) Mild Steel Forgings Cast Iron Brass and Bronze Copper		High Tensile Steels (115 x 103~145 x 103 Lb/in2) Unalloyed Titanium Heat Resistant Ferritic Low Alloys		High Tensile Steels (145 x 103 ~200 x 103 Lb/in2) Tool Steels Medium Strength Stainless Steels and Titanium Alloys		Heat Resistant High Alloys High Strength Stainless Steels and Titanium Alloys		Aluminum Alloyed Aluminum Plastics Woods	
Cutting Speed	80-100 SFM		60-75 SFM		40-55 SFM		26-40 SFM		195-330 SFM	
Depth of Cut	Dia / aa / ar: 1/2≤D≤1-1/8 — 1.5D — 0.3D; 1-1/4≤D≤2 — 1D — 0.3D 									
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	1,320	2.1	1,000	1.3	750	0.9	500	0.5	4,000	8.9
5/16	1,060	2.4	800	1.5	600	1.0	400	0.5	3,150	9.9
3/8	950	2.3	710	1.5	530	1.0	355	0.6	2,800	10.5
1/2	670	3.0	500	1.9	375	1.1	250	0.8	2,000	12.4
5/8	600	3.4	400	2.1	300	1.4	200	0.8	1,600	14.0
3/4	475	3.5	355	2.3	265	1.4	180	0.9	1,400	14.8
7/8	375	3.5	280	2.3	212	1.4	140	0.9	1,120	14.8
1	335	3.4	250	2.1	190	1.4	125	0.8	1,000	14.0
1-1/8	300	3.1	224	2.0	170	1.3	112	0.8	900	13.3
1-1/4	265	3.8	200	2.4	150	1.5	100	1.0	800	15.8
1-1/2	212	3.4	160	2.1	118	1.4	80	0.9	630	14.0
1-3/4	190	3.1	140	2.0	106	1.3	71	0.8	560	13.3
2	170	2.9	125	1.8	95	1.1	63	0.8	500	11.8

List 8210 - A Brand AE-CR-VMS : 4 Flute, Multiple Lengths, Corner Radius
List 8215 - A Brand AE-CR-VMS : 4 Flute, Regular Length, Corner Radius

Side Milling

Hardness	–	Up to 30 HRC	–	–	–	–	30-45 HRC
Work Material	Mild Steels Carbon Steels Cast Iron	Tool Steels Alloy Steels	Stainless Steels	Precipitation Stainless	Titanium Alloy	Ni-Based Alloys Inconel 718	Prehardened Steels Hardened Steels
Cutting Speed (SFM)	330-490	330-490	200-330	230-300	200-260	80-130	260-395
Depth of Cut 	aa: 1.5D, ar: 0.2D						

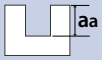
Mill Dia.		Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
Inch	mm														
–	3	13,896	55.6	12,765	35.7	8,079	16.2	9760	20.1	8490	18.9	4240	8.7	10,664	25.6
–	4	10,422	62.5	9,573	38.3	6,059	19.4	7320	21.7	6370	20.9	3180	9.4	7,998	25.6
3/16	–	8,753	52.5	8,041	32.2	5,089	16.3	6016	22.0	5347	21.2	2674	9.7	6,718	21.5
–	5	8,337	66.7	7,659	39.8	4,847	17.5	5860	22.0	5090	21.3	2550	9.8	6,398	28.2
–	6	6,948	77.8	6,382	56.2	4,201	21.8	4880	22.8	4240	21.7	2120	9.8	5,332	38.4
1/4	–	6,565	73.5	6,031	53.1	3,969	20.6	4512	21.9	4010	20.8	2005	9.7	5,038	36.3
5/16	–	5,252	58.8	4,824	42.5	3,176	16.5	3609	17.9	3208	17.1	1604	9.1	4,031	29.0
–	8	5,211	66.7	4,787	57.4	3,151	21.4	3200	17.7	2790	16.9	1590	9.1	3,999	36.8
3/8	–	4,377	56.0	4,020	48.2	2,646	18.0	3008	17.1	2674	16.3	1337	8.8	3,359	30.9
–	10	4,169	61.7	3,829	52.1	2,521	20.2	2560	16.9	2230	16.1	1270	8.7	3,199	32.0
7/16	–	3,751	55.5	3,446	46.9	2,268	18.1	2578	16.7	2292	15.9	1146	8.4	2,879	28.8
–	12	3,474	51.4	3,191	48.5	2,101	18.5	2140	16.5	1860	15.7	1060	8.3	2,666	26.7
1/2	–	3,282	48.6	3,015	45.8	1,985	17.5	2256	16.5	2005	15.7	1003	8.3	2,519	25.2
5/8	–	2,626	38.9	2,412	36.7	1,588	14.0	1805	16.2	1604	15.7	802	8.3	2,015	20.2
3/4	–	2,188	32.4	2,010	30.6	1,323	11.6	1504	15.5	1337	15.1	668	8.0	1,679	16.8
1	–	1,641	24.3	1,508	22.9	992	8.7	1128	20.1	1003	19.3	501	7.5	1,260	12.6

1. The above milling condition is a guidline for overhang length 3D.
2. Use a rigid and precise machine and holder.
3. Please use a suitable fluid with high smoke retardant properties.
4. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
5. Please use water-soluble coolant when machining stainless steel./6. Reduce speed and feed as well as depth of cut when high precision is required.
7. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to Parameter Reduction Chart on next page).

CONTINUED

List 8210 - A Brand AE-CR-VMS : 4 Flute, Multiple Lengths, Corner Radius (Continued)
List 8215 - A Brand AE-CR-VMS : 4 Flute, Regular Length, Corner Radius (Continued)

Slotting

Hardness		–		Up to 30 HRC		–		–		–		–		30-45 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron		Tool Steels Alloy Steels		Stainless Steels		Precipitation Stainless		Titanium Alloy		Ni-Based Alloys Inconel 718		Prehardened Steels Hardened Steels	
Cutting Speed (SFM)		260-395		230-360		165-260		200-260		165-230		65-100		160-260	
Depth of Cut 		aa 1.0D				Dia / aa: D≤6 0.5D; D>6 1.0D				aa 0.25D				aa 1.0D	
Mill Dia. Inch	mm	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
–	3	10,664	29.9	9,695	23.3	7,433	14.9	8540	16.9	7430	16.1	3180	6.3	8,402	16.8
–	4	7,998	32.0	7,271	23.3	5,574	15.6	6410	18.1	5570	17.3	2390	6.7	6,302	15.1
3/16	–	6,718	26.9	6,107	19.5	4,682	13.1	5347	19.0	4679	18.2	2005	7.0	5,293	12.7
–	5	6,398	33.3	5,817	27.9	4,460	17.8	5120	19.3	4460	18.5	1910	7.1	5,041	18.1
–	6	5,332	40.5	4,847	27.1	3,716	14.9	4270	18.9	3710	18.1	1590	7.1	4,201	23.5
1/4	–	5,038	38.3	4,580	25.6	3,511	14.0	4010	18.7	3509	17.9	1504	7.2	3,969	22.2
5/16	–	4,031	30.6	3,664	20.5	2,809	11.2	3208	17.8	2807	17.0	1203	7.8	3,176	17.8
–	8	3,999	33.6	3,635	27.6	2,787	13.4	2750	17.7	2390	16.9	1190	7.9	3,151	22.7
3/8	–	3,359	28.2	3,053	23.2	2,341	11.2	2674	16.8	2339	16.0	1003	7.3	2,646	19.1
–	10	3,199	32.0	2,908	25.6	2,230	12.5	2200	16.5	1910	15.7	950	7.1	2,521	20.2
7/16	–	2,879	28.8	2,617	23.0	2,007	11.2	2292	16.5	2005	15.7	859	7.1	2,268	18.1
–	12	2,666	29.9	2,424	25.2	1,858	11.9	1830	16.5	1590	15.7	800	7.1	2,101	19.3
1/2	–	2,519	28.2	2,290	23.8	1,756	11.2	2005	15.4	1755	14.7	752	6.6	1,985	18.3
5/8	–	2,015	22.6	1,832	19.1	1,405	9.0	1604	10.4	1404	10.0	602	4.4	1,588	14.6
3/4	–	1,679	18.8	1,527	15.9	1,170	7.5	1337	10.5	1170	10.1	501	4.6	1,323	12.2
1	–	1,260	14.1	1,145	11.9	878	5.6	1003	9.8	877	9.4	376	3.5	992	9.1

1. The above milling condition is a guidline for overhang length 3D.
2. Use a rigid and precise machine and holder.
3. Please use a suitable fluid with high smoke retardant properties.
4. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
5. Please use water-soluble coolant when machining stainless steel.
6. Reduce speed and feed as well as depth of cut when high precision is required.
7. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to Parameter Reduction Chart below).

Parameter Reduction Chart by Length to Diameter Ratio

Hardness		–		Up to 30 HRC		30-45 HRC		–		–		–		–	
Work Material		Mild Steels Carbon Steels Cast Iron		Tool Steels Alloy Steels		Prehardened Steels Hardened Steels		Stainless Steels		Precipitation Stainless		Titanium Alloy		Ni-Based Alloy	
L/D		Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
Slotting	4	80%		70%		70%		60%		60%		50%		50%	
	5	70%		60%		60%		50%		50%		50%		50%	
Side Milling	4	90%		90%		80%		70%		70%		60%		60%	
	5	80%		80%		70%		70%		70%		60%		60%	

List 8220 - A Brand AE-LN-CR-VMS: 4 Flute, Long Neck, Corner Radius

Side Milling

Hardness	–	Up to 30 HRC	–	–	–	–	30-45 HRC
Work Material	Mild Steels Carbon Steels Cast Iron	Tool Steels Alloy Steels	Stainless Steels	Precipitation Stainless	Titanium Alloy	Ni-Based Alloys Inconel 718	Prehardened Steels Hardened Steels
Cutting Speed (SFM)	260-395	230-360	130-260	150-195	130-170	50-80	130-260
Depth of Cut 	aa: 1.5D; ar: 0.02D						

Mill Dia. (Inch)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
1/4	5,191	62.3	4,809	46.2	2,748	16.5	2674	17.5	2598	16.6	1222	6.8	3,511	28.1
5/16	4,153	49.8	3,847	36.9	2,198	13.2	2139	14.3	2078	13.7	978	6.4	2,809	22.5
3/8	3,461	47.1	3,206	41.0	1,832	13.9	1783	13.7	1732	13.0	815	6.2	2,341	24.3
7/16	2,966	46.3	2,748	39.6	1,570	14.4	1528	13.4	1484	12.7	699	5.9	2,007	22.5
1/2	2,595	40.5	2,405	37.5	1,374	13.7	1337	13.2	1299	12.6	611	5.8	1,756	19.7
5/8	2,076	32.4	1,924	30.0	1,099	11.0	1070	13.0	1039	12.6	489	5.8	1,405	15.7
3/4	1,730	27.0	1,603	25.0	916	9.2	891	12.4	866	12.1	407	5.6	1,170	13.1
1	1,298	20.2	1,202	18.8	687	6.9	669	16.1	649	15.4	306	5.3	878	10.5

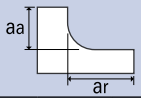
1. Use a rigid and precise machine and holder.
2. The rotational speed is calculated by the median of the recommended cutting speed.
3. Adjustments may be necessary depending on the rigidity or the workpiece, fixture, and machine.
4. Please use a suitable fluid with high smoke retardant properties.
5. During dry (no fluid) milling, please use air blow to remove chips from the milling area and to eliminate chip packing.
6. Please use water-soluble coolant when machining stainless steel.
7. Reduce speed and feed as well as depth of cut when high precision is required.

A Brand AE-CPR4-H

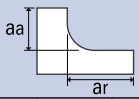
Advanced Performance Four-Fluted Long Neck Corner Radius End Mill for Hardened Steels

List 8592: 4-Flute

Standard Milling

Hardness	Up to 45 HRC						45-55 HRC					55-65 HRC				
Work Material	Tool Steels Hardened Steels Alloy Steels						Hardened Steels									
Depth of Cut																
Mill Dia.	R	Neck Length	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar
0.2	0.02	0.5	40,000	44.1	0.00028	0.00024	0.00284	36,000	37.1	0.00026	0.00020	0.00237	31,500	30.0	0.00024	0.00012	0.00189
0.2	0.02	1	38,000	41.8	0.00028	0.00020	0.00284	34,000	34.7	0.00026	0.00016	0.00237	30,000	28.3	0.00024	0.00008	0.00189
0.2	0.02	1.5	36,000	33.9	0.00024	0.00016	0.00213	32,000	27.6	0.00022	0.00012	0.00178	28,500	22.4	0.00020	0.00008	0.00142
0.2	0.02	2	34,000	32.3	0.00024	0.00008	0.00213	30,000	26.0	0.00022	0.00008	0.00178	27,000	21.3	0.00020	0.00004	0.00142
0.2	0.05	0.5	40,000	44.1	0.00028	0.00024	0.00284	36,000	37.1	0.00026	0.00020	0.00237	31,500	29.9	0.00024	0.00012	0.00189
0.2	0.05	1	38,000	41.8	0.00028	0.00020	0.00284	34,000	34.7	0.00026	0.00016	0.00237	30,000	28.3	0.00024	0.00008	0.00189
0.2	0.05	1.5	36,000	33.9	0.00024	0.00016	0.00213	32,000	27.6	0.00022	0.00012	0.00178	28,500	22.4	0.00020	0.00008	0.00142
0.2	0.05	2	34,000	32.3	0.00024	0.00008	0.00213	30,000	26.0	0.00022	0.00008	0.00178	27,000	21.3	0.00020	0.00004	0.00142
0.3	0.02	1	36,500	57.1	0.00039	0.00024	0.00426	32,500	43.8	0.00034	0.00020	0.00355	30,500	37.8	0.00032	0.00012	0.00284
0.3	0.02	1.5	33,000	46.9	0.00036	0.00016	0.00355	30,000	37.1	0.00031	0.00012	0.00296	28,000	32.3	0.00029	0.00008	0.00237
0.3	0.02	2	30,000	40.2	0.00034	0.00008	0.00288	27,000	30.8	0.00029	0.00008	0.00241	25,500	26.8	0.00027	0.00004	0.00193
0.3	0.02	2.5	26,500	31.5	0.00030	0.00008	0.00288	24,000	24.9	0.00026	0.00008	0.00241	22,500	22.0	0.00025	0.00004	0.00193
0.3	0.02	3	23,000	25.2	0.00028	0.00004	0.00260	21,000	19.7	0.00024	0.00004	0.00217	19,500	17.3	0.00023	0.00004	0.00174
0.3	0.05	1	36,500	57.1	0.00039	0.00024	0.00426	32,500	43.8	0.00034	0.00020	0.00355	30,500	37.8	0.00032	0.00012	0.00284
0.3	0.05	1.5	33,000	46.9	0.00036	0.00016	0.00355	30,000	37.1	0.00031	0.00012	0.00296	28,000	32.3	0.00029	0.00008	0.00237
0.3	0.05	2	30,000	40.2	0.00034	0.00008	0.00288	27,000	30.8	0.00029	0.00008	0.00241	25,500	26.8	0.00027	0.00004	0.00193
0.3	0.05	2.5	26,500	31.5	0.00030	0.00008	0.00288	24,000	24.9	0.00026	0.00008	0.00241	22,500	22.0	0.00025	0.00004	0.00193
0.3	0.05	3	23,000	25.2	0.00028	0.00004	0.00260	21,000	19.7	0.00024	0.00004	0.00217	19,500	17.3	0.00023	0.00004	0.00174
0.4	0.02	1	29,500	59.1	0.00050	0.00032	0.00567	26,000	45.7	0.00045	0.00028	0.00473	24,500	37.0	0.00038	0.00016	0.00378
0.4	0.02	1.5	29,500	59.1	0.00050	0.00032	0.00567	26,000	45.7	0.00045	0.00028	0.00473	24,500	37.0	0.00038	0.00016	0.00378
0.4	0.02	2	27,500	53.6	0.00049	0.00024	0.00481	24,500	41.0	0.00042	0.00020	0.00402	23,000	33.1	0.00036	0.00012	0.00323
0.4	0.02	2.5	25,000	45.3	0.00046	0.00016	0.00418	22,500	34.7	0.00039	0.00012	0.00347	21,000	28.0	0.00034	0.00008	0.00276
0.4	0.02	3	23,000	37.1	0.00041	0.00008	0.00355	20,000	28.4	0.00036	0.00008	0.00296	19,000	22.8	0.00030	0.00004	0.00237
0.4	0.02	4	21,000	30.0	0.00036	0.00004	0.00170	18,500	22.9	0.00031	0.00004	0.00142	17,500	18.9	0.00028	0.00004	0.00115
0.4	0.05	1	29,500	59.1	0.00050	0.00032	0.00567	26,000	45.7	0.00045	0.00028	0.00473	24,500	37.0	0.00038	0.00016	0.00378
0.4	0.05	1.5	29,500	59.1	0.00050	0.00032	0.00567	26,000	45.7	0.00045	0.00028	0.00473	24,500	37.0	0.00038	0.00016	0.00378
0.4	0.05	2	27,500	53.6	0.00049	0.00024	0.00481	24,500	41.0	0.00042	0.00020	0.00402	23,000	33.1	0.00036	0.00012	0.00323
0.4	0.05	2.5	25,000	45.3	0.00046	0.00016	0.00418	22,500	34.7	0.00039	0.00012	0.00347	21,000	28.0	0.00034	0.00008	0.00276
0.4	0.05	3	23,000	37.1	0.00041	0.00008	0.00355	20,000	28.4	0.00036	0.00008	0.00296	19,000	22.8	0.00030	0.00004	0.00237
0.4	0.05	4	21,000	30.0	0.00036	0.00004	0.00170	18,500	22.9	0.00031	0.00004	0.00142	17,500	18.9	0.00028	0.00004	0.00115
0.4	0.1	1	29,500	59.1	0.00050	0.00048	0.00567	26,000	45.7	0.00045	0.00040	0.00473	24,500	37.0	0.00038	0.00024	0.00378
0.4	0.1	2	27,500	53.6	0.00049	0.00040	0.00481	24,500	41.0	0.00042	0.00032	0.00402	23,000	33.1	0.00036	0.00020	0.00323
0.4	0.1	3	23,000	37.1	0.00041	0.00016	0.00355	20,000	28.4	0.00036	0.00012	0.00296	19,000	22.8	0.00030	0.00008	0.00237
0.4	0.1	4	21,000	30.0	0.00036	0.00008	0.00170	18,500	22.9	0.00031	0.00008	0.00142	17,500	18.9	0.00028	0.00004	0.00115
0.5	0.02	1	29,000	64.6	0.00056	0.00032	0.00709	26,000	52.8	0.00051	0.00028	0.00591	26,000	48.8	0.00047	0.00016	0.00473
0.5	0.02	2	29,000	64.6	0.00056	0.00032	0.00709	26,000	52.8	0.00051	0.00028	0.00591	26,000	48.8	0.00047	0.00016	0.00473
0.5	0.02	3	27,500	55.2	0.00050	0.00016	0.00497	24,500	44.9	0.00046	0.00012	0.00414	24,500	41.7	0.00043	0.00008	0.00331
0.5	0.02	4	22,500	40.2	0.00045	0.00008	0.00426	20,000	33.1	0.00042	0.00008	0.00355	20,000	30.7	0.00039	0.00004	0.00284
0.5	0.02	5	21,000	33.1	0.00040	0.00004	0.00213	18,500	26.8	0.00037	0.00004	0.00178	18,500	25.2	0.00034	0.00004	0.00142
0.5	0.02	6	19,500	28.4	0.00037	0.00004	0.00142	17,000	23.7	0.00035	0.00004	0.00119	17,000	21.3	0.00032	0.00004	0.00095
0.5	0.05	1	29,000	64.6	0.00056	0.00032	0.00709	26,000	52.8	0.00051	0.00028	0.00591	26,000	48.8	0.00047	0.00016	0.00473
0.5	0.05	2	29,000	64.6	0.00056	0.00032	0.00709	26,000	52.8	0.00051	0.00028	0.00591	26,000	48.8	0.00047	0.00016	0.00473
0.5	0.05	3	27,500	55.2	0.00050	0.00016	0.00497	24,500	44.9	0.00046	0.00012	0.00414	24,500	41.7	0.00043	0.00008	0.00331
0.5	0.05	4	22,500	40.2	0.00045	0.00008	0.00426	20,000	33.1	0.00042	0.00008	0.00355	20,000	30.7	0.00039	0.00004	0.00284
0.5	0.05	5	21,000	33.1	0.00040	0.00004	0.00213	18,500	26.8	0.00037	0.00004	0.00178	18,500	25.2	0.00034	0.00004	0.00142
0.5	0.05	6	19,500	28.4	0.00037	0.00004	0.00142	17,000	23.7	0.00035	0.00004	0.00119	17,000	21.3	0.00032	0.00004	0.00095
0.5	0.1	1	29,000	64.6	0.00056	0.00048	0.00709	26,000	52.8	0.00051	0.00040	0.00591	26,000	48.8	0.00047	0.00024	0.00473
0.5	0.1	2	29,000	64.6	0.00056	0.00048	0.00709	26,000	52.8	0.00051	0.00040	0.00591	26,000	48.8	0.00047	0.00024	0.00473
0.5	0.1	3	27,500	55.2	0.00050	0.00024	0.00497	24,500	44.9	0.00046	0.00020	0.00414	24,500	41.7	0.00043	0.00012	0.00331
0.5	0.1	4	22,500	40.2	0.00045	0.00016	0.00426	20,000	33.1	0.00042	0.00012	0.00355	20,000	30.7	0.00039	0.00008	0.00284
0.5	0.1	5	21,000	33.1	0.00040	0.00008	0.00213	18,500	26.8	0.00037	0.00008	0.00178	18,500	25.2	0.00034	0.00004	0.00142
0.5	0.1	6	19,500	28.4	0.00037	0.00004	0.00142	17,000	23.7	0.00035	0.00004	0.00119	17,000	21.3	0.00032	0.00004	0.00095
0.6	0.1	2	29,000	77.2	0.00067	0.00056	0.00851	26,000	63.8	0.00062	0.00048	0.00709	21,500	48.8	0.00057	0.00028	0.00567
0.6	0.1	4	24,500	55.2	0.00057	0.00024	0.00575	21,500	44.9	0.00053	0.00020	0.00481	18,000	34.6	0.00049	0.00012	0.00386
0.6	0.1	6	21,000	39.4	0.00047	0.00008	0.00256	18,500	32.3	0.00044	0.00008	0.00213	15,500	25.2	0.00041	0.00004	0.00170
0.7	0.02	2	27,000	83.1	0.00077	0.00032	0.01040	23,500	67.4	0.00072	0.00028	0.00867	19,500	50.8	0.00065	0.00016	0.00693
0.7	0.02	4	24,000	68.2	0.00071	0.00016	0.00756	21,000	54.8	0.00066	0.00012	0.00630	17,500	41.3	0.00060	0.00008	0.00504
0.7	0.02	6	20,000	47.3	0.00060	0.00008	0.00378	17,500	38.6	0.00056	0.00008	0.00315	14,500	28.7	0.00050	0.00004	0.00252
0.7	0.05	2	27,000	83.1	0.00077	0.00048	0.01040	23,500	67.4	0.00072	0.00040	0.00867	19,500	50.8	0.00065	0.00024	0.00693
0.7	0.05	4	24,000	68.2	0.00071	0.00024	0.00756	21,000	54.8	0.00066	0.00020	0.00630	17,500	41.3	0.00060	0.00012	0.00504

1. Use a rigid and precise machine and holder.
2. When machining carbon steels or hardened steels, using MQL(Minimum Quantity Lubrication / mist coolant) is recommended.
3. The above condition shows an approximate standard for contouring operation(side milling) with a low machining load.
   If abnormal cutting sounds, vibration or chattering occur depending on the machining shape, cutting amount, rigidity of the machine or work holding condition, etc., please adjust the speed, feed and the depth of cut.
4. Adjust the speed, feed rate, and depth of cut if chattering, vibration or abnormal grinding sounds occur.
5. Helical or ramp milling is recommended during the approach of a Z cut.
6. When using a tool with a diameter of φ 0.5 or less, or L/D (aspect ratio) is greater than 10, high loads can cause tool breakage.
   Therefore, adjust the cutting conditions based on the machining situation.
7. When RPM are insufficient, please reduce the RPM and feed rates at same ratio as listed above.

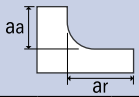
Hardness			Up to 45 HRC					45-55 HRC					55-65 HRC				
Work Material			Tool Steels Hardened Steels Alloy Steels					Hardened Steels									
Depth of Cut																	
Mill Dia.	R	Neck Length	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar
0.7	0.05	6	20,000	47.3	0.00060	0.00016	0.00378	17,500	38.6	0.00056	0.00012	0.00315	14,500	28.7	0.00050	0.00008	0.00252
0.7	0.1	2	27,000	83.1	0.00077	0.00087	0.01040	23,500	67.4	0.00072	0.00071	0.00867	19,500	50.8	0.00065	0.00044	0.00693
0.7	0.1	4	24,000	68.2	0.00071	0.00048	0.00756	21,000	54.8	0.00066	0.00040	0.00630	17,500	41.3	0.00060	0.00024	0.00504
0.7	0.1	6	20,000	47.3	0.00060	0.00024	0.00378	17,500	38.6	0.00056	0.00020	0.00315	14,500	28.7	0.00050	0.00012	0.00252
0.8	0.1	4	23,500	78.8	0.00084	0.00075	0.01134	20,500	63.0	0.00077	0.00063	0.00945	17,000	44.9	0.00067	0.00040	0.00756
0.8	0.1	6	19,500	55.2	0.00071	0.00032	0.01134	16,500	44.1	0.00067	0.00028	0.00945	14,000	30.7	0.00055	0.00016	0.00756
0.8	0.2	4	23,500	78.8	0.00084	0.00150	0.01134	20,500	63.0	0.00077	0.00126	0.00945	17,000	44.9	0.00067	0.00075	0.00756
0.8	0.2	6	19,500	55.2	0.00071	0.00067	0.01134	16,500	44.1	0.00067	0.00056	0.00945	14,000	30.7	0.00055	0.00032	0.00756
0.8	0.2	8	18,000	44.9	0.00063	0.00040	0.01020	15,500	35.5	0.00058	0.00032	0.00851	13,000	25.2	0.00049	0.00020	0.00682
0.9	0.1	4	23,000	90.6	0.00099	0.00087	0.01276	20,000	72.5	0.00091	0.00071	0.01063	17,000	52.4	0.00077	0.00044	0.00851
0.9	0.1	8	18,000	62.3	0.00087	0.00024	0.01087	15,500	48.9	0.00079	0.00020	0.00906	13,000	34.6	0.00067	0.00012	0.00725
1	0.05	4	23,000	102.4	0.00112	0.00048	0.01418	20,000	82.7	0.00104	0.00040	0.01182	17,000	59.8	0.00089	0.00024	0.00945
1	0.05	6	20,500	82.7	0.00101	0.00024	0.00993	18,000	66.2	0.00092	0.00020	0.00827	15,500	48.0	0.00078	0.00012	0.00662
1	0.05	8	18,000	63.0	0.00088	0.00016	0.00851	15,500	51.2	0.00083	0.00012	0.00709	13,500	37.0	0.00069	0.00008	0.00567
1	0.05	10	16,500	51.2	0.00078	0.00008	0.00426	14,500	41.8	0.00073	0.00008	0.00355	12,500	29.9	0.00060	0.00004	0.00284
1	0.05	12	15,500	44.9	0.00073	0.00004	0.00284	13,500	36.3	0.00067	0.00004	0.00237	11,500	26.8	0.00059	0.00004	0.00189
1	0.1	4	23,000	102.4	0.00112	0.00095	0.01418	20,000	82.7	0.00104	0.00079	0.01182	17,000	59.8	0.00089	0.00048	0.00945
1	0.1	6	20,500	82.7	0.00101	0.00048	0.00993	18,000	66.2	0.00092	0.00040	0.00827	15,500	48.0	0.00078	0.00024	0.00662
1	0.1	8	18,000	63.0	0.00088	0.00028	0.00851	15,500	51.2	0.00083	0.00024	0.00709	13,500	37.0	0.00069	0.00016	0.00567
1	0.1	10	16,500	51.2	0.00078	0.00020	0.00426	14,500	41.8	0.00073	0.00016	0.00355	12,500	29.9	0.00060	0.00008	0.00284
1	0.1	12	15,500	44.9	0.00073	0.00016	0.00284	13,500	36.3	0.00067	0.00012	0.00237	11,500	26.8	0.00059	0.00008	0.00189
1	0.2	4	23,000	102.4	0.00112	0.00189	0.01418	20,000	82.7	0.00104	0.00158	0.01182	17,000	59.8	0.00089	0.00095	0.00945
1	0.2	6	20,500	82.7	0.00101	0.00095	0.00993	18,000	66.2	0.00092	0.00079	0.00827	15,500	48.0	0.00078	0.00048	0.00662
1	0.2	8	18,000	63.0	0.00088	0.00056	0.00851	15,500	51.2	0.00083	0.00048	0.00709	13,500	37.0	0.00069	0.00028	0.00567
1	0.2	10	16,500	51.2	0.00078	0.00040	0.00426	14,500	41.8	0.00073	0.00032	0.00355	12,500	29.9	0.00060	0.00020	0.00284
1	0.2	12	15,500	44.9	0.00073	0.00028	0.00284	13,500	36.3	0.00067	0.00024	0.00237	11,500	26.8	0.00059	0.00016	0.00189
1	0.2	16	12,000	31.5	0.00066	0.00020	0.00142	10,500	26.0	0.00062	0.00016	0.00119	9,150	18.9	0.00052	0.00008	0.00095
1	0.2	20	10,000	22.9	0.00058	0.00016	0.00115	8,900	18.2	0.00051	0.00012	0.00095	7,650	13.4	0.00044	0.00008	0.00075
1	0.3	4	23,000	102.4	0.00112	0.00237	0.01418	20,000	82.7	0.00104	0.00197	0.01182	17,000	59.8	0.00089	0.00119	0.00945
1	0.3	6	20,500	82.7	0.00101	0.00119	0.00993	18,000	66.2	0.00092	0.00099	0.00827	15,500	48.0	0.00078	0.00060	0.00662
1	0.3	8	18,000	63.0	0.00088	0.00071	0.00851	15,500	51.2	0.00083	0.00060	0.00709	13,500	37.0	0.00069	0.00036	0.00567
1	0.3	10	16,500	51.2	0.00078	0.00048	0.00426	14,500	41.8	0.00073	0.00040	0.00355	12,500	29.9	0.00060	0.00024	0.00284
1	0.3	12	15,500	44.9	0.00073	0.00032	0.00284	13,500	36.3	0.00067	0.00028	0.00237	11,500	26.8	0.00059	0.00016	0.00189
1.2	0.2	6	19,000	94.5	0.00125	0.00150	0.01701	18,000	82.7	0.00115	0.00126	0.01418	14,500	58.3	0.00101	0.00075	0.01134
1.2	0.2	8	17,000	76.4	0.00113	0.00087	0.01189	16,000	67.0	0.00105	0.00071	0.00993	13,000	45.7	0.00088	0.00044	0.00796
1.2	0.2	10	16,000	67.0	0.00105	0.00052	0.01020	15,000	58.3	0.00098	0.00044	0.00851	12,000	40.2	0.00084	0.00028	0.00682
1.2	0.3	6	19,000	94.5	0.00125	0.00189	0.01701	18,000	82.7	0.00115	0.00158	0.01418	14,500	58.3	0.00101	0.00095	0.01134
1.2	0.3	8	17,000	76.4	0.00113	0.00103	0.01189	16,000	67.0	0.00105	0.00087	0.00993	13,000	45.7	0.00088	0.00052	0.00796
1.2	0.3	10	16,000	67.0	0.00105	0.00067	0.01020	15,000	58.3	0.00098	0.00056	0.00851	12,000	40.2	0.00084	0.00032	0.00682
1.5	0.2	6	17,000	114.2	0.00168	0.00189	0.02126	16,000	98.5	0.00154	0.00158	0.01772	13,500	69.3	0.00129	0.00095	0.01418
1.5	0.2	8	16,000	98.5	0.00154	0.00123	0.01804	15,500	86.7	0.00140	0.00103	0.01504	12,500	59.1	0.00119	0.00063	0.01205
1.5	0.2	10	14,500	78.8	0.00136	0.00087	0.01378	13,500	70.9	0.00132	0.00071	0.01150	11,000	49.6	0.00113	0.00044	0.00922
1.5	0.2	12	13,500	70.9	0.00132	0.00056	0.01276	12,500	62.3	0.00125	0.00048	0.01063	10,500	43.3	0.00104	0.00028	0.00851
1.5	0.2	16	9,150	41.8	0.00115	0.00032	0.00528	8,650	36.3	0.00105	0.00028	0.00441	7,150	25.2	0.00089	0.00016	0.00355
1.5	0.3	6	17,000	114.2	0.00168	0.00284	0.02126	16,000	98.5	0.00154	0.00237	0.01772	13,500	69.3	0.00129	0.00142	0.01418
1.5	0.3	8	16,000	98.5	0.00154	0.00186	0.01804	15,500	86.7	0.00140	0.00154	0.01504	12,500	59.1	0.00119	0.00091	0.01205
1.5	0.3	10	14,500	78.8	0.00136	0.00126	0.01378	13,500	70.9	0.00132	0.00107	0.01150	11,000	49.6	0.00113	0.00063	0.00922
1.5	0.3	12	13,500	70.9	0.00132	0.00087	0.01276	12,500	62.3	0.00125	0.00071	0.01063	10,500	43.3	0.00104	0.00044	0.00851
1.5	0.3	16	9,150	41.8	0.00115	0.00048	0.00528	8,650	36.3	0.00105	0.00040	0.00441	7,150	25.2	0.00089	0.00024	0.00355
2	0.1	8	13,000	114.2	0.00220	0.00095	0.02835	13,000	102.4	0.00197	0.00079	0.02363	11,500	78.7	0.00172	0.00048	0.01890
2	0.1	10	12,000	102.4	0.00214	0.00075	0.02410	12,000	90.6	0.00189	0.00063	0.02008	11,000	71.7	0.00163	0.00040	0.01607
2	0.1	12	11,500	90.6	0.00197	0.00048	0.01985	11,500	82.7	0.00180	0.00040	0.01654	10,000	63.8	0.00160	0.00024	0.01323
2	0.1	16	10,000	70.9	0.00178	0.00028	0.01701	10,000	63.0	0.00158	0.00024	0.01418	8,900	49.6	0.00140	0.00016	0.01134
2	0.1	20	9,300	57.5	0.00155	0.00020	0.00851	9,300	51.2	0.00138	0.00016	0.00709	8,250	40.2	0.00122	0.00008	0.00567
2	0.1	25	8,600	49.7	0.00145	0.00008	0.00567	8,600	44.1	0.00129	0.00008	0.00473	7,650	34.6	0.00114	0.00004	0.00378
2	0.2	8	13,000	114.2	0.00220	0.00189	0.02835	13,000	102.4	0.00197	0.00158	0.02363	11,500	78.7	0.00172	0.00095	0.01890
2	0.2	10	12,000	102.4	0.00214	0.00150	0.02410	12,000	90.6	0.00189	0.00126	0.02008	11,000	71.7	0.00163	0.00075	0.01607
2	0.2	12	11,500	90.6	0.00197	0.00095	0.01985	11,500	82.7	0.00180	0.00079	0.01654	10,000	63.8	0.00160	0.00048	0.01323
2	0.2	16	10,000	70.9	0.00178	0.00056	0.01701	10,000	63.0	0.00158	0.00048	0.01418	8,900	49.6	0.00140	0.00028	0.01134
2	0.2	20	9,300	57.5	0.00155	0.00040	0.00851	9,300	51.2	0.00138	0.00032	0.00709	8,250	40.2	0.00122	0.00020	0.00567

1. Use a rigid and precise machine and holder.
2. When machining carbon steels or hardened steels, using MQL(Minimum Quantity Lubrication / mist coolant) is recommended.
3. The above condition shows an approximate standard for contouring operation(side milling) with a low machining load.
   If abnormal cutting sounds, vibration or chattering occur depending on the machining shape, cutting amount, rigidity of the machine or work holding condition, etc., please adjust the speed, feed and the depth of cut.
4. Adjust the speed, feed rate, and depth of cut if chattering, vibration or abnormal grinding sounds occur.
5. Helical or ramp milling is recommended during the approach of a Z cut.
6. When using a tool with a diameter of φ 0.5 or less, or L/D (aspect ratio) is greater than 10, high loads can cause tool breakage.
   Therefore, adjust the cutting conditions based on the machining situation.
7. When RPM are insufficient, please reduce the RPM and feed rates at same ratio as listed above.

continued on next page

List 8592: 4-Flute (Continued)

Standard Milling

Hardness	Up to 45 HRC						45-55 HRC					55-65 HRC				
Work Material	Tool Steels Hardened Steels Alloy Steels						Hardened Steels									
Depth of Cut																
Mill Dia.	R	Neck Length	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar	Speed (RPM)	Feed (IPM)	IPT	Aa	Ar
2	0.2	25	8,600	49.7	0.00145	0.00020	0.00567	8,600	44.1	0.00129	0.00016	0.00473	7,650	34.6	0.00114	0.00008	0.00378
2	0.3	8	13,000	114.2	0.00220	0.00284	0.02835	13,000	102.4	0.00197	0.00237	0.02363	11,500	78.7	0.00172	0.00142	0.01890
2	0.3	10	12,000	102.4	0.00214	0.00229	0.02410	12,000	90.6	0.00189	0.00189	0.02008	11,000	71.7	0.00163	0.00115	0.01607
2	0.3	12	11,500	90.6	0.00197	0.00142	0.01985	11,500	82.7	0.00180	0.00119	0.01654	10,000	63.8	0.00160	0.00071	0.01323
2	0.3	16	10,000	70.9	0.00178	0.00087	0.01701	10,000	63.0	0.00158	0.00071	0.01418	8,900	49.6	0.00140	0.00044	0.01134
2	0.3	20	9,300	57.5	0.00155	0.00056	0.00851	9,300	51.2	0.00138	0.00048	0.00709	8,250	40.2	0.00122	0.00028	0.00567
2	0.5	8	13,000	114.2	0.00220	0.00355	0.02835	13,000	102.4	0.00197	0.00296	0.02363	11,500	78.7	0.00172	0.00178	0.01890
2	0.5	10	12,000	102.4	0.00214	0.00284	0.02410	12,000	90.6	0.00189	0.00237	0.02008	11,000	71.7	0.00163	0.00142	0.01607
2	0.5	12	11,500	90.6	0.00197	0.00174	0.01985	11,500	82.7	0.00180	0.00146	0.01654	10,000	63.8	0.00160	0.00087	0.01323
2	0.5	16	10,000	70.9	0.00178	0.00103	0.01701	10,000	63.0	0.00158	0.00087	0.01418	8,900	49.6	0.00140	0.00052	0.01134
2	0.5	20	9,300	57.5	0.00155	0.00071	0.00851	9,300	51.2	0.00138	0.00060	0.00709	8,250	40.2	0.00122	0.00036	0.00567
2	0.5	25	8,600	49.7	0.00145	0.00044	0.00567	8,600	44.1	0.00129	0.00036	0.00473	7,650	34.6	0.00114	0.00020	0.00378
2.5	0.2	10	11,500	126.0	0.00275	0.00189	0.03544	10,500	94.5	0.00225	0.00158	0.02953	9,150	78.7	0.00215	0.00095	0.02363
2.5	0.2	20	8,900	78.8	0.00222	0.00095	0.02126	8,000	58.3	0.00183	0.00079	0.01772	7,150	49.6	0.00174	0.00048	0.01418
2.5	0.5	10	11,500	126.0	0.00275	0.00355	0.03544	10,500	94.5	0.00225	0.00296	0.02953	9,150	78.7	0.00215	0.00178	0.02363
2.5	0.5	20	8,900	78.8	0.00222	0.00174	0.02126	8,000	58.3	0.00183	0.00146	0.01772	7,150	49.6	0.00174	0.00087	0.01418
3	0.2	8	9,550	118.2	0.00310	0.00189	0.04252	8,600	90.6	0.00264	0.00158	0.03544	7,650	65.4	0.00214	0.00095	0.02835
3	0.2	12	9,550	118.2	0.00310	0.00189	0.04252	8,600	90.6	0.00264	0.00158	0.03544	7,650	65.4	0.00214	0.00095	0.02835
3	0.2	16	8,500	94.5	0.00278	0.00134	0.03402	7,650	71.7	0.00235	0.00111	0.02835	6,800	52.0	0.00191	0.00067	0.02268
3	0.2	20	7,400	78.0	0.00264	0.00087	0.02890	6,700	59.1	0.00221	0.00071	0.02410	5,950	43.3	0.00182	0.00044	0.01930
3	0.2	25	7,100	65.4	0.00231	0.00056	0.02552	6,400	50.4	0.00197	0.00048	0.02126	5,700	36.2	0.00160	0.00028	0.01701
3	0.2	30	6,900	59.9	0.00217	0.00040	0.01276	6,200	45.7	0.00185	0.00032	0.01063	5,500	33.1	0.00151	0.00020	0.00851
3	0.2	35	6,350	52.0	0.00205	0.00028	0.00851	5,700	39.4	0.00173	0.00024	0.00709	5,100	29.1	0.00143	0.00016	0.00567
3	0.3	12	9,550	118.2	0.00310	0.00284	0.04252	8,600	90.6	0.00264	0.00237	0.03544	7,650	65.4	0.00214	0.00142	0.02835
3	0.3	16	8,500	94.5	0.00278	0.00197	0.03402	7,650	71.7	0.00235	0.00166	0.02835	6,800	52.0	0.00191	0.00099	0.02268
3	0.3	20	7,400	78.0	0.00264	0.00126	0.02890	6,700	59.1	0.00221	0.00107	0.02410	5,950	43.3	0.00182	0.00063	0.01930
3	0.3	25	7,100	65.4	0.00231	0.00087	0.02552	6,400	50.4	0.00197	0.00071	0.02126	5,700	36.2	0.00160	0.00044	0.01701
3	0.3	30	6,900	59.9	0.00217	0.00056	0.01276	6,200	45.7	0.00185	0.00048	0.01063	5,500	33.1	0.00151	0.00028	0.00851
3	0.3	35	6,350	52.0	0.00205	0.00044	0.00851	5,700	39.4	0.00173	0.00036	0.00709	5,100	29.1	0.00143	0.00020	0.00567
3	0.5	12	9,550	118.2	0.00310	0.00355	0.04252	8,600	90.6	0.00264	0.00296	0.03544	7,650	65.4	0.00214	0.00178	0.02835
3	0.5	16	8,500	94.5	0.00278	0.00245	0.03402	7,650	71.7	0.00235	0.00205	0.02835	6,800	52.0	0.00191	0.00123	0.02268
3	0.5	20	7,400	78.0	0.00264	0.00158	0.02890	6,700	59.1	0.00221	0.00130	0.02410	5,950	43.3	0.00182	0.00079	0.01930
3	0.5	25	7,100	65.4	0.00231	0.00103	0.02552	6,400	50.4	0.00197	0.00087	0.02126	5,700	36.2	0.00160	0.00052	0.01701
3	0.5	30	6,900	59.9	0.00217	0.00071	0.01276	6,200	45.7	0.00185	0.00060	0.01063	5,500	33.1	0.00151	0.00036	0.00851
3	0.5	35	6,350	52.0	0.00205	0.00052	0.00851	5,700	39.4	0.00173	0.00044	0.00709	5,100	29.1	0.00143	0.00028	0.00567
4	0.2	16	7,150	161.5	0.00565	0.00189	0.05670	6,450	122.1	0.00474	0.00158	0.04725	5,000	76.4	0.00382	0.00095	0.03780
4	0.2	20	6,750	153.6	0.00569	0.00150	0.04819	6,100	114.2	0.00469	0.00126	0.04016	4,750	71.7	0.00378	0.00075	0.03213
4	0.2	25	5,950	133.9	0.00563	0.00095	0.03855	5,350	102.4	0.00479	0.00079	0.03213	4,150	63.0	0.00380	0.00048	0.02571
4	0.2	30	5,550	126.0	0.00568	0.00067	0.03516	5,000	94.5	0.00473	0.00056	0.02930	3,900	59.1	0.00379	0.00032	0.02343
4	0.2	40	5,150	118.2	0.00574	0.00040	0.01701	4,650	86.7	0.00466	0.00032	0.01418	3,600	55.1	0.00383	0.00020	0.01134
4	0.3	16	7,150	161.5	0.00565	0.00284	0.05670	6,450	122.1	0.00474	0.00237	0.04725	5,000	76.4	0.00382	0.00142	0.03780
4	0.3	20	6,750	153.6	0.00569	0.00229	0.04819	6,100	114.2	0.00469	0.00189	0.04016	4,750	71.7	0.00378	0.00115	0.03213
4	0.3	25	5,950	133.9	0.00563	0.00142	0.03855	5,350	102.4	0.00479	0.00119	0.03213	4,150	63.0	0.00380	0.00071	0.02571
4	0.3	30	5,550	126.0	0.00568	0.00099	0.03516	5,000	94.5	0.00473	0.00083	0.02930	3,900	59.1	0.00379	0.00052	0.02343
4	0.3	40	5,150	118.2	0.00574	0.00056	0.01701	4,650	86.7	0.00466	0.00048	0.01418	3,600	55.1	0.00383	0.00028	0.01134
4	0.5	16	7,150	161.5	0.00565	0.00355	0.05670	6,450	122.1	0.00474	0.00296	0.04725	5,000	76.4	0.00382	0.00178	0.03780
4	0.5	20	6,750	153.6	0.00569	0.00284	0.04819	6,100	114.2	0.00469	0.00237	0.04016	4,750	71.7	0.00378	0.00142	0.03213
4	0.5	25	5,950	133.9	0.00563	0.00174	0.03855	5,350	102.4	0.00479	0.00146	0.03213	4,150	63.0	0.00380	0.00087	0.02571
4	0.5	30	5,550	126.0	0.00568	0.00123	0.03516	5,000	94.5	0.00473	0.00103	0.02930	3,900	59.1	0.00379	0.00063	0.02343
4	0.5	40	5,150	118.2	0.00574	0.00071	0.01701	4,650	86.7	0.00466	0.00060	0.01418	3,600	55.1	0.00383	0.00036	0.01134
4	0.5	50	4,550	102.4	0.00563	0.00044	0.01020	4,100	77.2	0.00471	0.00036	0.00851	3,150	48.0	0.00382	0.00020	0.00682
4	1	16	7,150	161.5	0.00565	0.00567	0.05670	6,450	122.1	0.00474	0.00473	0.04725	5,000	76.4	0.00382	0.00284	0.03780
4	1	20	6,750	153.6	0.00569	0.00473	0.04819	6,100	114.2	0.00469	0.00394	0.04016	4,750	71.7	0.00378	0.00237	0.03213
4	1	25	5,950	133.9	0.00563	0.00284	0.03855	5,350	102.4	0.00479	0.00237	0.03213	4,150	63.0	0.00380	0.00142	0.02571
4	1	30	5,550	126.0	0.00568	0.00189	0.03516	5,000	94.5	0.00473	0.00158	0.02930	3,900	59.1	0.00379	0.00095	0.02343
4	1	40	5,150	118.2	0.00574	0.00115	0.01701	4,650	86.7	0.00466	0.00095	0.01418	3,600	55.1	0.00383	0.00056	0.01134

1. Use a rigid and precise machine and holder.
2. When machining carbon steels or hardened steels, using MQL(Minimum Quantity Lubrication / mist coolant) is recommended.
3. The above condition shows an approximate standard for contouring operation(side milling) with a low machining load.
   If abnormal cutting sounds, vibration or chattering occur depending on the machining shape, cutting amount, rigidity of the machine or work holding condition, etc., please adjust the speed, feed and the depth of cut.
4. Adjust the speed, feed rate, and depth of cut if chattering, vibration or abnormal grinding sounds occur.
5. Helical or ramp milling is recommended during the approach of a Z cut.
6. When using a tool with a diameter of φ 0.5 or less, or L/D (aspect ratio) is greater than 10, high loads can cause tool breakage.
   Therefore, adjust the cutting conditions based on the machining situation.
7. When RPM are insufficient, please reduce the RPM and feed rates at same ratio as listed above.

List 9592 - EXOPRO® PHX : Pencil-Neck, Deep Feed, Corner Radius

Side Milling

Hardness			<41 HRC					42-55 HRC					49-55 HRC		
Work Material			Hardened and Pre-hardened Steels												
Cutting Speed			110-395 SFM					110-250 SFM					110-410 SFM		
D (mm)	r (mm)	L2 (mm)	Speed (RPM)	Feed (in/min)		aa / ar DOC (in)		Speed (RPM)	Feed (in/min)		aa / ar DOC (in)		Speed (RPM)	Feed (in/min)	aa / ar DOC (in)
				Slotting	Contouring	Aa	Ar		Slotting	Contouring	Aa	Ar	Contour Finishing		Aa
0.8	0.1	2	18,000	28.3	36.6	0.0008	0.0079	18,000	28.3	36.6	0.0008	0.0079	18,000	45.3	0.0006
		4	18,000	28.3	36.6	0.0008	0.0079	18,000	28.3	36.6	0.0008	0.0079	18,000	45.3	0.0006
		6	18,000	28.3	36.6	0.0008	0.0079	18,000	28.3	36.6	0.0008	0.0079	18,000	45.3	0.0006
		8	15,000	21.3	26.8	0.0006	0.0079	15,000	21.3	24.8	0.0005	0.0079	16,000	27.6	0.0005
1.0		4	18,000	32.7	43.3	0.0012	0.0091	18,000	32.7	34.6	0.0012	0.0091	18,000	56.7	0.0006
		6	18,000	32.7	43.3	0.0009	0.0091	18,000	32.7	34.6	0.0009	0.0091	18,000	56.7	0.0006
		8	15,000	29.5	39.4	0.0005	0.0091	15,000	29.5	31.5	0.0005	0.0091	15,000	47.2	0.0006
		10	12,000	11.8	19.7	0.0003	0.0079	12,000	11.8	15.7	0.0003	0.0079	12,000	37.8	0.0006
		12	10,500	8.7	14.2	0.0002	0.0071	10,500	8.7	11.3	0.0002	0.0071	10,500	33.1	0.0006
	0.2	4	18,000	32.7	43.3	0.0012	0.0091	18,000	32.7	34.6	0.0012	0.0091	18,000	56.7	0.0007
		6	18,000	32.7	43.3	0.0009	0.0091	18,000	32.7	34.6	0.0009	0.0091	18,000	56.7	0.0007
		8	15,000	29.5	39.4	0.0005	0.0091	15,000	29.5	31.5	0.0005	0.0091	15,000	47.2	0.0007
		10	12,000	11.8	19.7	0.0003	0.0079	12,000	11.8	15.7	0.0003	0.0079	12,000	37.8	0.0007
		12	10,500	8.7	14.2	0.0002	0.0071	10,500	8.7	11.4	0.0002	0.0071	10,500	33.1	0.0007
	0.3	4	18,000	32.7	49.6	0.0012	0.0091	18,000	32.7	39.4	0.0012	0.0091	18,000	56.7	0.0009
		6	18,000	32.7	44.1	0.0009	0.0091	18,000	32.7	35.0	0.0009	0.0091	18,000	56.7	0.0009
1.5	0.1	4	18,000	48.4	65.0	0.0012	0.0134	16,000	42.5	51.2	0.0012	0.0134	18,000	63.8	0.0006
		8	18,000	48.4	65.0	0.0010	0.0134	16,000	42.5	51.2	0.0010	0.0134	18,000	63.8	0.0006
		12	10,000	18.9	31.5	0.0005	0.0118	10,000	17.7	29.5	0.0005	0.0118	10,000	35.4	0.0006
	0.2	4	18,000	48.4	65.0	0.0012	0.0134	16,000	42.5	51.2	0.0012	0.0134	18,000	63.8	0.0007
		6	18,000	48.4	65.0	0.0011	0.0134	16,000	42.5	51.2	0.0011	0.0134	18,000	63.8	0.0007
		8	18,000	48.4	65.0	0.0010	0.0134	16,000	42.5	51.2	0.0010	0.0134	18,000	63.8	0.0007
2.0	0.1	8	18,000	69.3	87.0	0.0012	0.0181	12,000	39.4	51.2	0.0012	0.0181	18,000	63.8	0.0006
		10	15,000	63.8	85.0	0.0012	0.0181	12,000	39.4	47.2	0.0012	0.0181	15,000	53.1	0.0006
		12	13,000	52.0	69.3	0.0009	0.0181	12,000	37.4	45.3	0.0009	0.0181	13,000	46.1	0.0006
		16	7,600	29.5	39.4	0.0005	0.0181	7,600	23.6	30.7	0.0005	0.0181	7,000	24.8	0.0006
	0.3	8	18,000	63.8	87.0	0.0020	0.0181	12,000	39.4	51.2	0.0020	0.0181	18,000	63.8	0.0009
	0.3	12	13,000	52.0	69.3	0.0016	0.0181	12,000	37.4	45.3	0.0016	0.0181	13,000	46.1	0.0009
	0.5	6	18,000	69.3	87.0	0.0031	0.0177	12,000	33.5	51.2	0.0031	0.0177	18,000	63.8	0.0010
		8	18,000	69.3	87.0	0.0030	0.0177	12,000	33.5	51.2	0.0030	0.0177	18,000	63.8	0.0010
		10	15,000	63.8	85.0	0.0028	0.0177	12,000	31.5	47.2	0.0028	0.0177	15,000	53.1	0.0010
		12	13,000	52.0	69.3	0.0024	0.0177	12,000	27.6	45.3	0.0024	0.0177	13,000	46.1	0.0010
3.0	0.3	12	12,700	55.1	91.3	0.0018	0.0276	8,000	33.1	47.2	0.0018	0.0276	13,000	46.1	0.0009

1. Adjust the speed, feed, and plunge depth in accordance with operating conditions, including the machining shape, machine rigidity, holder rigidity, and work holding force.
2. If the speed and feed rates cannot increase due to equipment performance, operate by reducing the speed and feed rates at the same ratio.
3. High cutting speeds and feed rates can cause cutter wear or reduce machining precision. Therefore, operate by reducing the feed rate as needed.
4. Depending on the shape to be machined, if the end mill chatters during machining, it can bite into the shape. Therefore, operate by reducing the speed and feed rates at the same ratio.
5. For precise, detailed machining, use a dedicated machine that operates quietly.
6. Operate by keeping the runout at the tip of the end mill below 5 microns (.0002").
7. To perform finish machining with a high level of efficiency, keep the speed and feed rates below 2 times.
8. To finish a flat surface, operate at a speed range with a minimal amount of equipment vibration, making sure than the feed rate does not cause the equipment to wobble.
9. To finish machine a curved surface using the corner radius tool, operate by changing the machining pitch.
10. Set the inclined cut angle approximately between 0.3° and 0.5°.

List 9575 - EXOPRO® PHX: Deep Feed, Corner Radius
List 9576 - EXOPRO® PHX: Long Neck, Deep Feed, Corner Radius
List 9580 - EXOPRO® PHX: Pencil Neck, Deep Feed, Corner Radius

Side Milling

Hardness				<40 HRC				40-55 HRC				55-60 HRC				
Work Material				Mild Steels and Carbon Steels				Hardened Steels and Prehardened Steels								
				High Feed Roughing				Semi-Finishing				Finishing				
Cutting Speed				60-410 SFM				60-250 SFM				60-410 SFM				
D (mm)	r (mm)	L1	Rec'd Cutting Angle	Speed (RPM)	Feed (in/min)	Depth of Cut (in)		Speed (RPM)	Feed (in/min)	Depth of Cut (in)		Speed (RPM)	Feed (in/min)	Depth of Cut (in)		Stock to Remove (in)
						Aa	Ar			Aa	Ar			Aa	Ar	
1.0	R0.3	10	0.3°	16,000	35.4	0.0012	0.0055	16,000	35.4	0.0012	0.0055	16,000	35.4	0.0016	0.0055	0.0020
		15	0.3°	8,000	17.7	0.0012	0.0055	8,000	17.7	0.0012	0.0055	8,000	17.7	0.0016	0.0055	0.0020
		20	0.3°	6,000	13.8	0.0008	0.0055	6,000	13.8	0.0008	0.0055	6,000	13.8	0.0016	0.0055	0.0012
		25	0.3°	6,000	11.8	0.0004	0.0051	6,000	11.8	0.0004	0.0051	6,000	11.8	0.0016	0.0055	0.0012
		30	0.3°	6,000	9.8	0.0004	0.0047	6,000	9.8	0.0004	0.0047	6,000	9.8	0.0016	0.0055	0.0012
1.5		10	0.3°	16,000	55.1	0.0020	0.0118	16,000	47.2	0.0020	0.0118	16,000	55.1	0.0016	0.0138	0.0028
		15	0.3°	8,000	31.5	0.0020	0.0118	8,000	23.6	0.0020	0.0118	8,000	31.5	0.0016	0.0138	0.0020
		20	0.3°	5,500	21.7	0.0016	0.0118	5,500	19.7	0.0016	0.0118	5,500	21.7	0.0016	0.0138	0.0020
		25	0.3°	5,000	19.7	0.0016	0.0118	5,000	17.7	0.0016	0.0118	5,000	19.7	0.0016	0.0138	0.0012
		30	0.3°	4,500	17.7	0.0016	0.0118	4,500	15.7	0.0016	0.0118	4,500	17.7	0.0016	0.0138	0.0012
2.0	R0.5	10	0.3°	12,000	57.1	0.0059	0.0157	12,000	43.3	0.0059	0.0157	12,000	43.3	0.0024	0.0157	0.0028
		15	0.3°	7,800	35.4	0.0047	0.0157	7,800	27.6	0.0039	0.0157	7,800	27.6	0.0024	0.0157	0.0028
		20	0.3°	6,200	29.5	0.0039	0.0118	6,200	23.6	0.0028	0.0118	6,200	23.6	0.0024	0.0157	0.0020
		25	0.3°	4,700	21.7	0.0028	0.0118	4,700	19.7	0.0024	0.0118	4,700	19.7	0.0024	0.0157	0.0020
		30	0.3°	3,500	15.7	0.0028	0.0118	3,500	15.7	0.0020	0.0118	3,500	15.7	0.0024	0.0157	0.0020
		35	0.3°	3,500	15.7	0.0028	0.0079	3,500	15.7	0.0016	0.0079	3,500	15.7	0.0024	0.0157	0.0012
		40	0.3°	3,500	11.8	0.0028	0.0079	3,500	11.8	0.0016	0.0079	3,500	11.8	0.0024	0.0157	0.0012
		45	0.3°	3,500	7.9	0.0028	0.0079	3,500	7.9	0.0012	0.0079	3,500	7.9	0.0024	0.0157	0.0012
		50	0.3°	3,500	5.9	0.0024	0.0039	3,500	5.9	0.0012	0.0039	3,500	7.9	0.0024	0.0157	0.0012
		60	0.3°	3,500	5.9	0.0020	0.0039	3,500	5.9	0.0012	0.0039	3,500	7.9	0.0024	0.0157	0.0012
3.0	R0.8	10	0.3°	11,000	65.0	0.0051	0.0236	8,000	47.2	0.0051	0.0236	11,000	82.7	0.0039	0.0197	0.0039
		15	0.3°	10,000	59.1	0.0051	0.0236	8,000	47.2	0.0051	0.0236	10,000	74.8	0.0039	0.0197	0.0028
		20	0.3°	7,500	43.3	0.0005	0.0197	7,200	39.4	0.0005	0.0197	7,500	55.1	0.0039	0.0197	0.0028
		25	0.3°	4,800	27.6	0.0047	0.0157	4,600	25.6	0.0047	0.0157	4,800	35.4	0.0039	0.0197	0.0020
		30	0.3°	3,800	21.7	0.0039	0.0157	3,400	19.7	0.0039	0.0157	3,800	29.5	0.0039	0.0197	0.0012
		40	0.3°	2,600	17.7	0.0031	0.0118	2,600	15.7	0.0031	0.0118	2,600	21.7	0.0039	0.0197	0.0012
		50	0.3°	2,200	13.8	0.0024	0.0118	2,200	11.8	0.0024	0.0118	2,200	17.7	0.0039	0.0197	0.0012
		60	0.3°	2,200	13.8	0.0016	0.0118	2,200	11.8	0.0016	0.0118	2,200	15.7	0.0039	0.0197	0.0012
4.0	R1	10	0.5°	9,500	82.7	0.0079	0.0354	6,000	49.2	0.0079	0.0354	9,500	88.6	0.0047	0.0315	0.0039
		15	0.5°	9,000	78.7	0.0079	0.0315	6,000	49.2	0.0079	0.0315	9,000	84.6	0.0047	0.0315	0.0039
		20	0.5°	8,200	66.9	0.0079	0.0276	6,000	49.2	0.0055	0.0276	8,200	78.7	0.0047	0.0276	0.0039
		25	0.5°	5,500	55.1	0.0059	0.0276	5,500	45.3	0.0043	0.0276	5,500	53.1	0.0047	0.0276	0.0028
		30	0.5°	4,500	45.3	0.0059	0.0276	4,500	35.4	0.0035	0.0276	4,500	43.3	0.0047	0.0276	0.0028
		35	0.5°	3,600	43.3	0.0047	0.0236	3,600	29.5	0.0035	0.0236	3,600	35.4	0.0047	0.0276	0.0020
		40	0.5°	3,000	35.4	0.0047	0.0236	3,000	25.6	0.0035	0.0236	3,000	31.5	0.0047	0.0276	0.0020
		45	0.5°	2,700	33.5	0.0039	0.0197	2,700	23.6	0.0031	0.0197	2,700	29.5	0.0047	0.0276	0.0012
		50	0.5°	2,500	31.5	0.0039	0.0197	2,500	21.7	0.0031	0.0197	2,500	23.6	0.0047	0.0276	0.0012
		60	0.5°	2,100	27.6	0.0031	0.0197	2,100	17.7	0.0024	0.0197	2,100	19.7	0.0047	0.0276	0.0012
5.0		10	0.5°	7,700	98.4	0.0079	0.0472	4,800	141.7	0.0079	0.0472	7,700	70.9	0.0047	0.0472	0.0039
		15	0.5°	7,700	94.5	0.0079	0.0472	4,800	133.9	0.0063	0.0472	6,100	57.1	0.0047	0.0472	0.0039
		20	0.5°	7,700	94.5	0.0079	0.0472	4,800	133.9	0.0063	0.0472	6,100	57.1	0.0047	0.0472	0.0039
		25	0.5°	5,100	86.6	0.0067	0.0394	4,800	118.1	0.0051	0.0394	5,100	47.2	0.0047	0.0472	0.0028
		30	0.5°	5,100	86.6	0.0067	0.0394	4,800	118.1	0.0051	0.0394	5,100	47.2	0.0047	0.0472	0.0028
		35	0.5°	4,400	66.9	0.0059	0.0394	4,400	94.5	0.0035	0.0394	4,400	39.4	0.0047	0.0472	0.0020
		40	0.5°	3,100	43.3	0.0059	0.0394	3,100	59.1	0.0031	0.0394	3,100	29.5	0.0047	0.0472	0.0020
6.0	R1.5	24	0.5°	6,500	255.9	0.0138	0.0512	4,000	66.9	0.0094	0.0512	6,500	74.8	0.0059	0.0472	0.0039
		30	0.5°	5,100	200.8	0.0094	0.0472	4,000	66.9	0.0091	0.0472	5,100	59.1	0.0059	0.0472	0.0039
		36	0.5°	4,200	165.4	0.0079	0.0394	4,000	66.9	0.0075	0.0394	4,200	49.2	0.0059	0.0472	0.0028
		42	0.5°	3,700	145.7	0.0059	0.0394	3,700	55.1	0.0055	0.0394	3,700	43.3	0.0059	0.0472	0.0028
		48	0.5°	2,600	102.4	0.0051	0.0354	2,600	35.4	0.0055	0.0354	2,600	31.5	0.0059	0.0472	0.0020
		54	0.5°	2,100	82.7	0.0039	0.0354	2,100	31.5	0.0039	0.0354	2,100	25.6	0.0059	0.0472	0.0020
		66	0.5°	1,900	74.8	0.0031	0.0354	1,900	27.6	0.0031	0.0354	1,900	21.7	0.0059	0.0472	0.0012
		80	0.5°	1,700	66.9	0.0020	0.0354	1,700	23.6	0.0020	0.0354	1,700	17.7	0.0059	0.0472	0.0012

Side Milling

Hardness				<40 HRC				40-55 HRC				55-60 HRC				
Work Material				Mild Steels and Carbon Steels				Hardened Steels and Prehardened Steels								
				High Feed Roughing				Semi-Finishing				Finishing				
Cutting Speed				60-410 SFM				60-250 SFM				60-410 SFM				
D (mm)	r (mm)	L1	Rec'd Cutting Angle	Speed (RPM)	Feed (in/min)	Depth of Cut (in)		Speed (RPM)	Feed (in/min)	Depth of Cut (in)		Speed (RPM)	Feed (in/min)	Depth of Cut (in)		Stock to Remove (in)
						Aa	Ar			Aa	Ar			Aa	Ar	
8.0	R2	30	0.5°	4,800	78.7	0.0197	0.0669	3,000	49.2	0.0118	0.0630	4,800	70.9	0.0071	0.0630	0.0039
		40	0.5°	3,800	74.8	0.0157	0.0630	3,000	49.2	0.0118	0.0630	3,800	55.1	0.0071	0.0630	0.0039
		48	0.5°	3,200	66.9	0.0106	0.0551	3,000	49.2	0.0102	0.0551	2,300	45.3	0.0071	0.0630	0.0028
		56	0.5°	2,700	51.2	0.0079	0.0551	2,700	43.3	0.0079	0.0551	2,700	39.4	0.0071	0.0630	0.0028
		64	0.5°	1,900	34.6	0.0079	0.0512	1,900	31.5	0.0079	0.0512	1,900	27.6	0.0071	0.0630	0.0020
		80	0.5°	1,500	27.6	0.0059	0.0512	1,500	27.6	0.0059	0.0512	1,500	21.7	0.0071	0.0630	0.0012
		100	0.5°	1,200	25.6	0.0059	0.0512	1,200	25.6	0.0059	0.0512	1,200	19.7	0.0071	0.0630	0.0012
		120	0.5°	1,000	21.7	0.0039	0.0512	1,000	21.7	0.0039	0.0512	1,000	17.7	0.0071	0.0630	0.0012
10.0		35	0.5°	3,800	82.7	0.0197	0.0984	2,400	94.5	0.0118	0.0630	3,800	149.6	0.0079	0.0945	0.0039
		50	0.5°	3,100	76.8	0.0157	0.0945	2,400	94.5	0.0118	0.0630	3,100	122.0	0.0079	0.0945	0.0039
		60	0.5°	2,500	68.9	0.0106	0.0787	2,400	94.5	0.0106	0.0630	2,500	98.4	0.0079	0.0945	0.0039
		70	0.5°	2,200	53.1	0.0079	0.0787	2,200	86.6	0.0079	0.0630	2,200	86.6	0.0079	0.0945	0.0028
		80	0.5°	1,500	35.4	0.0075	0.0787	1,500	59.1	0.0075	0.0630	1,500	59.1	0.0079	0.0945	0.0028
		100	0.5°	1,200	28.3	0.0063	0.0787	1,200	47.2	0.0063	0.0630	1,200	47.2	0.0079	0.0945	0.0020
		120	0.5°	1,050	25.6	0.0051	0.0787	1,000	39.4	0.0051	0.0630	1,050	41.3	0.0079	0.0945	0.0020
		140	0.5°	850	21.7	0.0039	0.0591	800	31.5	0.0039	0.0551	850	33.5	0.0079	0.0945	0.0012
		160	0.5°	700	19.7	0.0028	0.0591	700	27.6	0.0028	0.0551	700	27.6	0.0079	0.0945	0.0012
12.0		45	0.5°	3,200	86.6	0.0236	0.1339	2,000	78.7	0.0118	0.0630	3,200	126.0	0.0094	0.1260	0.0059
		60	0.5°	2,500	82.7	0.0197	0.1260	2,000	78.7	0.0118	0.0630	2,500	98.4	0.0094	0.1260	0.0059
		70	0.5°	2,100	74.8	0.0157	0.1102	2,000	78.7	0.0110	0.0630	2,100	82.7	0.0094	0.1260	0.0039
		85	0.5°	1,800	59.1	0.0118	0.1063	1,500	59.1	0.0087	0.0630	1,800	70.9	0.0094	0.1260	0.0039
		100	0.5°	1,300	39.4	0.0079	0.1024	1,200	47.2	0.0079	0.0630	1,300	51.2	0.0094	0.1260	0.0039
		120	0.5°	1,000	27.6	0.0059	0.0984	1,000	39.4	0.0059	0.0630	1,000	39.4	0.0094	0.1260	0.0020
		140	0.5°	900	23.6	0.0059	0.0787	900	35.4	0.0039	0.0630	900	35.4	0.0094	0.1260	0.0020
		160	0.5°	700	19.7	0.0039	0.0787	700	27.6	0.0039	0.0630	700	27.6	0.0094	0.1260	0.0020
16.0	R3	55	0.5°	2,400	78.7	0.0197	0.1654	1,500	59.1	0.0118	0.0630	2,400	94.5	0.0118	0.1575	0.0079
		80	0.5°	1,900	74.8	0.0185	0.1575	1,500	59.1	0.0118	0.0630	1,900	74.8	0.0118	0.1575	0.0059
		90	0.5°	1,600	66.9	0.0157	0.1339	1,500	59.1	0.0118	0.0630	1,600	63.0	0.0118	0.1575	0.0039
		105	0.5°	1,400	51.2	0.0114	0.1299	1,400	55.1	0.0110	0.0630	1,400	55.1	0.0118	0.1575	0.0028
		120	0.5°	1,000	33.5	0.0079	0.1260	1,000	39.4	0.0079	0.0630	1,000	39.4	0.0118	0.1575	0.0020
20.0		70	0.5°	1,900	78.7	0.0197	0.2165	1,200	47.2	0.0118	0.0630	1,900	74.8	0.0165	0.2165	0.0079
		90	0.5°	1,500	74.8	0.0185	0.2087	1,200	47.2	0.0118	0.0630	1,500	59.1	0.0165	0.2165	0.0059
		110	0.5°	1,300	66.9	0.0165	0.1654	1,200	47.2	0.0118	0.0630	1,300	51.2	0.0165	0.2165	0.0039
		130	0.5°	1,100	51.2	0.0122	0.1496	1,100	43.3	0.0118	0.0630	1,100	43.3	0.0165	0.2165	0.0028
		150	0.5°	760	29.9	0.0098	0.1339	760	29.9	0.0091	0.0630	760	29.9	0.0165	0.2165	0.0020

1. The above mentioned conditions according to projection lengths are intended as general guidelines for reference only. Adjustments should be made based on actual milling conditions.
2. Highly rigid machines and tool holders should be used.
3. Tool vibrations should be kept at a minimum level for maximum accuracy.
4. In the case of linear machining, do not use the Ar value, instead refer to the Aa value.
5. Under general machining conditiona, air-blow cutting method is recommended.
6. More stable high-feed machining in the corners can be attained by setting an R insertion or deceleration on the CAM or machine side.
7. When cutting load fluctuates (in the corners, etc.) or when high-precision is required, be sure to control the rotational speed.
8. When cutting at greater than the recommended cutting angle, reduce the feed.
9. When the depth of cut is less than the specified amount as listed above, the feed rate can be increased up to 150%.
10. When the depth of cut is greater than the specified amount as listed above, the feed rate can be reduced by no more than 60% to ensure stable milling.

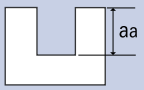
List 2055 - EXOPRO® UVX-Ni : 5 Flute - Corner Radius

Side Milling

Hardness		
Work Material	High Temp. Alloys Inconel Hastelloy	
Cutting Speed	125-150 SFM	
Depth of Cut	a_a= ≤ 0.5D a_r= ≤ 0.3D 	
Mill Dia.	Speed RPM	Feed in/min
1/4	2,100	11.0
5/16	1,600	10.0
3/8	1,400	10.0
1/2	1,100	9.5
5/8	800	9.0
3/4	650	8.0
1	500	7.0

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed.
3. Use a suitable cutting fluid with high smoke retardant.

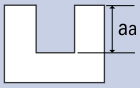
Slotting

Hardness		
Work Material	High Temp. Alloys Inconel Hastelloy	
Cutting Speed	75-100 SFM	
Depth of Cut	a_a= ≤ 0.5D 	
Mill Dia.	Speed RPM	Feed in/min
1/4	1,300	7.0
5/16	1,000	6.5
3/8	900	6.0
1/2	700	5.5
5/8	500	5.0
3/4	400	4.5
1	300	4.0

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed.
3. Use a suitable cutting fluid with high smoke retardant.

List 3770: 2 Flute, Corner Radius, Regular Length

Slotting

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steel Carbon Steels		Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Hardened Steels Pre-hardened Steels		Hardened Steels		Hardened Steels	
Cutting Speed	275 SFM		220 SFM		180 SFM		150 SFM		100 SFM		65 SFM	
Depth of Cut			Dia / aa: D<1: 0.1D; 1≤D<3: 0.3D; 3<D: 0.5D						Dia / aa: D<1: 0.2D; 1≤D: 0.5D		Dia / aa: D<1: 0.1D; 1≤D<3: 0.2D; 3<D: 0.5D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.2	25,000	2.7	25,000	2.7	25,000	2.3	25,000	1.1	25,000	1.0	25,000	1.0
0.3	25,000	3.5	25,000	3.5	25,000	2.4	25,000	1.7	32,340	1.3	21,020	1.3
0.4	25,000	3.8	25,000	3.8	25,000	2.7	25,000	2.2	24,260	1.7	15,770	1.3
0.5	25,000	3.8	25,000	4.1	25,000	3.5	25,000	2.7	19,410	1.7	12,610	1.3
0.6	25,000	3.4	25,000	5.0	25,000	4.2	24,260	3.1	16,170	1.7	10,510	1.2
0.8	25,000	5.0	25,000	6.6	21,830	4.9	18,190	3.5	12,130	1.7	7,880	1.2
1.0	25,000	6.5	21,350	7.2	17,470	4.9	14,550	3.4	9,700	1.7	6,310	1.2
1.5	17,790	6.5	14,230	6.6	11,640	4.6	9,700	3.2	6,470	2.0	4,200	1.2
2.0	13,340	6.4	10,670	6.2	8,730	4.4	7,280	3.2	4,850	2.0	3,150	1.1
3.0	8,890	9.5	7,120	6.6	5,820	4.3	4,850	3.3	3,230	2.1	2,100	1.3
4.0	6,670	10.4	5,340	8.0	4,370	5.0	3,640	3.6	2,430	2.2	1,580	1.2
5.0	5,340	12.5	4,270	9.2	3,490	5.0	2,910	3.7	1,940	2.2	1,260	1.2
6.0	4,450	12.2	3,560	9.2	2,910	5.0	2,430	3.8	1,620	2.3	1,050	1.0
8.0	3,340	11.7	2,670	9.2	2,180	4.9	1,820	3.7	1,210	2.1	790	1.0
10.0	2,670	11.1	2,130	9.0	1,750	4.9	1,460	3.6	970	2.0	630	1.0
12.0	2,220	11.1	1,780	9.0	1,460	4.9	1,210	3.6	810	1.8	530	0.8

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

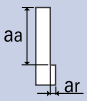
List 3670 - EXOCARB® WXL®: 4 Flute, Regular Length, Corner Radius

Side Milling

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Stainless Steels Pre-hardened Steels		Hardened Steels		Hardened Steels	
Cutting Speed	396 SFM		294 SFM		258 SFM		192 SFM		156 SFM		96 SFM	
Depth of Cut	a_a=1.2D a_r=0.2D 						a_a=1D a_r=0.1D		a_a=1D a_r=0.05D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	24,000	38.4	18,000	28.8	15,600	25.0	12,000	19.2	9,600	11.5	6,000	4.8
5/64	19,200	38.4	14,400	28.8	12,480	25.0	9,600	19.2	7,680	12.3	4,800	5.8
3/32	16,080	38.6	12,000	28.8	10,380	24.9	7,980	19.2	6,420	12.8	4,020	4.8
7/64	13,740	38.5	10,320	28.9	8,940	25.0	6,900	19.3	5,520	13.2	3,480	5.6
1/8	12,000	43.2	9,000	28.8	7,800	25.0	6,000	19.2	4,800	13.4	3,000	6.0
5/32	9,600	46.1	7,200	31.7	6,240	27.5	4,800	21.1	3,840	15.4	2,400	7.7
3/16	8,040	51.5	6,000	36.0	5,220	31.3	4,020	22.5	3,180	17.8	1,980	9.5
7/32	6,900	55.2	5,160	37.2	4,440	30.2	3,420	23.3	2,760	16.6	1,740	9.0
1/4	6,000	55.2	4,500	39.6	3,900	31.2	3,000	24.0	2,400	16.3	1,500	9.0
5/16	4,800	57.6	3,600	38.9	3,120	32.4	2,400	24.0	1,920	16.9	1,200	9.6
3/8	4,020	56.3	3,000	38.4	2,640	30.6	1,980	22.2	1,620	16.2	1,020	9.4
7/16	3,480	55.7	2,580	38.2	2,280	31.0	1,740	22.3	1,380	16.0	840	8.4
1/2	3,000	54.0	2,280	35.6	1,980	27.7	1,500	19.2	1,200	13.9	750	8.1
5/8	2,400	43.2	1,800	28.1	1,600	22.4	1,200	15.4	980	11.4	600	6.5
3/4	2,000	36.0	1,500	23.4	1,300	18.2	1,000	12.8	800	9.3	500	5.4
1	1,500	27.0	1,100	17.2	1,000	14.0	750	9.6	600	7.0	380	4.1

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

High Speed Light Milling

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC	
Work Material	Carbon Steels 1045, 1055		Alloy Steels 4140, 4340		Hardened Steels Pre-hardened Steels D2, H13, 17-4PH		Tool Steels, Hardened Steels Pre-hardened Steels, D2, H13		Hardened Steels Heat Resistant Steels	
Cutting Speed	1,560 SFM		1,380 SFM		960 SFM		600 SFM		310 SFM	
Depth of Cut										
	Dia	a_a	a_r							
	D<1/8	1.5D	0.01D							
	1/8≤D	1.5D	0.02D							
	5/8<D	1.5D	0.05D							
	Dia	a_a	a_r							
	D≤5/16	1.0D	0.01D							
	5/16<D	1.0D	0.02D							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	24,000	220.8	21,000	184.8	14,760	118.1	9,000	72.0	4,800	32.6
9/32	20,400	212.2	18,000	172.8	13,200	121.4	7,920	69.7	4,200	33.6
5/16	18,840	226.1	16,320	176.3	12,000	124.8	7,200	72.0	3,840	33.8
3/8	15,600	218.4	13,800	176.6	9,960	115.5	6,000	67.2	3,120	31.2
7/16	13,200	211.2	12,000	177.6	8,640	117.5	5,160	66.0	2,760	32.0
1/2	11,880	213.8	10,440	162.9	7,440	104.2	4,440	56.8	2,400	27.8
5/8	9,500	171.0	8,400	131.1	5,900	82.6	3,670	47.0	1,900	22.1
3/4	7,950	143.1	7,000	109.2	4,950	69.3	3,050	39.0	1,580	18.3
1	5,960	107.3	5,270	82.3	3,700	51.8	2,300	29.5	1,180	13.7

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

List 3771: 4 Flute, Corner Radius, Regular Length

Side Milling

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steel Carbon Steels Cast Iron		Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Hardened Steels Pre-hardened Steels		Hardened Steels		Hardened Steels	
Cutting Speed	396 SFM		294 SFM		258 SFM		192 SFM		156 SFM		96 SFM	
Depth of Cut	a_a=1.2D a_r=0.2D						a_a=1D a_r=0.1D		a_a=1D a_r=0.05D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3	12,810	40.6	9,510	28.4	8,340	24.9	6,210	18.5	5,050	13.0	3,100	5.5
4	9,680	46.5	7,190	31.6	6,310	27.8	4,690	20.7	3,810	15.3	2,350	7.5
5	7,680	49.2	5,710	34.2	5,010	30.0	3,730	20.9	3,030	17.0	1,860	8.9
6	6,400	54.8	4,750	37.8	4,170	30.7	3,100	22.9	2,520	16.1	1,550	8.6
8	4,800	57.6	3,570	38.5	3,130	32.5	2,330	23.3	1,890	16.7	1,160	9.3
10	3,840	53.8	2,850	36.5	2,500	29.0	1,860	20.9	1,510	15.1	930	8.6
12	3,200	54.2	2,380	36.1	2,090	28.8	1,550	19.9	1,260	14.6	780	8.1

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

High Speed Light Milling

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC	
Work Material	Carbon Steels 1045, 1055		Alloy Steels 4140, 4340		Hardened Steels Pre-hardened Steels D2, H13, 17-4PH		Tool Steels, Hardened Steels Pre-hardened Steels, D2, H13		Hardened Steels Heat Resistant Steels	
Cutting Speed	1,560 SFM		1,380 SFM		960 SFM		600 SFM		130 SFM	
Depth of Cut	Dia / a_a / a_r D<3 / 1.5D / 0.01D 3≤D / 1.5D / 0.02D								Dia / a_a / a_r D<8 / 1.0D / 0.01D 8≤D / 1.0D / 0.02D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3	25,000.0	230.0	25,000	220.0	25,000	200.0	19,410	155.2	4,200	28.6
4	25,000.0	260.0	25,000	240.0	23,470	215.9	14,670	129.1	3,180	25.4
5	25,000.0	300.0	25,000	270.0	18,630	193.7	11,640	116.4	2,520	22.2
6	25,000.0	322.6	22,320	261.5	15,520	169.9	9,700	102.3	2,100	19.6
8	18,920.0	264.9	16,740	214.2	11,640	135.1	7,280	81.5	1,580	15.8
10	15,140.0	242.2	13,390	198.2	9,310	126.7	5,820	74.5	1,260	14.6
12	12,610.0	213.8	11,160	169.3	7,760	107.0	4,850	62.1	1,050	12.2

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

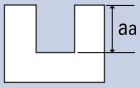
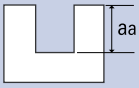
List 4445: 4 Flute, Corner Radius, High Helix, Regular Length

Side Milling

Hardness	<25 HRC		25-35 HRC		38-45 HRC		40-50 HRC		45-55 HRC		20-45 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Hardened Steels 304 Stainless		Hardened Steels Pre-hardened Steels		Titanium Alloy Ti-6Al-4V		Heat Resistant Alloys Inconel	
Cutting Speed	220-328 SFM		130-220 SFM		115-210 SFM		98-150 SFM		65-195 SFM		65-130 SFM	
Depth of Cut	a_a=1.5D a_r=0.1D 						a_a=1.5D a_r=0.05D 					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	8,375	26.3	5,350	14.5	4,950	11.0	3,800	12.1	3,970	11.1	2,965	5.3
3/16	5,580	37.9	3,565	18.0	3,300	12.1	2,525	13.5	2,650	12.5	1,975	5.8
1/4	4,200	31.0	2,675	16.3	2,475	11.7	1,900	11.2	1,990	11.7	1,480	5.8
5/16	3,350	36.6	2,140	22.9	2,000	15.7	1,500	11.8	1,600	12.6	1,185	7.7
3/8	2,800	39.4	1,750	23.6	1,650	22.3	1,260	16.2	1,320	12.9	990	8.1
1/2	2,100	29.3	1,335	18.7	1,240	16.9	950	12.0	1,000	12.5	740	5.8

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

Slotting

Hardness	<25 HRC		25-35 HRC		38-45 HRC		40-50 HRC		45-55 HRC		20-45 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Hardened Steels 304 Stainless		Hardened Steels Pre-hardened Steels		Titanium Alloy Ti-6Al-4V		Heat Resistant Alloys Inconel	
Cutting Speed	130-260 SFM		65-165 SFM		65-165 SFM		50-115 SFM		65-115 SFM		50-80 SFM	
Depth of Cut	a_a=0.5D 						a_a=0.2D 					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	5,960	11.7	3,970	7.8	3,970	6.7	2,500	4.1	2,750	4.3	2,000	2.9
3/16	3,970	12.3	2,650	8.8	2,650	7.1	1,650	4.7	1,800	4.7	1,300	3.1
1/4	2,980	10.9	1,990	7.8	1,990	6.1	1,250	4.9	1,375	5.0	1,000	2.6
5/16	2,400	13.8	1,600	9.8	1,600	6.7	1,000	5.9	1,100	6.7	800	3.1
3/8	2,000	14.5	1,320	10.3	1,320	7.0	835	6.5	900	6.8	640	3.1
1/2	1,500	11.8	1,000	6.7	1,000	7.0	625	5.9	690	5.6	500	2.8

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

List 4592: Corner Radius, Stub Length, 2 Flute, Long Neck, Rib Processing

Standard Milling

Hardness									<45 HRC		45-55 HRC		55-65 HRC	
Work Material									Hardened Steels Pre-hardened Steels (SDK61, H13, NAK80, P21)		Hardened Steels Pre-hardened Steels (SDK61, H13, STAVAX, 420F)		Hardened Steels	
Depth of Cut		aa / ar							%'s of DOC's suggested on the left					
									aa=120% ar=120%		aa=100% ar=100%		aa=60% ar=80%	
		aa (in)						ar (in)	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Dia.	L1	R0.05	R0.1	R0.2	R0.3	R0.5	R1							
0.4	1	0.00028	—	—	—	—	—	0.0047	25,000	14.0	25,000	14.0	19,800	11.1
	1.5	0.00028	—	—	—	—	—	0.0047	25,000	14.0	25,000	14.0	19,800	11.1
	2	0.00020	0.00031	—	—	—	—	0.0040	25,000	10.0	25,000	10.0	19,800	7.9
	3	0.00008	0.00012	—	—	—	—	0.0030	25,000	4.0	23,100	3.7	18,700	3.0
	4	0.00004	0.00008	—	—	—	—	0.0014	22,000	1.8	22,000	1.8	18,700	1.5
0.5	1	0.00028	0.00039	—	—	—	—	0.0059	25,000	14.0	25,000	14.0	18,700	10.5
	2	0.00028	0.00039	—	—	—	—	0.0059	25,000	14.0	25,000	14.0	18,700	10.5
	3	0.00012	0.00020	—	—	—	—	0.0041	25,000	6.0	24,200	5.8	17,600	4.2
	4	0.00008	0.00012	—	—	—	—	0.0004	25,000	4.0	23,100	3.7	17,050	2.7
	5	0.00004	0.00008	—	—	—	—	0.0018	24,200	1.9	22,550	1.8	16,500	1.3
	6	0.00004	0.00004	—	—	—	—	0.0012	22,000	1.8	22,000	1.8	16,500	1.3
0.6	2	—	0.00047	—	—	—	—	0.0071	25,000	23.5	25,000	23.5	17,600	16.5
	4	—	0.00020	—	—	—	—	0.0048	25,000	10.0	22,000	8.8	16,500	6.6
	6	—	0.00008	—	—	—	—	0.0021	22,000	3.5	20,900	3.3	15,400	2.5
0.8	4	—	0.00063	0.0013	—	—	—	0.0094	25,000	65.0	22,000	57.2	15,400	40.0
	6	—	0.00028	0.0006	—	—	—	0.0094	23,100	27.7	19,800	23.8	14,850	17.8
	8	—	—	0.0003	—	—	—	0.0085	19,800	11.9	18,700	11.2	14,300	8.6
1.0	4	0.00039	0.00079	0.0016	0.0020	—	—	0.0118	24,200	77.4	22,000	70.4	13,200	42.2
	6	0.00020	0.00039	0.0008	0.0010	—	—	0.0083	22,000	35.2	18,700	29.9	13,200	21.1
	8	0.00012	0.00024	0.0005	0.0006	—	—	0.0071	17,600	17.6	16,500	16.5	12,650	12.7
	10	0.00008	0.00016	0.0003	0.0004	—	—	0.0035	16,500	9.9	15,400	9.2	12,100	7.3
	12	0.00004	0.00012	0.0002	0.0003	—	—	0.0024	16,500	6.6	14,300	5.7	12,100	4.8
	16	—	—	0.0002	—	—	—	0.0012	13,200	5.3	13,200	5.3	11,550	4.6
	20	—	—	0.0001	—	—	—	0.0009	11,000	2.2	11,000	2.2	11,000	2.2
1.2	6	—	—	0.0013	0.0016	—	—	0.0142	18,700	48.6	15,400	40.0	11,000	28.6
	8	—	—	0.0007	0.0009	—	—	0.0099	15,400	21.6	13,200	18.5	11,000	15.4
	10	—	—	0.0004	0.0006	—	—	0.0085	15,400	12.3	13,200	10.6	9,900	7.9
1.5	6	—	—	0.0016	0.0024	—	—	0.0177	15,400	49.3	13,200	42.2	8,800	28.2
	8	—	—	0.0010	0.0015	—	—	0.0150	13,200	26.4	11,000	22.0	7,700	15.4
	10	—	—	0.0007	0.0011	—	—	0.0115	13,200	18.5	11,000	15.4	7,700	10.8
	12	—	—	0.0005	0.0007	—	—	0.0106	13,200	13.2	11,000	11.0	7,150	7.2
	16	—	—	0.0003	0.0004	—	—	0.0044	11,000	6.6	9,900	5.9	6,600	4.0
2.0	8	—	0.00079	0.0016	0.0024	0.0030	—	0.0236	12,100	38.7	9,900	31.7	6,600	21.1
	10	—	0.00063	0.0013	0.0019	0.0024	—	0.0201	9,900	25.7	7,700	20.0	6,600	17.2
	12	—	0.00039	0.0008	0.0012	0.0015	—	0.0165	9,900	15.8	7,700	12.3	6,600	10.6
	16	—	0.00024	0.0005	0.0007	0.0009	—	0.0142	9,900	9.9	7,700	7.7	6,050	6.1
	20	—	0.00016	0.0003	0.0005	0.0006	—	0.0071	7,700	4.6	7,150	4.3	5,500	3.3
	25	—	0.00008	0.0002	0.0003	0.0004	—	0.0047	7,700	3.1	6,600	2.6	4,950	2.0
2.5	10	—	—	0.0016	—	0.0030	—	0.0295	9,900	31.7	8,800	28.2	5,500	17.6
	20	—	—	0.0008	—	0.0015	—	0.0177	7,700	12.3	6,600	10.6	4,950	7.9
	30	—	—	0.0002	—	0.0004	—	0.0059	6,600	2.6	5,500	2.2	4,400	1.8
3.0	8	—	—	0.0016	—	—	—	0.0354	8,800	28.2	7,700	24.6	5,500	17.6
	12	—	—	0.0016	0.0024	0.0030	—	0.0354	8,800	28.2	7,700	24.6	5,500	17.6
	16	—	—	0.0011	0.0017	0.0020	—	0.0283	6,600	14.5	6,600	14.5	5,500	12.1
	20	—	—	0.0007	0.0011	0.0013	—	0.0241	6,600	9.2	6,600	9.2	5,500	7.7
	25	—	—	0.0005	0.0007	0.0009	—	0.0213	6,600	6.6	6,600	6.6	4,950	5.0
	30	—	—	0.0003	0.0005	0.0006	—	0.0106	5,500	3.3	5,500	3.3	4,400	2.6
	35	—	—	0.0002	0.0004	0.0004	—	0.0071	5,500	2.2	4,950	2.0	4,400	1.8
4.0	16	—	—	0.0016	0.0024	0.0030	0.0047	0.0472	6,600	21.1	4,950	15.8	4,400	14.1
	20	—	—	0.0013	0.0019	0.0024	0.0079	0.0402	5,500	14.3	4,400	11.4	4,400	11.4
	25	—	—	0.0008	0.0012	0.0015	0.0024	0.0321	5,500	8.8	4,400	7.0	4,400	7.0
	30	—	—	0.0006	0.0008	0.0010	0.0016	0.0293	5,500	6.6	4,400	5.3	4,400	5.3
	40	—	—	0.0003	0.0005	0.0006	0.0009	0.0142	4,400	2.6	4,400	2.6	4,400	2.6
	50	—	—	0.0002	0.0003	0.0004	0.0006	0.0085	4,400	1.8	4,400	1.8	3,850	1.5

List 4471: Stub Length, 4 Flute, Corner Radius

Standard Milling

Hardness	<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steels Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	Dia: D≤1/16: aa 1.5D, ar 0.05D; D>1/16: aa 1.5D, ar 0.10D arMax=less than 0.04″ 				aa=1.5D ar=0.05D ar Max=less than 0.04″		aa=1.5D ar=0.03D ar Max=less than 0.02″		aa=1.0D ar=0.02D ar Max=less than 0.02″	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	70.0	25,000	70.0	20,170	56.5	15,158	36.4	14,180	22.7
3/32	18,743	75.0	16,828	67.3	13,446	53.8	10,105	30.3	9,453	22.7
1/8	14,058	73.1	12,621	65.6	10,085	52.4	7,579	27.3	7,090	25.5
3/16	9,372	60.0	8,414	53.9	6,723	43.0	5,053	22.2	4,727	20.8
1/4	7,029	101.2	6,311	90.9	5,042	72.6	3,789	37.9	3,545	31.2
3/8	4,686	105.0	4,207	94.2	3,362	75.3	2,526	39.4	2,363	31.2
1/2	3,514	99.8	3,155	89.6	2,521	71.6	1,895	38.7	1,772	31.2

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

High Speed Light Milling

Hardness	<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steels Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	aa=1.0D ar=0.05D ar Max = less than 0.02″ 				aa=1.0D ar=0.03D ar Max = less than 0.02″		aa=1.0D ar=0.02D ar Max = less than 0.008″		aa=1.0D ar=0.01D ar Max = less than 0.008″	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	70.0	25,000	70.0	25,000	70.0	25,000	50.0	25,000	50.0
3/32	25,000	100.0	25,000	100.0	25,000	100.0	21,433	68.6	20,170	56.5
1/8	25,000	130.0	25,000	130.0	25,000	130.0	16,075	70.7	15,127	54.5
3/16	20,068	128.4	20,068	128.4	16,706	106.9	10,716	72.9	10,085	52.4
1/4	15,051	216.7	15,051	216.7	12,530	180.4	8,037	93.2	7,564	78.7
3/8	10,034	224.8	10,034	224.8	8,353	187.1	5,358	96.4	5,042	78.7
1/2	7,525	213.7	7,525	213.7	6,265	177.9	4,019	93.2	3,782	75.6

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

List 4571: Stub Length, 4 Flute, Corner Radius

Standard Milling

Hardness	<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steels Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	Dia / aa / ar D=2 / 1.5D / 0.05D 2<D / 1.5D / 0.10D arMax=less than 0.04″ 				aa=1.5D ar=0.05D arMax=less than 0.04″		aa=1.5D ar=0.03D arMax=less than 0.02″		aa=1.0D ar=0.02D arMax=less than 0.02″	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	22,316	71.4	20,036	64.1	16,010	51.2	12,031	24.1	11,255	22.5
3	14,878	71.4	13,358	64.1	10,673	51.2	8,021	25.7	7,503	21.0
4	11,158	71.4	10,018	64.1	8,005	51.2	6,016	26.5	5,628	20.3
5	8,927	85.7	8,015	76.9	6,404	61.5	4,813	25.0	4,502	21.6
6	7,439	104.1	6,679	93.5	5,337	74.7	4,010	38.5	3,752	31.5
8	5,579	104.9	5,009	94.2	4,002	75.2	3,008	39.7	2,814	31.5
10	4,463	103.5	4,007	93.0	3,202	74.3	2,406	39.5	2,251	31.5
12	3,719	104.1	3,339	93.5	2,668	74.7	2,005	39.3	1,876	32.3

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

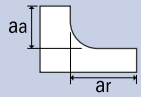
High Speed Light Milling

Hardness	<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steels Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	aa=1.0D ar=0.05D arMax=less than 0.02″ 				aa=1.0D ar=0.03D arMax=less than 0.02″		aa=1.0D ar=0.02D arMax=less than 0.008″		aa=1.0D ar=0.01D arMax=less than 0.008″	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	25,000	80.0	25,000	80.0	25,000	80.0	25,000	60.0	24,014	48.0
3	25,000	120.0	25,000	120.0	25,000	120.0	17,012	68.0	16,010	51.2
4	23,893	152.9	23,893	152.9	19,891	127.3	12,759	66.3	12,007	52.8
5	19,115	183.5	19,115	183.5	15,913	152.8	10,207	65.3	9,606	53.8
6	15,929	223.0	15,929	223.0	13,260	185.6	8,506	95.3	8,005	80.0
8	11,947	224.6	11,947	224.6	9,945	187.0	6,380	97.0	6,004	79.2
10	9,557	221.7	9,557	221.7	7,956	184.6	5,104	95.9	4,803	76.8
12	7,964	223.0	7,964	223.0	6,630	185.6	4,253	97.0	4,002	78.4

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

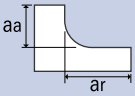
List 4470: Stub Length, Corner Radius, High Feed

Standard Milling

Hardness	<40 HRC		40 to 45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steels Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	CR: CR≤1/16; 1/16<CR aa: 0.2CR; 0.02" ar: 0.5D; 0.5D CR=Corner Radius 				CR: CR≤1/16; 1/16<CR aa: 0.2CR; 0.016" ar: 0.5D; 0.5D CR=Corner Radius		CR: CR≤1/16; 1/16<CR aa: 0.1CR; 0.008" ar: 0.5D; 0.5D CR=Corner Radius			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	12,224	252	8,404	158	6,112	103	3,667	41	3,056	34
3/16	8,149	252	5,603	158	4,075	103	2,445	41	2,037	34
1/4	6,112	336	4,202	210	3,056	138	1,834	55	1,528	46
5/16	4,890	336	3,362	210	2,445	138	1,467	55	1,222	46
3/8	4,075	336	2,801	210	2,037	138	1,222	55	1,019	46
1/2	3,056	336	2,101	210	1,528	138	917	55	764	46

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

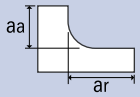
High Feed Milling

Hardness	<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steels Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	aa=0.1CR ar=0.3D CR=Corner Radius 				CR: CR≤1/16; 1/16<CR aa: 0.1CR; 0.008" ar: 0.3D; 0.3D CR=Corner Radius		CR: CR≤1/16; 1/16<CR aa: 0.05CR; 0.004" ar: 0.3D; 0.3D CR=Corner Radius			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	23,990	495	18,030	338	16,808	284	11,918	134	9,168	103
3/16	15,993	495	12,020	338	11,205	284	7,946	134	6,112	103
1/4	11,995	660	9,015	451	8,404	378	5,959	179	4,584	138
5/16	9,596	660	7,212	451	6,723	378	4,767	179	3,667	138
3/8	7,997	660	6,010	451	5,603	378	3,973	179	3,056	138
1/2	5,997	660	4,508	451	4,202	378	2,980	179	2,292	138

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

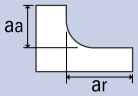
List 4570: Stub Length, Corner Radius, High Feed

Standard Milling

Hardness	<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steels Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	CR / aa / ar CR≤2 / 0.2CR / 0.5D 2<CR / 0.02" / 0.5D CR=Corner Radius 				CR / aa / ar CR≤2 / 0.2CR / 0.5D 2<CR / 0.016" / 0.5D		CR / aa / ar CR≤2 / 0.1CR / 0.5D 2<CR / 0.008" / 0.5D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	19,406	252	13,341	158	9,703	103	5,822	41	4,851	34
3	12,937	336	8,894	210	6,469	138	3,881	55	3,234	46
4	9,703	336	6,671	210	4,851	138	2,911	55	2,426	46
5	7,762	336	5,337	210	3,881	138	2,329	55	1,941	46
6	6,469	336	4,447	210	3,234	138	1,941	55	1,617	46
7	5,544	336	3,812	210	2,772	138	1,663	55	1,386	46
8	4,851	336	3,335	210	2,426	138	1,455	55	1,213	46
9	4,312	336	2,965	210	2,156	138	1,294	55	1,078	46
10	3,881	336	2,668	210	1,941	138	1,164	55	970	46
11	3,528	336	2,426	210	1,764	138	1,058	55	882	46
12	3,234	336	2,224	210	1,617	138	970	55	809	46
13	2,985	336	2,053	210	1,493	138	896	55	746	46

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

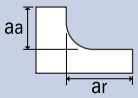
High Feed Milling

Hardness	<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Tool Steels Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	aa=0.1CR ar=0.3D CR=Corner Radius 				CR / aa / ar CR≤2 / 0.1CR / 0.3D 2<CR / 0.008" / 0.3D		CR / aa / ar CR≤2 / 0.05CR / 0.3D 2<CR / 0.004" / 0.3D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	25,000	325	25,000	295	25,000	266	18,920	134	14,554	103
3	25,000	650	19,082	451	17,788	378	12,614	179	9,703	138
4	19,042	660	14,312	451	13,341	378	9,460	179	7,277	138
5	15,233	660	11,449	451	10,673	378	7,568	179	5,822	138
6	12,694	660	9,541	451	8,894	378	6,307	179	4,851	138
7	10,881	660	8,178	451	7,624	378	5,406	179	4,158	138
8	9,521	660	7,156	451	6,671	378	4,730	179	3,639	138
9	8,463	660	6,361	451	5,929	378	4,205	179	3,234	138
10	7,617	660	5,725	451	5,337	378	3,784	179	2,911	138
11	6,924	660	5,204	451	4,851	378	3,440	179	2,646	138
12	6,347	660	4,771	451	4,447	378	3,153	179	2,426	138
13	5,859	660	4,404	451	4,105	378	2,911	179	2,239	138

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

List 4472: Regular Length, Corner Radius, High Feed

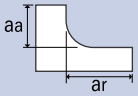
Standard Milling

Hardness	–	<40 HRC	40-45 HRC	45-55 HRC	55-60 HRC	60-65 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Tool Steels Stainless Steel Hardened Steels Prehardened Steels	Hardened Steels		
Depth of Cut	CR: CR≤1/16 / 1/16<CR aa: 0.2CR / 0.02" ar: 0.5D / 0.5D CR=Corner Radius 			CR: CR≤1/16 / 1/16<CR aa: 0.1CR / 0.008" ar: 0.5D / 0.5D	CR: CR≤1/16 / 1/16<CR aa: 0.2CR / 0.016" ar: 0.5D / 0.5D	

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	10,080	255	7,950	175	7,030	150	5,040	100	3,060	40	2,690	28
3/16	6,720	265	5,300	190	4,690	165	3,360	110	2,040	42	1,790	30
1/4	5,040	275	3,970	200	3,510	175	2,520	115	1,530	45	1,340	32
5/16	4,030	275	3,180	200	2,810	175	2,020	115	1,220	45	1,080	32
3/8	3,360	275	2,650	200	2,340	175	1,680	115	1,020	45	900	32
1/2	2,520	275	1,990	200	1,760	175	1,260	115	760	45	670	32

1. Use a rigid and precise machine and holder.
2. These milling conditions are based on milling with circular interpolation at corners; for milling without circular interpolation (such as right angle cornering), reduce the speed to 50-70% and the cutting depth to 50-80% of the above conditions.
3. We recommend using air blow or MQL (mist).
4. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
5. When entering into the part, reduce the feed to 30-60% of the above conditions, with a ramping angle < 2°.
6. These milling conditions are for a tool overhang less than 4xD; for longer overhangs, reduce the speed, feed and cutting depth to prevent chattering.

High Feed Milling

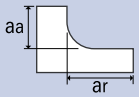
Hardness	–	<40 HRC	40-45 HRC	45-55 HRC	55-60 HRC	60-65 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Tool Steels Stainless Steel Hardened Steels Prehardened Steels	Hardened Steels		
Depth of Cut	aa=0.1CR ar=0.3D CR=Corner Radius 			CR: CR≤1/16 / 1/16<CR aa: 0.1CR / 0.008" ar: 0.3D / 0.3D	CR: CR≤1/16 / 1/16<CR aa: 0.05CR / 0.004" ar: 0.3D / 0.3D	

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	19,860	490	19,860	470	14,970	330	14,970	305	10,080	125	9,780	90
3/16	13,240	500	13,240	470	9,980	355	13,240	325	6,720	140	6,520	100
1/4	9,930	545	9,930	500	7,490	375	9,930	340	5,040	150	4,890	150
5/16	7,950	545	7,950	500	5,990	375	7,950	340	4,030	150	3,910	150
3/8	6,620	545	6,620	500	4,990	375	6,620	340	3,360	150	3,260	150
1/2	4,970	545	4,970	500	3,740	375	4,970	340	2,520	150	2,440	150

1. Use a rigid and precise machine and holder.
2. These milling conditions are based on milling with circular interpolation at corners; for milling without circular interpolation (such as right angle cornering), reduce the speed to 50-70% and the cutting depth to 50-80% of the above conditions.
3. We recommend using air blow or MQL (mist).
4. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
5. When entering into the part, reduce the feed to 30-60% of the above conditions, with a ramping angle < 2°.
6. These milling conditions are for a tool overhang less than 4xD; for longer overhangs, reduce the speed, feed and cutting depth to prevent chattering.

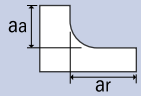
List 4572: Regular Length, Corner Radius, High Feed

Standard Milling

Hardness	–		<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Cast Iron		Mild Steels Carbon Steels		Tool Steels Stainless Steel Hardened Steels Prehardened Steels		Hardened Steels					
Depth of Cut	CR / aa / ar CR≤2: 0.2CR / 0.5D 2<CR: 0.02" / 0.5D CR=Corner Radius						CR / aa / ar CR≤2: 0.1CR / 0.5D 2<CR: 0.008" / 0.5D		CR / aa / ar CR≤2: 0.2CR / 0.5D 2<CR: 0.016" / 0.5D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	16,000	207	12,500	150	11,000	132	7,950	85	4,750	34	4,270	24
3	10,500	246	8,500	177	7,450	154	5,300	102	3,200	39	2,850	28
4	7,950	260	6,350	189	5,550	165	4,000	108	2,400	41	2,150	30
6	5,300	276	4,250	201	3,700	175	2,650	112	1,600	45	1,400	32
8	4,000	276	3,200	201	2,800	175	2,000	112	1,200	45	1,050	32
10	3,200	276	2,550	201	2,250	175	1,600	112	955	45	860	32
12	2,650	276	2,100	201	1,850	175	1,350	112	795	45	715	32

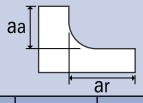
1. Use a rigid and precise machine and holder.
2. These milling conditions are based on milling with circular interpolation at corners; for milling without circular interpolation (such as right angle cornering), reduce the speed to 50-70% and the cutting depth to 50-80% of the above conditions.
3. We recommend using air blow or MQL (mist).
4. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
5. When entering into the part, reduce the feed to 30-60% of the above conditions, with a ramping angle < 2°.
6. These milling conditions are for a tool overhang less than 4xD; for longer overhangs, reduce the speed, feed and cutting depth to prevent chattering.

High Feed Milling

Hardness	–		<40 HRC		40-45 HRC		45-55 HRC		55-60 HRC		60-65 HRC	
Work Material	Cast Iron		Mild Steels Carbon Steels		Tool Steels Stainless Steel Hardened Steels Prehardened Steels		Hardened Steels					
Depth of Cut	aa=0.1CR ar=0.3D CR=Corner Radius						CR / aa / ar CR≤2: 0.1CR / 0.3D 2<CR: 0.008" / 0.3D		CR / aa / ar CR≤2: 0.05CR / 0.3D 2<CR: 0.004" / 0.3D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	25,000	324	25,000	294	24,000	281	24,000	254	16,000	112	14,400	81
3	21,000	492	21,000	472	16,000	331	16,000	309	10,500	130	9,450	93
4	16,000	512	16,000	472	12,000	354	12,000	323	7,950	140	7,150	100
6	10,600	551	10,600	500	7,950	376	7,950	339	5,300	150	5,300	150
8	7,950	551	7,950	500	5,950	376	5,950	339	4,000	150	4,000	150
10	6,350	551	6,350	500	4,750	376	4,750	339	3,200	150	3,200	150
12	5,300	551	5,300	500	4,000	376	4,000	339	2,650	150	2,650	150

1. Use a rigid and precise machine and holder.
2. These milling conditions are based on milling with circular interpolation at corners; for milling without circular interpolation (such as right angle cornering), reduce the speed to 50-70% and the cutting depth to 50-80% of the above conditions.
3. We recommend using air blow or MQL (mist).
4. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
5. When entering into the part, reduce the feed to 30-60% of the above conditions, with a ramping angle < 2°.
6. These milling conditions are for a tool overhang less than 4xD; for longer overhangs, reduce the speed, feed and cutting depth to prevent chattering.

List 4770 & 4670: Multi-Flute, Stub Length, Corner Radius

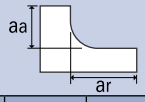
Hardness			-		-		-		-		45 HRC		65 HRC		70 HRC	
Work Material			Stainless Steel		Colbalt-Chromium Alloys (Stellite)		Titanium Alloy		Ni-Based Alloy (Inconel 718)		Hardened Steel					
Cutting Speed			195-260 SFM		165-230 SFM		135-190 SFM		70-130 SFM		165-230 SFM		135-190 SFM		70-130 SFM	
Depth of Cut																
Diameter		Radius	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
-	6	1	4240	60.2	3700	52.4	3200	45.3	1910	27.2	3700	52.4	3200	45.3	1910	27.2
-		1.5	3700	44.1	3200	37.8	2700	31.5	1600	18.9	3200	37.8	2700	31.5	1600	18.9
1/4	-	1/32	3972	56.4	3514	49.8	3025	42.8	1820	25.9	3514	49.8	3025	42.8	1820	25.9
	-	1/16	3514	41.9	3025	35.7	2536	29.6	1497	17.7	3025	35.7	2536	29.6	1466	17.3
5/16	-	3/64	3178	56.3	2811	49.7	2420	42.9	1442	25.4	2811	49.7	2420	42.9	1442	25.4
	-	3/32	2811	33.2	2420	28.5	2029	23.9	1197	14.2	2420	28.5	2029	23.9	1173	13.9
-	8	1	3180	56.3	2780	49.2	2400	42.5	1430	25.2	2780	49.2	2400	42.5	1430	25.2
-		2	2800	33.1	2400	28.3	2000	23.6	1200	14.2	2400	28.3	2000	23.6	1200	14.2
3/8	-	3/64	2648	67.6	2358	60.2	2030	51.8	1201	30.7	2342	59.8	2016	51.5	1201	30.7
	-	3/32	2342	40.3	2030	34.8	1690	28.4	998	16.9	2016	34.6	1690	28.4	977	16.6
-	10	1	2540	72.0	2220	63	1900	53.9	1150	32.7	2220	63	1900	53.9	1150	32.7
-		2	2200	42.1	1900	36.2	1600	29.9	960	18.1	1900	36.2	1600	29.9	960	18.1
-	12	1	2120	100.0	1850	87.4	1600	75.6	960	45.3	1850	87.4	1600	75.6	960	45.3
-		2	1900	58.7	1600	50	1300	41.7	800	25.2	1600	50	1300	41.7	800	25.2
1/2	-	1/16	1986	93.7	1757	83.0	1512	71.4	901	42.5	1757	83.0	1521	71.9	901	42.5
	-	1/8	1757	54.3	1512	47.3	1268	40.7	748	23.6	1521	47.5	1268	40.7	733	23.1
-	16	1	1590	110.2	1380	95.7	1200	83.1	720	50	1380	95.7	1200	83.1	720	50
-		3	1400	65.7	1200	56.3	1000	46.9	600	28.3	1200	56.3	1000	46.9	600	28.3
-	20	1	1270	111.8	1110	98	1000	88.2	570	50.4	1110	98	1000	88.2	570	50.4
-		3	1100	70.1	1000	60.2	800	50	480	29.9	1000	60.2	800	50	480	29.9

Dia	aa	ar
R≤6	Max: 0.2 x CR	0.5D
R>6	Max: 0.5 x D	

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2. Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4. Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the speed, feed and depth of cut accordingly when the overhang length is longer than specified.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromium based alloy, titanium alloy, and Ni-based alloy.
9. Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.

List 4970: High Feed Radius Type

Facing

Hardness	-		-		-		-		45 HRC		65 HRC		70 HRC	
Work Material	Stainless Steel		Colbalt-Chromium Alloys (Stellite)		Titanium Alloy		Ni-Based Alloy (Inconel 718)		Hardened Steel					
SFM	330-395		295-360		230-295		100-165		295-360		230-295		165-230	
Depth of Cut									a_a Max: 0.04D	a_r Max: 0.5D				
Mill Dia. X Effetive Corner Radius (DxRt)	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
4XR0.5	8760	248.4	7960	225.6	6370	180.7	3180	29.9	7960	225.6	6370	180.7	4780	67.7
5XR0.6	7010	248.4	6370	225.6	5100	180.7	2550	30.3	6370	225.6	5100	180.7	3820	67.7
6XR0.8	5840	248.4	5310	225.6	4250	180.7	2120	29.9	5310	225.6	4250	180.7	3180	67.7
8XR1	4380	248.4	3980	225.6	3180	180.3	1590	29.9	3980	225.6	3180	180.3	2390	67.7
10XR1.2	3500	248	3180	225.2	2550	180.7	1270	29.9	3180	225.2	2550	180.7	1910	67.7
12XR1.5	2920	248.4	2650	225.2	2120	180.3	1060	29.9	2650	225.2	2120	180.3	1590	67.7

Side Milling

Hardness	-		-		-		-		45 HRC		65 HRC		70 HRC	
Work Material	Stainless Steel		Colbalt-Chromium Alloys (Stellite)		Titanium Alloy		Ni-Based Alloy (Inconel 718)		Hardened Steel					
SFM	330-395		265-330		165-230		100-165		265-330		195-230		100-165	
Depth of Cut	aa Max: 1.5D ar Max: 0.05D				aa Max: 1.5D ar Max: 0.02D				aa Max: 1.5D ar Max: 0.05D				aa Max: 1.0D ar Max: 0.02D	
Mill Dia. X Effetive Corner Radius (DxRt)	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
4XR0.5	7960	52.8	7170	47.2	4780	22.4	2390	9.1	7960	47.2	6370	22.4	4780	9.1
5XR0.6	6370	52.8	5730	47.2	3820	22.4	1910	9.1	6370	47.2	5100	22.4	3820	9.1
6XR0.8	5310	52.8	4780	47.2	3180	22.4	1590	9.1	5310	47.2	4250	22.4	3180	9.1
8XR1	3980	75.2	3580	67.7	2390	31.5	1190	9.1	3980	67.7	3180	31.5	2390	15
10XR1.2	3180	75.2	2870	67.7	1910	31.5	960	9.1	3180	67.7	2550	31.5	1910	15
12XR1.5	2650	75.2	2390	67.7	1590	31.5	800	9.1	2650	67.7	2120	31.5	1590	15

Parameter Reduction Chart by Length to Diameter Ratio

Overhang Length	Cutting Speed	a_p	fz
L/D ≤ 4	100%	100%	100%
4 < L/D ≤ 5	90%	75%	80%
5 < L/D ≤ 6	80%	50%	60%

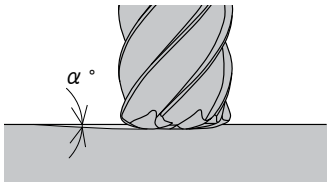
CONTINUED

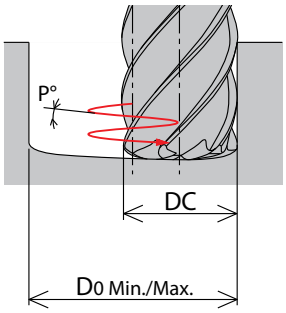
AM-HFC

Ramping Angles & Flute Shape Definitions

AM-HFC Maximum Ramping Angle (α) & Maximum Helical Angle (P)

DC×rt	Ramping Angle	Helical Milling (mm)		Helical Angle
	α	D0 Min.	D0 Max.	P°
4 × R0.5	3°	6	7	1.5°
5 × R0.6		7.5	9	
6 × R0.8		9	11	
8 × R1		12	15	
10 × R1.2		15	19	
12 × R1.5		18	23	

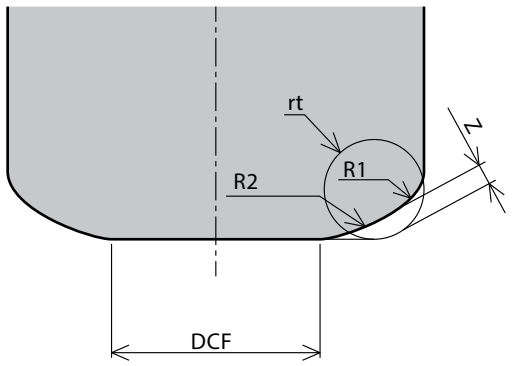




Edge shape definitions for the purpose of creating a program.

DC	rt	Remainder
		Z
4	R0.5	0.11
5	R0.6	0.15
6	R0.8	0.17
8	R1	0.22
10	R1.2	0.31
12	R1.5	0.36

During machining, please program the milling paths according to the recommended simulated R (rt) respective to the individual end mill diameter.



List 9181: 2 Flute, Corner Radius, CBN, Stub Length

Standard Milling

Hardness			<50 HRC		50-60 HRC		60-68 HRC	
Work Material	Standard Depth of Cut		Hardened Steels					
Cutting Speed			258-598 SFM		258-495 SFM		196-397 SFM	
Depth of Cut (mm)			aa=1D	ar=1D	aa=0.8D	ar=0.8D	aa=0.5D	ar=0.5D
Mill Dia.	aa	ar	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.5	0.02	0.2	25,000	19.7	25,000	19.7	25,000	19.7
1.0	0.02	0.2	25,000	29.5	25,000	29.7	25,000	29.4
1.5	0.03	0.4	25,000	39.6	24,280	38.8	19,100	29.5
2.0	0.04	0.4	21,110	34.4	18,410	30.2	14,480	21.0
3.0	0.05	0.6	13,900	22.1	12,130	22.0	9,540	15.0

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. When using low speed machines, use the maximum speed and adjust feed rate.
4. During heavy load operations such as corner processing, reduce the speed and feed.
5. The run out of the end mill should be within 10 microns (.0004") after chucking.

List 9182: 2 Flute, Corner Radius, Long Neck, CBN, Stub Length

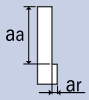
Standard Milling

Hardness			<50 HRC		50-60 HRC		60-68 HRC	
Work Material	Standard Depth of Cut		Hardened Steels					
Cutting Speed			155-361 SFM		155-309 SFM		119-240 SFM	
Depth of Cut (mm)			aa=1D	ar=1D	aa=0.5D	ar=0.5D	aa=0.4D	ar=0.4D
Mill Dia.	aa	ar	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.5	0.02	0.1	25,000	19.5	25,000	19.7	25,000	20.1
1.0	0.02	0.1	25,000	29.5	22,310	25.5	17,460	20.7
1.5	0.03	0.2	16,830	26.8	14,890	24.1	11,650	17.7
2.0	0.03	0.2	12,760	20.6	11,290	18.4	8,840	12.7
3.0	0.05	0.3	8,400	13.2	7,430	11.6	5,820	9.0

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. When using low speed machines, use the maximum speed and adjust feed rate.
4. During heavy load operations such as corner processing, reduce the speed and feed.
5. The run out of the end mill should be within 10 microns (.0004") after chucking.

List 3815 & 3915: 4 Flute, Low Helix, Corner Chamfer
List 3820 & 3920: 4 Flute, High Helix, Corner Chamfer
List 3825: Long Neck, 4 Flute, Low Helix, Corner Chamfer
List 3830: Long Neck, 4 Flute, High Helix, Corner Chamfer

Side Milling

Hardness		–		–		<30 HRC		<45 HRC		–		–	
Work Material		Cast Iron		Mild Steels Carbon Steels		Alloy Steels Tool Steels		Hardened Steel Pre-hardened Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V	
Depth of Cut		$a_a \leq 1.5D$ $a_r \leq 0.3D$ 											
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
–	6	4,770	24.0	6,370	27.9	4,770	15.7	4,240	12.9	3,710	11.4	2,650	7.0
1/4	–	4,510	26.8	6,020	34.6	4,510	18.1	4,005	15.2	3,500	13.9	2,510	8.2
5/16	–	3,610	36.1	4,825	38.4	3,610	21.4	3,210	18.6	2,810	15.1	2,010	9.3
–	8	3,580	37.0	4,770	42.9	3,580	24.0	3,180	20.1	2,790	17.7	1,990	10.6
3/8	–	3,005	37.3	4,015	43.1	3,005	24.3	2,670	20.1	2,340	17.7	1,670	10.6
–	10	2,860	37.4	3,820	43.3	2,860	24.4	2,550	20.1	2,230	17.7	1,590	10.6
–	12	2,390	33.8	3,180	38.9	2,390	22.0	2,120	18.1	1,860	16.1	1,330	9.8
1/2	–	2,250	33.5	3,010	38.6	2,250	21.8	2,005	18.0	1,750	15.9	1,260	9.7
–	14	2,045	33.2	2,730	38.3	2,045	21.6	1,820	17.9	1,560	15.7	1,140	9.6
5/8	–	1,800	32.8	2,410	38.0	1,800	21.4	1,610	17.8	1,400	15.5	1,010	9.5
–	16	1,790	32.2	2,390	37.7	1,790	21.2	1,590	17.7	1,390	15.3	990	9.4
–	18	1,590	31.4	2,130	36.9	1,590	21.0	1,420	17.3	1,240	14.9	890	9.1
3/4	–	1,500	30.9	2,010	36.1	1,500	19.8	1,340	16.9	1,170	14.5	840	8.8
–	20	1,430	30.3	1,910	35.0	1,430	19.6	1,280	16.5	1,110	14.1	800	8.6
–	25	1,145	25.6	1,530	28.8	1,145	16.8	1,020	15.3	890	13.3	640	7.7
1	–	1,127	25.2	1,505	28.2	1,127	16.3	1,000	15.0	875	12.8	630	7.4

1. Use a rigid and precise machine and holder.
2. Please adjust the speed and feed when cutting depth is large or when machines with low rigidity are used.
3. Please use a suitable fluid with high smoke retardant properites.
4. During Dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.

Slotting

Hardness		–		–		<30 HRC		<45 HRC		–		–	
Work Material		Cast Iron		Mild Steels Carbon Steels		Alloy Steels Tool Steels		Hardened Steel Pre-hardened Steel		Stainless Steel 304		Titanium Alloy Ti-6AL-4V	
Depth of Cut		$a_a \leq 1D$ a_r Max = 0.472 											
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
–	6	3,710	16.9	5,840	22.8	4,240	12.5	3,710	10.2	3,180	8.6	2,120	5.1
1/4	–	3,500	17.4	5,520	23.4	4,005	12.8	3,500	10.6	3,010	8.9	2,005	5.2
5/16	–	2,805	17.9	4,420	24.7	3,210	13.4	2,805	10.9	2,415	9.4	1,605	5.4
–	8	2,790	18.5	4,380	25.5	3,180	13.7	2,790	11.4	2,390	9.8	1,590	5.5
3/8	–	2,340	19.4	3,680	26.5	2,670	14.3	2,340	11.8	2,010	10.2	1,335	5.7
–	10	2,230	20.0	3,500	27.5	2,550	14.9	2,230	12.2	1,910	10.6	1,270	5.9
–	12	1,860	18.5	2,920	25.1	2,120	13.7	1,860	11.4	1,590	9.4	1,060	5.5
1/2	–	1,750	18.4	2,760	25.0	2,005	13.6	1,750	11.3	1,505	9.4	1,000	5.5
–	14	1,590	18.3	2,505	24.9	1,820	13.5	1,590	11.2	1,370	9.4	910	5.5
5/8	–	1,400	18.2	2,210	24.8	1,600	13.4	1,400	11.1	1,205	9.4	805	5.5
–	16	1,390	18.1	2,190	24.8	1,590	13.3	1,390	11.0	1,190	9.4	800	5.5
–	18	1,240	17.9	1,950	24.5	1,415	13.2	1,240	10.8	1,065	9.2	710	5.4
3/4	–	1,170	17.6	1,840	24.3	1,335	13.0	1,170	10.7	1,005	9.1	670	5.2
–	20	1,110	17.3	1,750	24.0	1,270	12.9	1,110	10.6	950	9.0	640	5.1
–	25	890	16.8	1,400	23.3	1,020	12.1	890	9.8	765	8.2	510	4.7
1	–	875	16.6	1,380	22.6	1,000	11.7	875	9.6	755	7.9	500	4.6

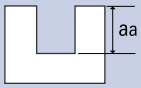
1. Use a rigid and precise machine and holder.
2. Please adjust the speed and feed when cutting depth is large or when machines with low rigidity are used.
3. Please use a suitable fluid with high smoke retardant properites.
4. During Dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.

List 2015: Regular Length, 4 Flute, Roughing

Side Milling

Hardness	35-45 HRC		45-55 HRC		<40 HRC		>40 HRC		–	
Work Material	Stainless Steel		Stainless Steel		Titanium		Titanium		Inconel, Waspaloy, Hastelloy	
Cutting Speed	450-490 SFM		310-350 SFM		210-240 SFM		150-165 SFM		80-90 SFM	
Depth of Cut	a_a=1.5D a_r=0.4D 		a_a=1.5D a_r=0.33D				a_a=1.5D a_r=0.25D		a_a=1.0D a_r=0.20D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	7,181	28.7	5,040	16.1	3,440	22.0	2,408	12.5	1,300	3.1
3/8	4,788	30.6	3,360	17.5	2,294	19.3	1,605	11.6	867	3.5
1/2	3,590	30.2	2,520	16.1	1,720	17.8	1,204	11.1	650	3.1
5/8	2,873	29.9	2,016	16.9	1,376	19.8	963	11.9	520	3.3
3/4	2,394	32.6	1,680	17.5	1,147	18.4	802	12.5	433	3.5
1	1,795	25.8	1,260	14.6	860	14.8	602	9.6	325	2.9

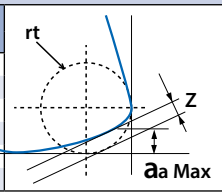
Slotting

Hardness	35-45 HRC		45-55 HRC		<40 HRC		>40 HRC		–	
Work Material	Stainless Steel		Stainless Steel		Titanium		Titanium		Inconel, Waspaloy, Hastelloy	
Cutting Speed	450-490 SFM		310-350 SFM		210-240 SFM		150-165 SFM		80-90 SFM	
Depth of Cut	a_a=0.5D 						a_a=0.3D		a_a=0.25D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	7,181	23.0	5,040	12.9	3,440	17.6	2,408	10.0	1,300	2.5
3/8	4,788	24.5	3,360	14.0	2,294	15.4	1,605	9.3	867	2.8
1/2	3,590	24.2	2,520	12.9	1,720	14.3	1,204	8.9	650	2.5
5/8	2,873	23.9	2,016	13.5	1,376	15.9	963	9.5	520	2.7
3/4	2,394	26.0	1,680	14.0	1,147	14.7	802	10.0	433	2.8
1	1,795	20.7	1,260	11.7	860	11.8	602	7.7	325	2.5

List 2080: 6 & 8 Flute, Inch
List 2081: 6 & 8 Flute, Metric

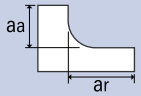
Contour Milling

Work Material	Titanium Alloy (Ti-6Al-4V)					
Cutting Speed	165 - 330 SFM					
Depth of Cut	$a_a \leq 0.035D$ $a_r \leq 0.39D$ 					
Mill Dia. in	Mill Dia. mm	Speed RPM	Feed in/min	Ramping Angle	R (rt)	Z
5/8	-	1,500	164	2°	0.031	0.016
-	16	1,490	175		0.033	0.018
3/4	-	1,250	132		0.037	0.021
-	20	1,190	140		0.039	0.022
-	25	850	189		0.047	0.029
1	-	935	192		0.049	0.030

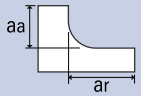


1. During machining, please program the milling paths according to the recommended simulated R (rt) respective to the individual end mill diameter.
2. Using water soluble coolant is highly recommended.

List 2863: 2 Flute, Stub Length, Corner Radius

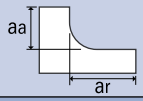
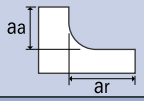
Work Material	Aluminum Alloy	
Cutting Speed	3,280 - 9,840 SFM	
Depth of Cut	a_a: 0.6D, a_r: 1D 	
Mill Dia.	Speed RPM	Feed in/min
1/2	≤33000	≤360 IPM
5/8	≤33000	≤470 IPM
3/4	≤33000	≤590 IPM
1	≤33000	≤590 IPM

List 2963: 2 Flute, Stub Length, Corner Radius

Work Material	Aluminum Alloy	
Cutting Speed	3,280 - 9,840 SFM	
Depth of Cut	a_a: 0.6D, a_r: 1D 	
Mill Dia.	Speed RPM	Feed in/min
12	≤33000	≤360 IPM
16	≤33000	≤470 IPM
20	≤33000	≤590 IPM
25	≤33000	≤590 IPM

List 7470: DG-CR-EML

Contouring

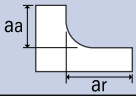
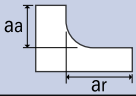
Work Material		Graphite			
		Roughing		Finishing	
Cutting Speed		246 SFM		246 SFM	
Depth of Cut		 Aa = 1D Ar = 0.1D		 Aa = 1D Ar = 0.05D	
Mill Dia.		Speed	Feed	Speed	Feed
Inch	CR	RPM	in/min	RPM	in/min
3/64	0.010	20,000	95	20,000	79
1/16	0.010	15,000	71	15,000	50
3/32	0.015	10,000	47	10,000	33
3/32	0.020	10,000	47	10,000	33
1/8	0.015	7,520	35	7,520	25
1/8	0.020	7,520	35	7,520	25
1/8	0.030	7,520	35	7,520	25
3/16	0.030	5,010	24	5,010	17
3/16	0.060	5,010	24	5,010	17
1/4	0.015	3,860	18	3,860	12
1/4	0.020	3,860	18	3,860	12
1/4	0.030	3,860	18	3,860	12
1/4	0.060	3,860	18	3,860	12
3/8	0.015	2,500	12	2,500	8
3/8	0.030	2,500	12	2,500	8
3/8	0.060	2,500	12	2,500	8
1/2	0.015	1,880	9	1,880	6
1/2	0.030	1,880	9	1,880	6
1/2	0.060	1,880	9	1,880	6

Set the ramping angle to be approximately between 0.3° and 0.5°.

1. Adjust the speed, the feed rate, and the depth of cut to suit your operating conditions, such as the milling shape, machine rigidity, tool holder rigidity, and work holding force.
2. If you are unable to reach the speed and feed rate indicated in the table above, lower the speed and feed rate using the same ratio.
3. If the workpiece gets chipped or if the operation requires a higher level of milling precision, lower the feed rate as necessary.
4. Depending on the shape, if the workpiece chatters, lower the speed and feed rate using the same ratio.
5. To mill graphite, use a dedicated milling machine. To prevent inhalation of dust, use a dust collector and a dust mask when working around graphite.
6. During milling, keep the runout at the tip of the end mill to be less than 0.0004 inches (0.01 mm).
7. When making a rough cut with a 3/16" or greater end mill, you can feed as high as triple the recommended feed rate provided the stepdown is less than the corner radius.
8. If a cut involves the shaping of a corner during side milling, use the corner radius process of the program, or adjust the speed so that it will not cause chattering, and reduce the speed at the corner at the same time (approximately 60%).

List 7471: DG-LN-CR-EML

Contouring

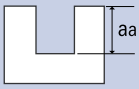
Work Material		Graphite			
		Roughing		Finishing	
Cutting Speed		123 SFM		123 SFM	
Depth of Cut		 Aa = 1D Ar = 0.1D		 Aa = 1D Ar = 0.05D	
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	CR				
1/32	0.005	15,000	47	15,000	39
3/64	0.010	10,000	31	10,000	26
1/16	0.010	7,500	23	7,500	17
3/32	0.015	5,000	16	5,000	11
3/32	0.020	5,000	16	5,000	11
1/8	0.015	3,760	12	3,760	8
1/8	0.020	3,760	12	3,760	8
1/8	0.030	3,760	12	3,760	8
3/16	0.030	2,500	8	2,500	6
3/16	0.060	2,500	8	2,500	6
1/4	0.015	1,930	6	1,930	4
1/4	0.020	1,930	6	1,930	4
1/4	0.030	1,930	6	1,930	4
1/4	0.060	1,930	6	1,930	4

Set the ramping angle to be approximately between 0.3° and 0.5°.

1. Adjust the speed, the feed rate, and the depth of cut to suit your operating conditions, such as the milling shape, machine rigidity, tool holder rigidity, and work holding force.
2. If you are unable to reach the speed and feed rate indicated in the table above, lower the speed and feed rate using the same ratio.
3. If the workpiece gets chipped or if the operation requires a higher level of milling precision, lower the feed rate as necessary.
4. Depending on the shape, if the workpiece chatters, lower the speed and feed rate using the same ratio.
5. To mill graphite, use a dedicated milling machine. To prevent inhalation of dust, use a dust collector and a dust mask when working around graphite.
6. During milling, keep the runout at the tip of the end mill to be less than 0.0004 inches (0.01 mm).
7. When making a rough cut with a 3/16" or greater end mill, you can feed as high as triple the recommended feed rate provided the stepdown is less than the corner radius.
8. If a cut involves the shaping of a corner during side milling, use the corner radius process of the program, or adjust the speed so that it will not cause chattering, and reduce the speed at the corner at the same time (approximately 60%).

List HP432

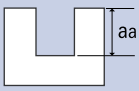
Slotting (Fractional)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	360 SFM	330 SFM	260 SFM	220 SFM	180 SFM	120 SFM	80 SFM
Depth of Cut		Dia / aa: D<1/16 → 0.1D; 1/16≤D≤1/8 → 0.3D; 1/8≤D → 0.5D				Dia / aa: D<1/16 → 0.02D; 1/16≤D → 0.05D	Dia / aa: D<1/16 → 0.01D; 1/16≤D≤1/8 → 0.02D; 1/8≤D → 0.05D

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	10,990	12.4	10,075	11.5	7,940	8.0	6,720	5.4	5,495	4.0	3,665	2.5	2,445	1.5
3/16	7,330	15.7	6,720	14.4	5,295	10.4	4,480	6.0	3,665	4.4	2,445	2.7	1,630	1.4
1/4	5,500	15.7	5,040	14.4	3,970	10.7	3,360	6.0	2,750	4.5	1,830	2.7	1,220	1.2
5/16	4,395	15.3	4,030	14.0	3,175	10.8	2,685	6.0	2,200	4.5	1,465	2.5	975	1.2
3/8	3,665	14.6	3,360	13.3	2,645	10.6	2,240	5.9	1,830	4.3	1,220	2.4	815	1.2
1/2	2,750	14.4	2,520	13.3	1,985	10.4	1,680	5.7	1,375	4.3	915	2.1	610	0.9
5/8	2,200	12.6	2,015	12.4	1,590	9.3	1,345	4.8	1,100	3.8	735	1.7	490	0.7
3/4	1,830	11.5	1,680	10.5	1,325	7.7	1,120	3.9	915	3.1	610	1.5	410	0.6
1	1,375	8.6	1,260	7.8	990	5.8	840	3.0	685	2.5	460	0.9	305	0.5

For side milling, increase feeds 20% to 50%.

Slotting (Metric)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	360 SFM	330 SFM	260 SFM	220 SFM	180 SFM	120 SFM	80 SFM
Depth of Cut		Dia / aa: D<1 → 0.1D; 1≤D<3 → 0.3D; 3≤D → 0.5D				Dia / aa: D<1 → 0.02D; 1≤D → 0.05D	Dia / aa: D<1 → 0.01D; 1≤D<3 → 0.02D; 3≤D → 0.05D

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3	11,635	12.4	10,665	11.4	8,400	7.8	7,110	5.2	5,815	3.9	3,880	2.5	2,585	1.5
4	8,725	14.7	8,000	13.5	6,300	10.5	5,330	7.0	4,365	5.0	2,910	2.9	1,940	1.7
5	6,980	19.7	6,400	17.9	5,040	13.4	4,265	7.4	3,490	5.6	2,325	3.2	1,550	1.7
6	5,815	19.3	5,330	17.6	4,200	13.4	3,555	7.4	2,910	5.6	1,940	3.2	1,295	1.4
8	4,365	18.4	4,000	16.7	3,150	13.4	2,665	7.0	2,180	5.6	1,455	2.9	970	1.4
10	3,490	17.4	3,200	15.8	2,520	13.1	2,135	7.0	1,745	5.3	1,165	2.9	775	1.4
12	2,910	17.4	2,665	15.8	2,100	13.1	1,775	7.0	1,454	5.3	970	2.6	645	1.1

For side milling, increase feeds 20% to 50%.

CONTINUED

List HP434

Side Milling (Fractional)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	390 SFM	330 SFM	270 SFM	220 SFM	190 SFM	120 SFM	80 SFM
Depth of Cut	Dia / aa / ar: D≤1/8: 1.5D / 0.05D; 1/8<D: 1.5D / 0.10D 					aa=1D ar=0.02D	

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	11,910	28.0	10,075	23.7	8,245	16.0	6,720	5.6	5,800	5.5	3,665	3.3	2,445	2.3
3/16	7,940	33.1	6,720	28.2	5,495	18.0	4,480	6.5	3,870	5.6	2,445	3.6	1,630	2.1
1/4	5,955	29.0	5,040	28.6	4,120	19.5	3,360	6.9	2,900	5.8	1,830	3.4	1,220	1.9
5/16	4,765	33.2	4,030	28.0	3,300	19.6	2,685	7.0	2,320	6.0	1,465	3.4	975	1.7
3/8	3,970	33.3	3,360	27.8	2,750	19.5	2,240	6.9	1,935	6.0	1,220	3.9	815	1.7
1/2	2,975	32.3	2,520	27.6	2,060	19.4	1,680	7.0	1,450	5.9	915	2.7	610	1.3
5/8	2,380	31.7	2,015	26.4	1,650	19.8	1,345	6.2	1,160	5.2	735	2.3	490	0.9
3/4	1,985	30.7	1,680	26.1	1,375	16.0	1,120	5.1	965	4.5	610	1.8	405	1.0
1	1,490	23.4	1,260	19.8	1,030	13.7	840	3.9	725	3.4	460	1.5	305	0.7

For Slotting, reduce feeds 20% to 50%.

List HP434

Side Milling (Metric)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	390 SFM	330 SFM	270 SFM	220 SFM	190 SFM	120 SFM	80 SFM
Depth of Cut	Dia / aa / ar: D≤3: 1.5D / 0.05D; 3<D: 1.5D / 0.10D 					aa=1D ar=0.02D	

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3	12,605	29.7	10,665	25.1	8,725	17.0	7,110	5.9	6,140	5.8	3,880	3.6	2,585	2.4
4	9,450	29.4	8,000	24.8	6,545	14.5	5,330	6.5	4,605	5.5	2,910	3.6	1,940	2.3
5	7,560	34.7	6,400	30.2	5,235	20.2	4,265	6.8	3,685	5.9	2,325	3.7	1,550	2.1
6	6,300	30.7	5,330	30.2	4,365	20.6	3,555	7.2	3,070	6.2	1,940	3.6	1,295	2.0
8	4,725	32.9	4,000	27.8	3,270	19.4	2,665	6.9	2,300	6.0	1,455	3.4	970	1.7
10	3,780	34.5	3,200	28.8	2,620	20.2	2,135	7.2	1,840	6.2	1,165	4.1	775	1.7
12	3,150	34.3	2,665	29.3	2,180	20.5	1,775	7.4	1,535	6.2	970	2.9	645	1.4

For Slotting, reduce feeds 20% to 50%.

List HP432, HP434: (Continued)

High Speed Light Milling (Fractional)

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC	
Work Material	Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels	
Cutting Speed	1,310 SFM		1,150 SFM		820 SFM		490 SFM		260 SFM	
Depth of Cut	Dia / aa / ar D≤5/16 / 1.5D / 0.01D 5/16<D≤5/8 / 1.5D / 0.02D 5/8<D / 1.5D / 0.05D 						Dia / aa / ar D≤5/16 / 1D / 0.01D 5/16<D / 1D / 0.02D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	25,000	49.3	25,000	49.6	25,000	49.0	14,960	25.6	7,940	14.4
3/16	25,000	104.5	23,410	80.6	16,690	53.8	9,975	28.3	5,295	17.1
1/4	20,000	96.5	17,555	84.1	12,520	59.0	7,480	30.6	3,970	16.4
5/16	16,000	98.7	14,045	85.1	10,015	57.5	5,985	31.0	3,175	16.6
3/8	13,335	98.6	11,705	83.8	8,345	56.7	4,985	31.0	2,645	16.5
1/2	10,000	95.4	8,780	81.4	6,260	55.6	3,740	30.2	1,985	16.0
5/8	8,000	88.6	7,025	77.1	5,010	53.7	2,990	28.4	1,590	15.0
3/4	6,665	85.6	5,850	74.2	4,175	51.5	2,495	27.3	1,325	14.5
1	5,000	66.4	4,390	58.2	3,130	41.0	1,870	21.9	990	11.0

Reduce feeds 50% for Series HP432 High speed Light Milling.

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List HP432, HP434: (Continued)

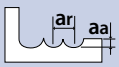
High Speed Light Milling (Metric)

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC	
Work Material	Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels	
Cutting Speed	1,310 SFM		1,150 SFM		820 SFM		490 SFM		260 SFM	
Depth of Cut	Dia / aa / ar D≤8 / 1.5D / 0.01D 8<D≤16 / 1.5D / 0.02D 16<D / 1.5D / 0.05D						Dia / aa / ar D≤8 / 1D / 0.01D 8<D / 1D / 0.02D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3	25,000	46.8	25,000	47.2	25,000	46.4	15,835	25.9	8,400	14.1
4	25,000	65.6	25,000	65.4	19,875	53.1	11,875	27.1	6,300	16.4
5	25,000	96.7	22,300	84.0	15,900	55.1	9,500	29.4	5,040	17.7
6	21,165	97.2	18,580	85.0	13,250	60.2	7,915	31.2	4,200	16.5
8	15,875	98.8	13,935	85.3	9,935	57.3	5,940	31.2	3,150	16.7
10	12,700	100.0	11,150	83.8	7,950	57.1	4,750	31.5	2,520	16.7
12	10,585	97.2	9,290	83.0	6,625	57.3	3,960	31.2	2,100	16.1

Reduce feeds 50% for Series HP432 High speed Light Milling.

List 8410, 8510: 2 Flute, Stub Length, Ball End

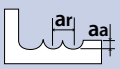
Finishing - Contouring

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRc		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed (SFM)		345 (265-395)		310 (230-360)		195 (130-265)		195 (165-230)		165 (130-195)	
Depth of Cut 		aa: 0.05D, ar: 0.1D				aa: 0.03D, ar: 0.1D		aa: 0.02D, ar: 0.05D			
Mill Dia. (Inch)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	0.2	25,000	14.8	25,000	14.8	25,000	14.8	25,000	11.7	25,000	9.4
1/32	0.8	25,000	49.2	25,000	49.2	25,000	49.2	25,000	35.8	25,000	28.6
-	1.0	25,000	60.2	25,000	60.2	25,000	51.3	25,000	41.0	25,000	32.8
-	1.4	25,000	73.0	25,000	73.0	25,000	59.8	25,000	54.9	25,000	43.9
-	1.5	25,000	78.2	25,000	78.2	25,000	64.1	25,000	58.8	20,000	47.0
1/16	-	25,000	73.2	25,000	72.2	25,000	59.7	25,000	57.0	20,000	45.6
-	2.0	25,000	92.3	25,000	91.0	25,000	75.2	23,750	68.2	19,000	54.6
3/32	-	25,000	109.9	25,000	108.3	24,050	86.1	19,950	68.2	15,960	54.6
-	2.5	25,000	109.3	25,000	108.9	22,900	82.2	19,400	66.2	15,520	53.0
-	3.0	25,000	123.8	25,000	125.0	19,100	78.3	16,150	62.8	12,920	50.2
1/8	-	25,000	131.0	23,850	126.2	18,050	78.3	15,300	63.0	12,240	50.4
-	4.0	24,000	143.7	19,150	115.8	14,300	74.3	11,900	59.1	9,520	47.3
3/16	-	20,150	137.7	15,700	104.0	12,000	66.5	10,000	53.3	8,000	42.6
-	5	19,200	137.8	14,950	104.0	11,450	66.6	9,500	53.1	7,600	42.5
-	6	16,150	131.5	12,600	90.6	9,550	61.3	7,900	48.6	6,320	38.9
1/4	-	15,300	131.8	11,900	90.5	9,000	61.2	7,500	48.8	6,000	39.0
5/16	-	12,000	112.3	9,550	80.5	7,200	53.5	6,000	41.7	4,800	33.4
-	8	11,900	112.2	9,450	80.3	7,150	53.5	5,950	41.7	4,760	33.4
3/8	-	10,000	100.7	7,950	70.6	6,100	45.4	5,000	34.2	4,000	27.4
-	10	9,500	100.4	7,550	70.4	5,800	45.3	4,750	34.1	3,800	27.3
-	12	8,000	94.5	6,400	65.0	4,750	37.2	3,950	30.9	3,160	24.7
1/2	-	7,550	94.4	6,050	65.0	4,500	37.3	3,750	31.1	3,000	24.9

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. The above parameters are standard starting values for contouring and side milling operations. If vibration or chatter occurs due to machine or part setup, please adjust the speed, feed, and depth of cut accordingly.
4. If the cutting depth is small it is possible to increase the speed and feed above the recommended parameters.

List 8410, 8510: 2 Flute, Stub Length, Ball End (Continued)

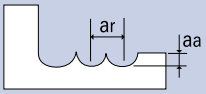
Finishing - High Speed Contouring

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Depth of Cut 		aa 0.02D, ar 0.05D						aa 0.01D, ar 0.05D			
Mill Dia. (Inch)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
–	0.2	25,000	20.8	25,000	20.8	25,000	17.5	25,000	14.6	25,000	13.5
1/32	0.8	25,000	63.6	25,000	63.6	25,000	53.3	25,000	44.7	25,000	41.3
–	1	25,000	72.8	25,000	72.8	25,000	61.0	25,000	51.2	25,000	47.2
–	1.4	25,000	88.2	25,000	88.2	25,000	71.7	25,000	56.0	25,000	55.0
–	1.5	25,000	94.5	25,000	94.5	25,000	76.8	25,000	60.0	25,000	59.0
1/16	–	25,000	87.5	25,000	83.6	25,000	59.4	25,000	57.0	25,000	57.0
–	2	25,000	110.2	25,000	105.3	25,000	74.8	25,000	71.8	25,000	71.8
3/32	–	25,000	131.3	25,000	125.4	25,000	89.1	25,000	85.4	24,050	82.2
–	2.5	25,000	120.0	25,000	117.1	25,000	90.0	25,000	86.4	22,900	78.3
–	3	25,000	122.5	25,000	123.0	25,000	103.7	25,000	99.6	19,100	74.4
1/8	–	25,000	129.7	25,000	130.2	25,000	109.7	23,850	100.6	18,050	74.4
–	4	25,000	150.8	25,000	150.4	24,000	126.0	19,150	94.2	14,300	70.4
3/16	–	25,000	170.3	23,850	156.9	20,150	112.2	16,300	84.2	12,000	62.6
–	5	25,000	178.8	22,700	156.8	19,200	112.2	15,500	84.1	11,450	62.7
–	6	24,600	204.7	19,250	136.2	16,150	100.1	12,600	80.7	9,550	61.3
1/4	–	23,250	204.8	18,200	136.3	15,300	100.3	11,900	80.7	9,000	61.2
5/16	–	18,750	175.2	14,550	120.4	12,000	88.6	9,550	70.7	7,200	53.5
–	8	18,600	175.2	14,450	120.5	11,900	88.6	9,450	70.5	7,150	53.5
3/8	–	15,750	155.5	12,100	104.6	10,000	75.0	7,950	60.8	6,100	45.4
–	10	15,000	155.5	11,550	104.8	9,500	74.8	7,550	60.6	5,800	45.3
–	12	12,600	145.7	9,450	97.9	8,000	63.0	6,400	53.1	4,750	38.8
1/2	–	11,900	145.6	8,950	98.1	7,550	62.9	6,050	53.2	4,500	38.9

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. The above parameters are standard starting values for contouring and side milling operations. If vibration or chatter occurs due to machine or part setup, please adjust the speed, feed, and depth of cut accordingly.
4. If the cutting depth is small it is possible to increase the speed and feed above the recommended parameters.

List 8590: 2 Flute, Stub Length, Long Neck, Ball End, Rib Processing

Contouring

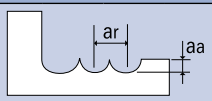
Hardness	Up to 45 HRC				45-55 HRC				55-62 HRC				62-66 HRC				66-70 HRC			
Work Material	Tool Steels Hardened Steels Alloy Steels				Hardened Steels															
Depth of Cut																				
Mill Dia. mm	Neck mm	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)
0.1	0.3	50,000	2.76	0.00012	0.00012	50,000	2.36	0.00012	0.00012	50,000	2.36	0.00012	0.00012	50,000	1.97	0.00012	0.00012	50,000	1.57	0.00012	0.00012
0.1	0.5	50,000	1.97	0.00012	0.00012	50,000	1.57	0.00012	0.00012	50,000	1.57	0.00012	0.00012	50,000	1.18	0.00012	0.00012	50,000	0.79	0.00012	0.00012
0.2	0.5	50,000	14.96	0.00020	0.00020	50,000	10.24	0.00020	0.00020	50,000	7.87	0.00016	0.00020	50,000	6.69	0.00016	0.00020	50,000	5.12	0.00016	0.00020
0.2	0.75	50,000	13.39	0.00020	0.00020	50,000	9.06	0.00020	0.00020	50,000	7.09	0.00016	0.00020	50,000	5.91	0.00016	0.00020	50,000	4.33	0.00016	0.00020
0.2	1	50,000	13.39	0.00020	0.00020	50,000	9.06	0.00020	0.00020	50,000	7.09	0.00016	0.00020	50,000	5.91	0.00016	0.00020	45,000	4.33	0.00016	0.00020
0.2	1.25	50,000	11.81	0.00020	0.00020	50,000	8.27	0.00020	0.00020	50,000	5.91	0.00016	0.00020	46,500	5.12	0.00016	0.00020	37,200	3.94	0.00016	0.00020
0.2	1.5	50,000	11.02	0.00020	0.00020	50,000	7.48	0.00020	0.00020	49,200	5.12	0.00016	0.00020	44,300	4.33	0.00016	0.00020	35,500	3.15	0.00016	0.00020
0.2	1.75	50,000	9.45	0.00020	0.00020	50,000	6.69	0.00020	0.00020	45,600	4.72	0.00016	0.00020	41,100	3.94	0.00016	0.00020	32,900	3.15	0.00016	0.00020
0.2	2	45,600	8.27	0.00020	0.00020	44,500	5.51	0.00020	0.00020	39,600	3.94	0.00016	0.00020	35,700	3.54	0.00016	0.00020	28,600	2.76	0.00016	0.00020
0.2	2.5	38,400	6.30	0.00016	0.00020	37,200	3.94	0.00016	0.00020	37,200	3.15	0.00016	0.00020	33,500	2.76	0.00016	0.00020	26,800	1.97	0.00016	0.00020
0.2	3	38,400	5.51	0.00016	0.00020	37,200	3.54	0.00016	0.00020	37,200	2.76	0.00016	0.00020	33,500	2.36	0.00016	0.00020	26,800	1.97	0.00016	0.00020
0.3	0.6	50,000	22.44	0.00020	0.00394	50,000	15.35	0.00020	0.00039	50,000	11.81	0.00020	0.00039	50,000	10.24	0.00020	0.00039	50,000	7.87	0.00039	0.00039
0.3	1	50,000	22.44	0.00020	0.00039	50,000	15.35	0.00020	0.00039	50,000	11.81	0.00020	0.00039	50,000	10.24	0.00020	0.00039	50,000	7.87	0.00039	0.00039
0.3	1.25	50,000	22.44	0.00020	0.00039	50,000	14.96	0.00020	0.00039	50,000	11.81	0.00020	0.00039	50,000	10.24	0.00020	0.00039	50,000	7.87	0.00039	0.00039
0.3	1.5	50,000	22.44	0.00020	0.00039	50,000	14.57	0.00020	0.00039	50,000	11.42	0.00020	0.00039	50,000	9.84	0.00020	0.00039	46,500	7.48	0.00039	0.00039
0.3	1.75	50,000	18.90	0.00020	0.00039	50,000	12.20	0.00020	0.00039	50,000	8.66	0.00020	0.00039	46,500	7.48	0.00020	0.00039	37,200	5.51	0.00039	0.00039
0.3	2	50,000	17.72	0.00020	0.00020	50,000	11.42	0.00020	0.00020	49,200	8.27	0.00016	0.00020	44,300	7.09	0.00016	0.00020	35,500	5.51	0.00016	0.00020
0.3	2.25	50,000	14.96	0.00020	0.00020	50,000	9.84	0.00020	0.00020	49,200	7.09	0.00016	0.00020	44,300	5.91	0.00016	0.00020	35,500	4.33	0.00016	0.00020
0.3	2.5	48,000	11.02	0.00020	0.00020	48,000	7.48	0.00020	0.00020	43,200	5.12	0.00016	0.00020	38,900	4.33	0.00016	0.00020	31,200	3.15	0.00016	0.00020
0.3	3	45,600	9.06	0.00020	0.00020	44,400	5.91	0.00020	0.00020	39,600	3.94	0.00016	0.00020	35,700	3.54	0.00016	0.00020	28,600	2.76	0.00016	0.00020
0.3	3.5	40,800	7.48	0.00016	0.00020	39,600	4.72	0.00016	0.00020	39,600	3.74	0.00016	0.00020	35,700	3.15	0.00016	0.00020	28,600	2.36	0.00016	0.00020
0.3	4	38,400	5.51	0.00016	0.00020	37,200	3.54	0.00016	0.00020	37,200	2.76	0.00016	0.00020	33,500	2.36	0.00016	0.00020	26,800	1.97	0.00016	0.00020
0.3	4.5	38,400	4.72	0.00016	0.00020	37,200	3.15	0.00016	0.00020	37,200	2.36	0.00016	0.00020	33,500	1.97	0.00016	0.00020	26,800	1.57	0.00016	0.00020
0.3	5	34,800	3.74	0.00016	0.00020	33,600	2.36	0.00016	0.00020	33,600	1.97	0.00016	0.00020	30,300	1.57	0.00016	0.00020	24,200	1.18	0.00016	0.00020
0.4	0.8	50,000	33.46	0.00039	0.00079	50,000	23.23	0.00039	0.00079	50,000	18.50	0.00031	0.00059	50,000	15.75	0.00031	0.00059	50,000	11.81	0.00031	0.00059
0.4	1	50,000	33.46	0.00039	0.00079	50,000	21.65	0.00039	0.00079	50,000	17.32	0.00031	0.00059	50,000	14.57	0.00031	0.00059	50,000	11.02	0.00031	0.00059
0.4	1.5	50,000	29.92	0.00039	0.00079	50,000	20.47	0.00039	0.00079	50,000	16.14	0.00031	0.00059	50,000	13.78	0.00031	0.00059	46,500	10.24	0.00031	0.00059
0.4	2	50,000	25.98	0.00039	0.00079	50,000	18.11	0.00039	0.00079	50,000	12.99	0.00031	0.00059	48,600	11.02	0.00031	0.00059	38,900	8.27	0.00031	0.00059
0.4	2.5	50,000	20.47	0.00031	0.00059	50,000	14.17	0.00031	0.00059	49,200	10.24	0.00031	0.00059	44,300	8.66	0.00031	0.00059	35,500	6.69	0.00031	0.00059
0.4	3	50,000	18.50	0.00020	0.00039	50,000	12.60	0.00020	0.00039	45,600	8.66	0.00020	0.00039	41,100	7.48	0.00020	0.00039	32,900	5.51	0.00020	0.00039
0.4	3.5	48,000	15.75	0.00020	0.00039	48,000	11.02	0.00020	0.00039	43,200	7.87	0.00020	0.00039	38,900	6.69	0.00020	0.00039	31,200	5.12	0.00020	0.00039
0.4	4	43,200	13.78	0.00020	0.00020	42,000	9.06	0.00020	0.00020	37,200	6.30	0.00020	0.00020	33,500	5.51	0.00020	0.00020	26,800	4.33	0.00020	0.00020
0.4	4.5	38,400	10.63	0.00016	0.00020	37,200	7.09	0.00016	0.00020	33,600	5.12	0.00016	0.00020	30,300	4.33	0.00016	0.00020	24,200	3.15	0.00016	0.00020
0.4	5	38,400	10.24	0.00016	0.00020	37,200	6.69	0.00016	0.00020	33,600	4.72	0.00016	0.00020	30,300	3.94	0.00016	0.00020	24,200	3.15	0.00016	0.00020
0.4	5.5	36,000	8.27	0.00016	0.00020	34,800	5.51	0.00016	0.00020	31,200	3.94	0.00016	0.00020	28,100	3.54	0.00016	0.00020	22,500	2.76	0.00016	0.00020
0.4	6	36,000	7.48	0.00016	0.00020	34,800	4.72	0.00016	0.00020	31,200	3.94	0.00016	0.00020	28,100	3.54	0.00016	0.00020	22,500	2.76	0.00016	0.00020
0.5	1	50,000	41.34	0.00059	0.00118	50,000	28.74	0.00059	0.00118	50,000	22.83	0.00039	0.00079	50,000	19.29	0.00039	0.00079	50,000	14.57	0.00039	0.00079
0.5	1.5	50,000	41.34	0.00059	0.00118	50,000	27.56	0.00059	0.00118	50,000	22.05	0.00039	0.00079	50,000	18.90	0.00039	0.00079	48,000	14.17	0.00039	0.00079
0.5	2	50,000	37.40	0.00059	0.00118	50,000	25.59	0.00059	0.00118	50,000	20.47	0.00039	0.00079	48,600	17.32	0.00039	0.00079	38,900	12.99	0.00039	0.00079
0.5	2.5	50,000	37.40	0.00059	0.00118	50,000	23.62	0.00059	0.00118	50,000	16.93	0.00039	0.00079	46,500	14.57	0.00039	0.00079	37,200	11.02	0.00039	0.00079
0.5	3	50,000	33.46	0.00039	0.00079	50,000	21.65	0.00039	0.00079	48,000	15.35	0.00039	0.00079	43,200	12.99	0.00039	0.00079	34,600	9.84	0.00039	0.00079
0.5	3.5	50,000	25.59	0.00039	0.00079	50,000	17.72	0.00039	0.00079	45,600	12.60	0.00039	0.00079	41,100	10.63	0.00039	0.00079	32,900	7.87	0.00039	0.00079
0.5	4	50,000	22.44	0.00039	0.00039	50,000	15.35	0.00039	0.00039	40,800	10.63	0.00039	0.00039	36,800	9.06	0.00039	0.00039	29,400	6.69	0.00039	0.00039
0.5	4.5	45,600	18.50	0.00039	0.00039	45,600	12.60	0.00039	0.00039	31,200	8.66	0.00039	0.00039	28,100	7.48	0.00039	0.00039	22,500	5.51	0.00039	0.00039
0.5	5	36,000	14.96	0.00020	0.00039	34,800	9.84	0.00020	0.00039	28,800	6.69	0.00020	0.00039	26,000	5.51	0.00020	0.00039	20,800	4.33	0.00020	0.00039
0.5	5.5	33,600	11.02	0.00016	0.00020	32,400	7.09	0.00016	0.00020	26,400	4.72	0.00016	0.00020	23,800	3.94	0.00016	0.00020	19,100	3.15	0.00016	0.00020
0.5	6	31,200	9.06	0.00016	0.00020	30,000	5.91	0.00016	0.00020	24,000	3.94	0.00016	0.00020	21,600	3.54	0.00016	0.00020	17,300	2.76	0.00016	0.00020
0.5	7	28,800	7.48	0.00016	0.00020	27,600	5.12	0.00016	0.00020	24,000	3.94	0.00016	0.00020	21,600	3.54	0.00016	0.00020	17,300	2.76	0.00016	0.00020
0.5	8	26,400	5.91	0.00016	0.00020	25,200	4.33	0.00016	0.00020	24,000	3.94	0.00016	0.00020	21,600	3.54	0.00016	0.00020	17,300	2.76	0.00016	0.00020
0.5	9	24,000	4.33	0.00016	0.00020	25,200	3.94	0.00016	0.00020	24,000	3.54	0.00016	0.00020	21,600	3.15	0.00016	0.00020	17,300	2.36	0.00016	0.00020
0.5	10	24,000	3.74	0.00016	0.00020	25,200	3.94	0.00016	0.00020	24,000	3.54	0.00016	0.00020	21,600	3.15	0.00016	0.00020	17,300	2.36	0.00016	0.00020

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. Use air blow or a suitable cutting fluid with high smoke retardant properties.
4. The above parameters are for contouring operations with stable conditions and setup. Adjustment may be required in less optimal situations.
5. Please adjust parameters based on machine accuracy, part shape, and tool path.
6. When using a tool with diameter 0.5mm or below or when L/D ratio is above 10 unstable or aggressive milling may result in tool breakage. Please adjust parameters based on the machine setup.
7. If unable to achieve the recommended RPM above please reduce the speed and feed by the same proportion. Axial and radial depth may remain as specified in the table.

CONTINUED

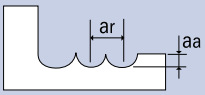
List 8590: 2 Flute, Stub Length, Long Neck, Ball End, Rib Processing (Continued)

Contouring

Hardness	Up to 45 HRC				45-55 HRC				55-62 HRC				62-66 HRC				66-70 HRC			
Work Material	Tool Steels Hardened Steels Alloy Steels				Hardened Steels															
Depth of Cut																				
Mill Dia. mm	Neck mm	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)
0.6	1	50,000	47.24	0.00118	0.00197	50,000	33.07	0.00118	0.00197	50,000	26.38	0.00039	0.00079	50,000	22.44	0.00039	0.00079	50,000	16.93	0.00039	0.00079
0.6	1.2	50,000	47.24	0.00118	0.00197	50,000	33.07	0.00118	0.00197	50,000	26.38	0.00039	0.00079	50,000	22.44	0.00039	0.00079	50,000	16.93	0.00039	0.00079
0.6	2	50,000	47.24	0.00118	0.00197	50,000	32.28	0.00118	0.00197	50,000	25.59	0.00039	0.00079	50,000	21.65	0.00039	0.00079	50,000	16.14	0.00039	0.00079
0.6	2.5	50,000	43.31	0.00118	0.00197	50,000	30.31	0.00118	0.00197	50,000	24.02	0.00039	0.00079	50,000	20.47	0.00039	0.00079	48,000	15.35	0.00039	0.00079
0.6	3	50,000	43.31	0.00079	0.00118	50,000	29.53	0.00079	0.00118	50,000	21.26	0.00039	0.00079	48,600	18.11	0.00039	0.00079	38,900	13.78	0.00039	0.00079
0.6	3.5	50,000	37.40	0.00079	0.00118	50,000	25.98	0.00079	0.00118	49,200	18.90	0.00039	0.00079	44,300	16.14	0.00039	0.00079	35,500	12.20	0.00039	0.00079
0.6	4	48,000	33.46	0.00039	0.00079	48,000	23.23	0.00039	0.00079	43,200	16.54	0.00039	0.00079	38,900	14.17	0.00039	0.00079	31,200	10.63	0.00039	0.00079
0.6	4.5	40,800	29.13	0.00039	0.00079	40,800	20.08	0.00039	0.00079	37,200	14.57	0.00039	0.00079	33,500	12.20	0.00039	0.00079	26,800	9.06	0.00039	0.00079
0.6	5	36,000	25.20	0.00039	0.00079	36,000	17.32	0.00039	0.00079	32,400	12.20	0.00039	0.00079	29,200	10.24	0.00039	0.00079	23,400	7.87	0.00039	0.00079
0.6	5.5	33,600	24.02	0.00039	0.00079	33,600	16.54	0.00039	0.00079	30,000	11.81	0.00039	0.00079	27,000	10.24	0.00039	0.00079	21,600	7.87	0.00039	0.00079
0.6	6	31,200	22.44	0.00039	0.00079	30,000	14.96	0.00039	0.00079	26,400	10.24	0.00039	0.00079	23,800	8.66	0.00039	0.00079	19,100	6.69	0.00039	0.00079
0.6	6.5	28,800	20.47	0.00039	0.00039	27,600	13.39	0.00039	0.00039	24,000	9.06	0.00039	0.00039	21,600	7.87	0.00039	0.00039	17,300	5.91	0.00039	0.00039
0.6	7	27,600	16.54	0.00039	0.00039	26,400	11.02	0.00039	0.00039	22,800	7.48	0.00039	0.00039	20,600	6.30	0.00039	0.00039	16,500	4.72	0.00039	0.00039
0.6	7.5	27,600	14.96	0.00039	0.00039	26,400	9.84	0.00039	0.00039	22,800	6.69	0.00039	0.00039	20,600	5.51	0.00039	0.00039	16,500	4.33	0.00039	0.00039
0.6	8	24,000	11.81	0.00020	0.00039	22,800	7.87	0.00020	0.00039	20,400	5.51	0.00020	0.00039	18,400	4.72	0.00020	0.00039	14,700	3.54	0.00020	0.00039
0.6	8.5	24,000	11.02	0.00020	0.00039	22,800	7.09	0.00020	0.00039	20,400	5.12	0.00020	0.00039	18,400	4.33	0.00020	0.00039	14,700	3.15	0.00020	0.00039
0.6	9	24,000	10.24	0.00020	0.00039	22,800	6.69	0.00020	0.00039	20,400	4.72	0.00020	0.00039	18,400	3.94	0.00020	0.00039	14,700	3.15	0.00020	0.00039
0.6	9.5	24,000	8.66	0.00020	0.00031	22,800	5.51	0.00020	0.00031	20,400	4.33	0.00020	0.00031	18,400	3.54	0.00020	0.00031	14,700	2.76	0.00020	0.00031
0.6	10	24,000	7.48	0.00020	0.00031	22,800	4.72	0.00020	0.00031	20,400	3.94	0.00020	0.00031	18,400	3.54	0.00020	0.00031	14,700	2.76	0.00020	0.00031
0.6	11	21,600	5.51	0.00020	0.00031	20,400	3.54	0.00020	0.00031	20,400	3.15	0.00020	0.00031	18,400	2.76	0.00020	0.00031	14,700	1.97	0.00020	0.00031
0.6	12	21,600	4.33	0.00020	0.00020	20,400	3.15	0.00020	0.00020	20,400	2.76	0.00016	0.00020	18,400	2.36	0.00016	0.00020	14,700	1.97	0.00016	0.00020
0.8	1	50,000	86.61	0.00157	0.00315	50,000	70.87	0.00157	0.00315	50,000	55.12	0.00157	0.00315	50,000	46.85	0.00157	0.00315	50,000	35.04	0.00157	0.00315
0.8	2	50,000	74.80	0.00157	0.00315	50,000	62.99	0.00157	0.00315	50,000	47.24	0.00059	0.00118	50,000	40.16	0.00059	0.00118	50,000	30.31	0.00059	0.00118
0.8	3	50,000	59.06	0.00157	0.00315	50,000	43.31	0.00157	0.00315	50,000	32.28	0.00059	0.00118	48,600	27.56	0.00059	0.00118	38,900	20.87	0.00059	0.00118
0.8	4	48,000	43.31	0.00157	0.00315	48,000	39.37	0.00157	0.00315	45,600	29.92	0.00059	0.00118	41,100	25.59	0.00059	0.00118	32,900	19.29	0.00059	0.00118
0.8	5	40,800	35.43	0.00118	0.00197	40,800	31.50	0.00118	0.00197	37,200	22.83	0.00059	0.00118	33,500	19.29	0.00059	0.00118	26,800	14.57	0.00059	0.00118
0.8	6	36,000	29.92	0.00118	0.00197	36,000	25.59	0.00118	0.00197	32,400	18.11	0.00059	0.00118	29,200	15.35	0.00059	0.00118	23,400	11.42	0.00059	0.00118
0.8	7	30,000	22.44	0.00039	0.00079	30,000	17.72	0.00039	0.00079	26,400	12.20	0.00039	0.00079	23,800	10.24	0.00039	0.00079	19,100	7.87	0.00039	0.00079
0.8	8	27,600	16.54	0.00020	0.00039	27,600	11.81	0.00020	0.00039	24,000	7.87	0.00020	0.00039	21,600	6.69	0.00020	0.00039	17,300	5.12	0.00020	0.00039
0.8	10	21,600	11.81	0.00020	0.00031	20,400	7.87	0.00020	0.00031	20,400	6.69	0.00020	0.00031	18,400	5.51	0.00020	0.00031	14,700	4.33	0.00020	0.00031
0.8	12	20,400	9.06	0.00020	0.00020	19,200	6.30	0.00020	0.00020	19,200	4.33	0.00020	0.00020	17,300	3.54	0.00020	0.00020	13,900	2.76	0.00020	0.00020
1	2	50,000	145.67	0.00197	0.00394	50,000	145.67	0.00197	0.00394	50,000	118.11	0.00079	0.00197	50,000	100.39	0.00079	0.00197	50,000	75.20	0.00079	0.00197
1	3	50,000	118.11	0.00197	0.00394	50,000	94.49	0.00197	0.00394	50,000	74.80	0.00079	0.00197	48,600	63.78	0.00079	0.00197	38,900	48.03	0.00079	0.00197
1	4	48,000	112.20	0.00197	0.00394	48,000	86.61	0.00197	0.00394	48,000	66.93	0.00079	0.00197	43,200	57.09	0.00079	0.00197	34,600	42.91	0.00079	0.00197
1	5	43,200	82.68	0.00197	0.00394	43,200	62.99	0.00197	0.00394	43,200	47.24	0.00079	0.00197	38,900	40.16	0.00079	0.00197	31,200	30.31	0.00079	0.00197
1	6	36,000	74.80	0.00197	0.00394	36,000	59.06	0.00197	0.00394	36,000	47.24	0.00079	0.00197	32,400	40.16	0.00079	0.00197	26,000	30.31	0.00079	0.00197
1	7	32,400	62.99	0.00197	0.00394	32,400	51.18	0.00197	0.00394	32,400	39.37	0.00079	0.00197	29,200	33.46	0.00079	0.00197	23,400	25.20	0.00079	0.00197
1	8	31,200	59.06	0.00197	0.00394	31,200	47.24	0.00197	0.00394	31,200	37.80	0.00079	0.00197	28,100	32.28	0.00079	0.00197	22,500	24.41	0.00079	0.00197
1	9	28,800	43.31	0.00118	0.00197	28,800	34.65	0.00118	0.00197	28,800	27.56	0.00079	0.00197	26,000	23.62	0.00079	0.00197	20,800	17.72	0.00079	0.00197
1	10	26,400	39.37	0.00039	0.00079	25,200	29.92	0.00039	0.00079	21,600	20.47	0.00039	0.00079	19,500	17.32	0.00039	0.00079	15,600	12.99	0.00039	0.00079
1	12	24,000	29.92	0.00039	0.00039	22,800	22.44	0.00039	0.00039	20,400	15.75	0.00039	0.00039	18,400	13.39	0.00039	0.00039	14,700	10.24	0.00039	0.00039
1	14	21,600	22.44	0.00020	0.00039	20,400	16.93	0.00020	0.00039	18,000	11.81	0.00020	0.00039	16,200	10.24	0.00020	0.00039	13,000	7.87	0.00020	0.00039
1	16	19,200	15.75	0.00020	0.00039	18,000	11.81	0.00020	0.00039	15,600	7.87	0.00020	0.00039	14,100	6.69	0.00020	0.00039	11,300	5.12	0.00020	0.00039
1	18	16,800	11.81	0.00020	0.00020	15,600	8.66	0.00020	0.00020	14,400	6.30	0.00016	0.00020	13,000	5.51	0.00016	0.00020	10,400	4.33	0.00016	0.00020
1	20	15,600	11.22	0.00020	0.00020	14,400	7.09	0.00020	0.00020	14,400	5.51	0.00016	0.00020	13,000	4.72	0.00016	0.00020	10,400	3.54	0.00016	0.00020
1	22	14,400	7.48	0.00020	0.00020	14,400	4.33	0.00020	0.00020	14,400	3.94	0.00016	0.00020	13,000	3.54	0.00016	0.00020	10,400	2.76	0.00016	0.00020
1.2	2	50,000	149.61	0.00236	0.00472	50,000	149.61	0.00236	0.00472	50,000	125.98	0.00079	0.00197	50,000	107.09	0.00079	0.00197	50,000	80.31	0.00079	0.00197
1.2	2.4	50,000	141.73	0.00236	0.00472	50,000	141.73	0.00236	0.00472	50,000	118.11	0.00079	0.00197	50,000	100.39	0.00079	0.00197	50,000	75.20	0.00079	0.00197
1.2	4	48,000	112.20	0.00236	0.00472	48,000	90.55	0.00236	0.00472	45,600	68.90	0.00079	0.00197	41,100	58.66	0.00079	0.00197	32,900	44.09	0.00079	0.00197
1.2	6	38,400	78.74	0.00236	0.00472	38,400	62.99	0.00236	0.00472	36,000	47.24	0.00079	0.00197	32,400	40.16	0.00079	0.00197	26,000	30.31	0.00079	0.00197
1.2	8	30,000	62.99	0.00236	0.00472	30,000	47.24	0.00236	0.00472	30,000	37.80	0.00079	0.00197	27,000	32.28	0.00079	0.00197	21,600	24.41	0.00079	0.00197

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. Use air blow or a suitable cutting fluid with high smoke retardant properties.
4. The above parameters are for contouring operations with stable conditions and setup. Adjustment may be required in less optimal situations.
5. Please adjust parameters based on machine accuracy, part shape, and tool path.
6. When using a tool with diameter 0.5mm or below or when L/D ratio is above 10 unstable or aggressive milling may result in tool breakage. Please adjust parameters based on the machine setup.
7. If unable to achieve the recommended RPM above please reduce the speed and feed by the same proportion. Axial and radial depth may remain as specified in the table.

Contouring

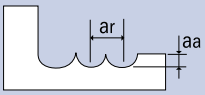
Hardness	Up to 45 HRC				45-55 HRC				55-62 HRC				62-66 HRC				66-70 HRC			
Work Material	Tool Steels Hardened Steels Alloy Steels				Hardened Steels															
Depth of Cut																				
Mill Dia. mm	Neck mm	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)
1.2	10	24,000	43.31	0.00197	0.00394	21,600	31.50	0.00197	0.00394	19,200	22.05	0.00079	0.00197	17,300	18.90	0.00079	0.00197	13,900	14.17	0.00079	0.00197
1.2	12	20,400	33.46	0.00118	0.00197	19,200	25.20	0.00118	0.00197	16,800	17.32	0.00079	0.00197	15,200	14.57	0.00079	0.00197	12,100	11.02	0.00079	0.00197
1.2	14	19,200	24.02	0.00118	0.00197	18,000	17.72	0.00118	0.00197	15,600	12.20	0.00079	0.00197	14,100	10.24	0.00079	0.00197	11,300	7.87	0.00079	0.00197
1.2	16	18,000	16.54	0.00079	0.00197	16,800	11.81	0.00079	0.00197	14,400	7.87	0.00079	0.00197	13,000	6.69	0.00079	0.00197	10,400	5.12	0.00079	0.00197
1.2	18	18,000	12.99	0.00020	0.00020	16,800	7.87	0.00020	0.00020	14,400	5.12	0.00016	0.00020	13,000	4.33	0.00016	0.00020	10,400	3.15	0.00016	0.00020
1.2	20	15,600	11.81	0.00020	0.00020	14,400	7.09	0.00020	0.00020	12,000	4.72	0.00016	0.00020	10,800	3.94	0.00016	0.00020	8,700	3.15	0.00016	0.00020
1.5	2	50,000	204.72	0.00295	0.00591	50,000	204.72	0.00295	0.00591	50,000	165.35	0.00118	0.00236	50,000	140.55	0.00118	0.00236	50,000	105.51	0.00118	0.00236
1.5	3	50,000	188.98	0.00295	0.00591	50,000	188.98	0.00295	0.00591	50,000	153.54	0.00118	0.00236	50,000	130.71	0.00118	0.00236	48,000	98.03	0.00118	0.00236
1.5	4	48,000	145.67	0.00295	0.00591	48,000	114.17	0.00295	0.00591	45,600	86.61	0.00118	0.00236	41,100	73.62	0.00118	0.00236	32,900	55.12	0.00118	0.00236
1.5	6	36,000	106.30	0.00295	0.00591	36,000	86.61	0.00295	0.00591	32,400	59.06	0.00118	0.00236	29,200	50.39	0.00118	0.00236	23,400	37.80	0.00118	0.00236
1.5	8	28,800	82.68	0.00295	0.00591	28,800	66.93	0.00295	0.00591	25,200	43.31	0.00118	0.00236	22,700	37.01	0.00118	0.00236	18,200	27.95	0.00118	0.00236
1.5	10	28,800	74.80	0.00295	0.00591	28,800	59.06	0.00295	0.00591	25,200	39.37	0.00118	0.00236	22,700	33.46	0.00118	0.00236	18,200	25.20	0.00118	0.00236
1.5	12	25,200	51.18	0.00295	0.00394	25,200	39.37	0.00295	0.00394	21,600	26.77	0.00118	0.00236	19,500	22.83	0.00118	0.00236	15,600	17.32	0.00118	0.00236
1.5	14	20,400	43.31	0.00197	0.00394	20,400	35.43	0.00197	0.00394	18,000	24.80	0.00118	0.00236	16,200	21.26	0.00118	0.00236	13,000	16.14	0.00118	0.00236
1.5	16	16,800	29.92	0.00197	0.00394	15,600	22.05	0.00197	0.00394	12,000	13.39	0.00118	0.00197	10,800	11.42	0.00118	0.00197	8,700	8.66	0.00118	0.00197
1.5	18	15,600	18.50	0.00118	0.00197	14,400	13.78	0.00118	0.00197	12,000	9.06	0.00118	0.00197	10,800	7.87	0.00118	0.00197	8,700	5.91	0.00118	0.00197
1.5	20	14,400	13.39	0.00079	0.00197	13,200	9.45	0.00079	0.00197	10,800	5.91	0.00079	0.00197	9,800	5.12	0.00079	0.00197	7,800	3.94	0.00079	0.00197
1.5	22	14,400	11.81	0.00079	0.00197	13,200	8.66	0.00079	0.00197	10,800	5.51	0.00079	0.00197	9,800	4.72	0.00079	0.00197	7,800	3.54	0.00079	0.00197
1.5	30	13,200	7.48	0.00020	0.00039	12,000	4.72	0.00020	0.00039	10,800	3.54	0.00020	0.00039	9,800	3.15	0.00020	0.00039	7,800	2.36	0.00039	0.00039
1.6	8	28,800	110.24	0.00315	0.00630	27,600	82.68	0.00315	0.00630	24,000	55.12	0.00118	0.00315	21,600	46.85	0.00118	0.00315	17,300	35.04	0.00118	0.00315
1.6	12	25,200	66.93	0.00197	0.00394	24,000	54.33	0.00197	0.00394	21,600	38.98	0.00118	0.00315	19,500	33.07	0.00118	0.00315	15,600	24.80	0.00118	0.00315
1.6	16	16,800	29.92	0.00197	0.00394	15,600	23.62	0.00197	0.00394	13,200	15.75	0.00118	0.00315	11,900	13.39	0.00118	0.00315	9,600	10.24	0.00118	0.00315
1.6	20	14,400	14.17	0.00118	0.00197	13,200	11.02	0.00118	0.00197	12,000	7.87	0.00118	0.00197	10,800	6.69	0.00118	0.00197	8,700	5.12	0.00118	0.00197
2	4	50,000	220.47	0.00394	0.00787	50,000	208.66	0.00394	0.00787	48,000	141.73	0.00197	0.00394	43,200	120.47	0.00197	0.00394	34,600	90.55	0.00197	0.00394
2	6	43,200	110.24	0.00394	0.00787	42,000	106.30	0.00394	0.00787	36,000	70.87	0.00197	0.00394	32,400	60.24	0.00197	0.00394	26,000	45.28	0.00197	0.00394
2	8	30,000	94.49	0.00394	0.00787	28,800	90.55	0.00394	0.00787	24,000	59.06	0.00197	0.00394	21,600	50.39	0.00197	0.00394	17,300	37.80	0.00197	0.00394
2	10	24,000	86.61	0.00394	0.00787	22,800	78.74	0.00394	0.00787	20,400	55.12	0.00197	0.00394	18,400	46.85	0.00197	0.00394	14,700	35.04	0.00197	0.00394
2	12	19,200	74.80	0.00394	0.00787	18,000	66.93	0.00394	0.00787	15,600	43.31	0.00197	0.00394	14,100	37.01	0.00197	0.00394	11,300	27.95	0.00197	0.00394
2	14	18,000	66.93	0.00394	0.00787	16,800	59.06	0.00394	0.00787	14,400	39.37	0.00197	0.00394	13,000	33.46	0.00197	0.00394	10,400	25.20	0.00197	0.00394
2	16	16,800	62.99	0.00394	0.00394	15,600	55.12	0.00394	0.00394	13,200	37.40	0.00197	0.00394	11,900	31.89	0.00197	0.00394	9,600	24.02	0.00197	0.00394
2	18	15,600	59.06	0.00394	0.00394	14,400	47.24	0.00394	0.00394	12,000	31.50	0.00197	0.00394	10,800	26.77	0.00197	0.00394	8,700	20.08	0.00197	0.00394
2	20	13,200	43.31	0.00197	0.00394	12,000	35.04	0.00197	0.00394	10,800	25.20	0.00197	0.00394	9,800	21.26	0.00197	0.00394	7,800	16.14	0.00197	0.00394
2	22	10,800	37.40	0.00197	0.00394	10,800	33.86	0.00197	0.00394	9,000	22.44	0.00197	0.00394	8,100	18.90	0.00197	0.00394	6,500	14.17	0.00197	0.00394
2	25	10,800	29.92	0.00118	0.00197	10,800	26.77	0.00118	0.00197	9,000	17.72	0.00118	0.00197	8,100	14.96	0.00118	0.00197	6,500	11.42	0.00118	0.00197
2	30	10,800	18.50	0.00079	0.00197	10,800	14.17	0.00079	0.00197	9,000	9.45	0.00079	0.00197	8,100	7.87	0.00079	0.00197	6,500	5.91	0.00079	0.00197
2	35	9,000	9.06	0.00079	0.00118	8,400	5.12	0.00079	0.00118	7,200	3.94	0.00079	0.00118	6,500	3.54	0.00079	0.00118	5,200	2.76	0.00079	0.00118
2	40	7,200	5.51	0.00079	0.00118	7,200	3.94	0.00079	0.00118	7,200	3.54	0.00079	0.00118	6,500	3.15	0.00079	0.00118	5,200	2.36	0.00079	0.00118
2.5	10	24,000	122.05	0.00394	0.00787	22,800	114.17	0.00394	0.00787	19,200	74.80	0.00197	0.00394	17,300	63.78	0.00197	0.00394	13,900	48.03	0.00197	0.00394
2.5	15	20,400	102.36	0.00394	0.00787	19,200	94.49	0.00394	0.00787	16,800	62.99	0.00197	0.00394	15,200	53.54	0.00197	0.00394	12,100	40.16	0.00197	0.00394
2.5	20	18,000	66.93	0.00394	0.00787	16,800	62.99	0.00394	0.00787	14,400	39.37	0.00197	0.00394	13,000	33.46	0.00197	0.00394	10,400	25.20	0.00197	0.00394
2.5	25	13,200	37.40	0.00118	0.00197	12,000	32.68	0.00118	0.00197	10,800	23.23	0.00118	0.00197	9,800	19.69	0.00118	0.00197	7,800	14.96	0.00118	0.00197
2.5	30	10,800	29.92	0.00118	0.00197	9,600	25.59	0.00118	0.00197	8,400	17.72	0.00118	0.00197	7,600	14.96	0.00118	0.00197	6,100	11.42	0.00118	0.00197
2.5	35	9,000	18.50	0.00079	0.00118	8,400	16.93	0.00079	0.00118	7,200	11.42	0.00079	0.00118	6,500	9.84	0.00079	0.00118	5,200	7.48	0.00079	0.00118
3	6	49,800	244.09	0.00591	0.01181	38,400	188.98	0.00591	0.01181	31,800	129.92	0.00236	0.00591	28,700	110.63	0.00236	0.00591	22,900	83.07	0.00236	0.00591
3	8	36,000	165.35	0.00591	0.01181	30,000	137.80	0.00591	0.01181	26,400	94.49	0.00236	0.00591	23,800	80.31	0.00236	0.00591	19,100	60.24	0.00236	0.00591
3	10	30,000	141.73	0.00591	0.01181	24,000	110.24	0.00591	0.01181	21,600	78.74	0.00236	0.00591	19,500	66.93	0.00236	0.00591	15,600	50.39	0.00236	0.00591
3	12	24,000	110.24	0.00591	0.01181	21,600	98.43	0.00591	0.01181	19,200	66.93	0.00236	0.00591	17,300	57.09	0.00236	0.00591	13,900	42.91	0.00236	0.00591
3	14	21,600	98.43	0.00591	0.01181	18,000	78.74	0.00591	0.01181	15,600	51.18	0.00236	0.00591	14,100	43.70	0.00236	0.00591	11,300	32.68	0.00236	0.00591
3	15	19,200	86.61	0.00394	0.01181	15,600	70.87	0.00394	0.01181	13,200	47.24	0.00236	0.00591	11,900	40.16	0.00236	0.00591	9,600	30.31	0.00236	0.00591
3	16	19,200	74.80	0.00394	0.00787	15,600	59.06	0.00394	0.00787	13,200	43.31	0.00236	0.00591	11,900	37.01	0.00236	0.00591	9,600	27.95	0.00236	0.00591

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. Use air blow or a suitable cutting fluid with high smoke retardant properties.
4. The above parameters are for contouring operations with stable conditions and setup. Adjustment may be required in less optimal situations.
5. Please adjust parameters based on machine accuracy, part shape, and tool path.
6. When using a tool with diameter 0.5mm or below or when L/D ratio is above 10 unstable or aggressive milling may result in tool breakage. Please adjust parameters based on the machine setup.
7. If unable to achieve the recommended RPM above please reduce the speed and feed by the same proportion. Axial and radial depth may remain as specified in the table.

CONTINUED

List 8590: 2 Flute, Stub Length, Long Neck, Ball End, Rib Processing (Continued)

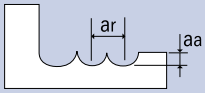
Contouring

Hardness	Up to 45 HRC				45-55 HRC				55-62 HRC				62-66 HRC				66-70 HRC			
Work Material	Tool Steels Hardened Steels Alloy Steels				Hardened Steels															
Depth of Cut																				
Mill Dia. mm	Neck mm	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)	Speed (RPM)	Feed (IPM)	Aa (in)	Ar (in)
3	20	16,800	66.93	0.00394	0.00787	13,200	62.99	0.00394	0.00787	12,000	39.37	0.00236	0.00591	10,800	33.46	0.00236	0.00591	8,700	25.20	0.00236	0.00591
3	25	14,400	43.31	0.00197	0.00394	10,800	32.28	0.00197	0.00394	9,600	22.83	0.00197	0.00394	8,700	19.29	0.00197	0.00394	7,000	14.57	0.00197	0.00394
3	30	10,800	29.92	0.00118	0.00197	8,400	23.23	0.00118	0.00197	7,200	15.75	0.00118	0.00197	6,500	13.39	0.00118	0.00197	5,200	10.24	0.00118	0.00197
3	35	9,000	22.44	0.00079	0.00197	7,200	18.11	0.00079	0.00197	6,000	11.81	0.00079	0.00197	5,400	10.24	0.00079	0.00197	4,400	7.87	0.00079	0.00197
3	40	7,800	18.50	0.00079	0.00118	6,000	14.17	0.00079	0.00118	4,800	9.06	0.00079	0.00118	4,400	7.87	0.00079	0.00118	3,500	5.91	0.00079	0.00118
3.5	15	21,600	110.24	0.00394	0.01181	16,800	78.74	0.00394	0.01181	14,400	51.18	0.00276	0.00591	13,000	43.70	0.00276	0.00591	10,400	32.68	0.00276	0.00591
3.5	20	19,200	98.43	0.00394	0.00787	14,400	70.87	0.00394	0.00787	12,000	47.24	0.00276	0.00591	10,800	40.16	0.00276	0.00591	8,700	30.31	0.00276	0.00591
3.5	25	14,400	74.80	0.00394	0.00394	10,800	51.18	0.00394	0.00394	9,600	36.22	0.00276	0.00591	8,700	30.71	0.00276	0.00591	7,000	23.23	0.00276	0.00591
3.5	30	12,000	59.06	0.00197	0.00394	9,600	43.31	0.00197	0.00394	8,400	30.31	0.00197	0.00394	7,600	25.59	0.00197	0.00394	6,100	19.29	0.00197	0.00394
3.5	35	10,800	37.40	0.00197	0.00197	8,400	27.56	0.00197	0.00197	6,000	15.75	0.00197	0.00197	5,400	13.39	0.00197	0.00197	4,400	10.24	0.00197	0.00197
3.5	40	9,000	29.92	0.00197	0.00197	7,200	22.83	0.00197	0.00197	4,800	11.81	0.00197	0.00197	4,400	10.24	0.00197	0.00197	3,500	7.87	0.00197	0.00197
3.5	45	7,800	22.44	0.00118	0.00118	6,000	16.54	0.00118	0.00118	4,800	10.24	0.00118	0.00118	4,400	8.66	0.00118	0.00118	3,500	6.69	0.00118	0.00118
4	8	37,200	224.41	0.00787	0.01969	28,800	173.23	0.00787	0.01969	24,000	125.98	0.00315	0.00787	21,600	107.09	0.00315	0.00787	17,300	80.31	0.00315	0.00787
4	10	30,000	165.35	0.00787	0.01969	24,000	129.92	0.00787	0.01969	21,600	90.55	0.00315	0.00787	19,500	77.17	0.00315	0.00787	15,600	57.87	0.00315	0.00787
4	12	24,000	133.86	0.00787	0.01969	20,400	114.17	0.00787	0.01969	16,800	74.80	0.00315	0.00787	15,200	63.78	0.00315	0.00787	12,100	48.03	0.00315	0.00787
4	15	24,000	133.86	0.00787	0.01969	19,200	106.30	0.00787	0.01969	14,400	62.99	0.00315	0.00787	13,000	53.54	0.00315	0.00787	10,400	40.16	0.00315	0.00787
4	16	21,600	118.11	0.00787	0.01969	18,000	98.43	0.00787	0.01969	12,000	51.18	0.00315	0.00787	10,800	43.70	0.00315	0.00787	8,700	32.68	0.00315	0.00787
4	20	19,200	102.36	0.00787	0.01575	16,800	90.55	0.00787	0.01575	9,600	39.37	0.00315	0.00787	8,700	33.46	0.00315	0.00787	7,000	25.20	0.00315	0.00787
4	25	19,200	102.36	0.00394	0.01181	15,600	86.61	0.00394	0.01181	7,200	31.89	0.00315	0.00787	6,500	27.17	0.00315	0.00787	5,200	20.47	0.00315	0.00787
4	30	16,800	86.61	0.00394	0.00787	14,400	74.80	0.00394	0.00787	6,000	24.80	0.00315	0.00787	5,400	21.26	0.00315	0.00787	4,400	16.14	0.00315	0.00787
4	35	14,400	66.93	0.00394	0.00787	10,800	47.24	0.00394	0.00787	4,800	16.54	0.00315	0.00787	4,400	14.17	0.00315	0.00787	3,500	10.63	0.00315	0.00787
4	40	10,800	47.24	0.00197	0.00394	9,600	39.37	0.00197	0.00394	4,800	15.75	0.00197	0.00394	4,400	13.39	0.00197	0.00394	3,500	10.24	0.00197	0.00394
4	45	9,000	37.40	0.00197	0.00197	8,400	35.04	0.00197	0.00197	4,400	14.17	0.00197	0.00197	3,900	12.20	0.00197	0.00197	3,200	9.06	0.00197	0.00197
4	50	7,800	25.98	0.00079	0.00197	7,200	23.62	0.00079	0.00197	4,400	11.02	0.00079	0.00197	3,900	9.45	0.00079	0.00197	3,200	7.09	0.00079	0.00197
5	10	30,000	212.60	0.00984	0.01969	22,800	157.48	0.00984	0.01969	19,200	110.24	0.00394	0.00984	17,300	93.70	0.00394	0.00984	13,900	70.47	0.00394	0.00984
5	15	24,000	153.54	0.00984	0.01969	20,400	129.92	0.00984	0.01969	15,600	78.74	0.00394	0.00984	14,100	66.93	0.00394	0.00984	11,300	50.39	0.00394	0.00984
5	20	19,200	129.92	0.00984	0.01969	15,600	106.30	0.00984	0.01969	9,600	51.18	0.00394	0.00984	8,700	43.70	0.00394	0.00984	7,000	32.68	0.00394	0.00984
5	25	18,000	118.11	0.00787	0.01181	14,400	94.49	0.00787	0.01181	7,200	37.80	0.00394	0.00984	6,500	32.28	0.00394	0.00984	5,200	24.41	0.00394	0.00984
5	30	16,800	90.55	0.00394	0.01181	13,200	70.87	0.00394	0.01181	4,800	20.47	0.00394	0.00984	4,400	17.32	0.00394	0.00984	3,500	12.99	0.00394	0.00984
5	35	14,400	59.06	0.00394	0.01181	12,000	43.31	0.00394	0.01181	3,900	11.02	0.00394	0.00984	3,500	9.45	0.00394	0.00984	2,800	7.09	0.00394	0.00984
5	40	12,000	43.31	0.00394	0.00787	10,800	38.98	0.00394	0.00787	3,600	10.24	0.00394	0.00787	3,300	8.66	0.00394	0.00787	2,600	6.69	0.00394	0.00787
5	45	10,800	33.46	0.00394	0.00394	9,600	25.98	0.00394	0.00394	3,600	7.87	0.00394	0.00394	3,300	6.69	0.00394	0.00394	2,600	5.12	0.00394	0.00394
5	50	9,000	29.92	0.00394	0.00394	8,400	24.02	0.00394	0.00394	3,400	7.48	0.00394	0.00394	3,100	6.30	0.00394	0.00394	2,500	4.72	0.00394	0.00394
6	12	24,000	204.72	0.01181	0.01969	19,200	133.86	0.01181	0.01969	16,200	98.43	0.00394	0.00787	14,600	83.86	0.00394	0.00787	11,700	62.99	0.00394	0.00787
6	20	19,200	153.54	0.01181	0.01969	14,400	118.11	0.01181	0.01969	9,600	62.99	0.00394	0.00787	8,700	53.54	0.00394	0.00787	7,000	40.16	0.00394	0.00787
6	25	14,400	118.11	0.01181	0.01969	12,000	98.43	0.01181	0.01969	7,200	47.24	0.00394	0.00787	6,500	40.16	0.00394	0.00787	5,200	30.31	0.00394	0.00787
6	30	12,000	94.49	0.01181	0.01969	10,800	82.68	0.01181	0.01969	4,800	29.13	0.00394	0.00787	4,400	24.80	0.00394	0.00787	3,500	18.50	0.00394	0.00787
6	35	10,800	82.68	0.00787	0.01575	10,800	78.74	0.00787	0.01575	4,200	24.41	0.00394	0.00787	3,800	20.87	0.00394	0.00787	3,100	15.75	0.00394	0.00787
6	40	10,800	74.80	0.00787	0.01181	10,800	70.87	0.00787	0.01181	3,600	18.90	0.00394	0.00787	3,300	16.14	0.00394	0.00787	2,600	12.20	0.00394	0.00787
6	45	9,600	66.93	0.00787	0.01181	9,600	62.99	0.00787	0.01181	3,400	17.32	0.00394	0.00787	3,100	14.57	0.00394	0.00787	2,500	11.02	0.00394	0.00787
6	50	8,400	59.06	0.00787	0.01181	8,400	55.12	0.00787	0.01181	3,000	15.75	0.00394	0.00787	2,700	13.39	0.00394	0.00787	2,200	10.24	0.00394	0.00787

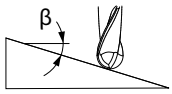
1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. Use air blow or a suitable cutting fluid with high smoke retardant properties.
4. The above parameters are for contouring operations with stable conditions and setup. Adjustment may be required in less optimal situations.
5. Please adjust parameters based on machine accuracy, part shape, and tool path.
6. When using a tool with diameter 0.5mm or below or when L/D ratio is above 10 unstable or aggressive milling may result in tool breakage. Please adjust parameters based on the machine setup.
7. If unable to achieve the recommended RPM above please reduce the speed and feed by the same proportion. Axial and radial depth may remain as specified in the table.

List 8430, 8530: 4 Flute, Regular Length, Ball End

Roughing - Contouring

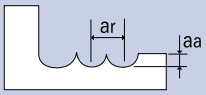
Hardness	Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material	Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed	425 - 500 SFM		375 - 450 SFM		325 - 400 SFM		300 - 360 SFM		200 - 260 SFM	
Depth of Cut			Dia / aa / ar D<6: 0.15D / 0.2D 6≤D: 0.1D / 0.2D		Dia / aa / ar D<6: 0.12D / 0.15D 6≤D: 0.07D / 0.15D		aa=0.05D ar=0.15D			
Mill Dia. Inch	Mill Dia. mm	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
–	2	20,850	131	18,450	73	16,000	63	14,550	57	9,700	31
–	3	13,900	110	12,300	68	10,650	58	9,700	53	6,450	31
1/8	–	13,150	108	11,600	67	10,100	58	9,150	53	6,100	31
–	4	10,450	99	9,200	65	8,000	57	7,300	52	4,850	31
3/16	–	8,750	103	7,750	73	6,700	63	6,100	57	4,050	35
–	5	8,350	105	7,350	75	6,400	65	5,800	59	3,900	37
–	6	6,950	110	6,150	77	5,350	68	4,850	61	3,250	36
1/4	–	6,550	103	5,800	73	5,050	64	4,600	58	3,050	34
5/16	–	5,250	98	4,650	72	4,050	63	3,650	57	2,450	34
–	8	5,200	98	4,600	72	4,000	63	3,650	57	2,450	35
3/8	–	4,700	95	4,200	72	3,650	62	3,350	57	2,350	35
–	10	4,450	91	4,000	69	3,500	61	3,200	55	2,250	34
–	12	4,050	89	3,650	69	3,250	62	2,900	55	2,100	33
1/2	–	3,800	84	3,450	65	3,050	58	2,750	52	2,000	31

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. The above parameters are applicable to an overhang of 4xD maximum. When the overhang is longer, please reduce feed, speed, and cutting depth.
4. The above parameters are standard starting values for contouring and side milling operations. If vibration or chatter occurs due to machine or part setup, please adjust the speed, feed, and depth of cut accordingly.
5. If contouring includes corners of radius less than 1.5 times the tool diameter, reduce speed and feed to 50-80% of above and reduce Ar to 20-60% of above.
6. When the part incline angle (β) is more than 15°, reduce the speed to 40-60% of above parameters, the feed to 30-50% of above parameters, and Aa to 30-60% of above parameters.
7. If the cutting depth is small it is possible to increase the speed and feed above the recommended parameters.

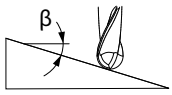


List 8430, 8530: 4 Flute, Regular Length, Ball End

Finishing - Contouring

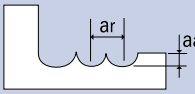
Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed		550 - 625 SFM		500 - 575 SFM		450 - 525 SFM		375 - 425 SFM		275 - 350 SFM	
Depth of Cut		 a_a=0.02D a_r=0.05D									
Mill Dia. Inch	Mill Dia. mm	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
–	2	25,000	157	24,750	97	22,300	70	18,450	58	13,600	43
–	3	18,100	143	16,500	91	14,900	70	12,300	58	9,050	43
1/8	–	17,100	140	15,600	90	14,050	70	11,600	58	8,550	43
–	4	13,600	129	12,350	87	11,150	70	9,200	58	6,800	43
3/16	–	11,400	135	10,400	98	9,350	81	7,750	67	5,700	49
–	5	10,850	137	9,900	101	8,950	85	7,350	69	5,450	52
–	6	9,050	143	8,250	104	7,450	82	6,150	68	4,550	50
1/4	–	8,550	135	7,800	98	7,050	78	5,800	64	4,300	47
5/16	–	6,850	127	6,250	97	5,600	69	4,650	58	3,400	42
–	8	6,800	128	6,200	98	5,600	71	4,600	58	3,400	43
3/8	–	6,000	121	5,600	95	5,000	69	4,200	58	3,150	44
–	10	5,700	116	5,350	93	4,750	67	4,000	57	3,000	43
–	12	5,000	110	4,600	87	4,200	66	3,500	55	2,850	45
1/2	–	4,750	105	4,350	82	3,950	62	3,300	52	2,650	42

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. The above parameters are applicable to an overhang of 4xD maximum. When the overhang is longer, please reduce feed, speed, and cutting depth.
4. The above parameters are standard starting values for contouring and side milling operations. If vibration or chatter occurs due to machine or part setup, please adjust the speed, feed, and depth of cut accordingly.
5. If contouring includes corners of radius less than 1.5 times the tool diameter, reduce speed and feed to 50-80% of above and reduce Ar to 20-60% of above.
6. When the part incline angle (β) is more than 15°, reduce the speed to 40-60% of above parameters, the feed to 30-50% of above parameters, and Aa to 30-60% of above parameters.
7. If the cutting depth is small it is possible to increase the speed and feed above the recommended parameters.

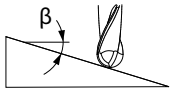


List 8430, 8530: 4 Flute, Regular Length, Ball End

Roughing - High Speed Contouring

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed		750 - 1000 SFM		675 - 900 SFM		600 - 800 SFM		525 - 725 SFM		350 - 525 SFM	
Depth of Cut		aa=0.1D ar=0.2D		aa=0.08D ar=0.2D		 aa=0.05D ar=0.1D					
Mill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
Inch	mm	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min	RPM	in/min
–	2	25,000	157	25,000	98	25,000	98	25,000	79	17,000	54
–	3	24,900	196	22,000	121	19,100	105	17,150	81	11,300	53
1/8	–	23,550	186	20,800	115	18,050	99	16,200	77	10,700	51
–	4	20,600	195	18,200	129	16,000	113	14,300	90	9,600	60
3/16	–	17,300	204	15,300	136	13,450	119	12,000	94	8,050	63
–	5	16,500	208	14,550	149	12,800	131	11,450	108	7,650	72
–	6	13,750	217	12,150	153	10,650	134	9,550	105	6,400	71
1/4	–	13,000	205	11,450	144	10,100	127	9,000	99	6,050	67
5/16	–	10,400	203	9,300	145	8,050	126	7,200	99	4,850	66
–	8	10,300	195	9,200	145	8,000	126	7,150	101	4,800	68
3/8	–	9,150	196	8,400	150	7,350	131	6,700	108	4,700	76
–	10	8,750	179	8,000	139	7,000	121	6,400	101	4,450	70
–	12	8,100	179	7,300	138	6,400	121	5,800	91	4,200	66
1/2	–	7,650	169	6,900	130	6,050	114	5,500	87	3,950	62

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. The above parameters are applicable to an overhang of 4xD maximum. When the overhang is longer, please reduce feed, speed, and cutting depth.
4. The above parameters are standard starting values for contouring and side milling operations. If vibration or chatter occurs due to machine or part setup, please adjust the speed, feed, and depth of cut accordingly.
5. If contouring includes corners of radius less than 1.5 times the tool diameter, reduce speed and feed to 50-80% of above and reduce Ar to 20-60% of above.
6. When the part incline angle (β) is more than 15°, reduce the speed to 40-60% of above parameters, the feed to 30-50% of above parameters, and Aa to 30-60% of above parameters.
7. If the cutting depth is small it is possible to increase the speed and feed above the recommended parameters.



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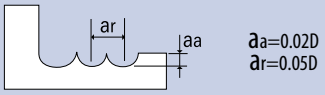
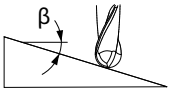
List 8430, 8530: 4 Flute, Regular Length, Ball End

Finishing - High Speed Contouring

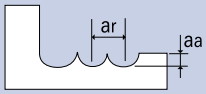
Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Tool Steels Hardened Steels Alloy Steels		Hardened Steels							
Cutting Speed		825 - 1125 SFM		750 - 1050 SFM		700 - 950 SFM		575 - 775 SFM		425 - 625 SFM	
Depth of Cut		 ar=0.02D ar=0.05D									
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm										
–	2	25,000	157	25,000	98	25,000	79	25,000	79	20,400	64
–	3	25,000	197	24,600	136	22,300	105	18,100	86	13,600	64
1/8	–	25,000	197	23,250	128	21,100	106	17,100	86	12,850	64
–	4	24,250	229	22,300	158	20,150	127	16,500	104	12,150	77
3/16	–	20,350	240	18,750	166	16,900	146	13,850	120	10,200	88
–	5	19,400	244	17,850	183	16,100	152	13,200	125	9,700	92
–	6	16,150	254	14,900	188	13,400	148	11,000	121	8,100	89
1/4	–	15,300	241	14,050	177	12,700	140	10,400	115	7,650	84
5/16	–	12,200	238	11,250	176	10,150	139	8,300	114	6,100	83
–	8	12,150	230	11,150	176	10,050	127	8,250	104	6,050	76
3/8	–	10,800	231	9,950	178	9,050	125	7,550	105	5,700	79
–	10	10,300	211	9,450	164	8,650	123	7,200	102	5,450	77
–	12	9,050	199	8,350	158	7,600	120	6,250	99	5,000	79
1/2	–	8,550	188	7,850	148	7,200	114	5,900	93	4,750	75

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. The above parameters are applicable to an overhang of 4xD maximum. When the overhang is longer, please reduce feed, speed, and cutting depth.
4. The above parameters are standard starting values for contouring and side milling operations. If vibration or chatter occurs due to machine or part setup, please adjust the speed, feed, and depth of cut accordingly.
5. If contouring includes corners of radius less than 1.5 times the tool diameter, reduce speed and feed to 50-80% of above and reduce Ar to 20-60% of above.
6. When the part incline angle (β) is more than 15°, reduce the speed to 40-60% of above parameters, the feed to 30-50% of above parameters, and Aa to 30-60% of above parameters.
7. If the cutting depth is small it is possible to increase the speed and feed above the recommended parameters.



List 8990: 2 Flute, Stub Length, Long Neck, Ball End

Contouring

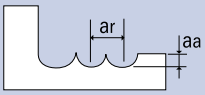
Hardness	-				-			
Work Material	Copper, Aluminum				Copper Alloy, Aluminum Alloy			
Depth of Cut								
Mill Dia. mm	Neck Length mm	Speed RPM	Feed IPM	Aa (Inch)	Ar (Inch)	Speed RPM	Feed IPM	Aa (Inch)	Ar (Inch)
0.1	0.3	38,400	8.86	0.00020	0.00039	32,000	4.72	0.00020	0.00031
0.1	0.5	38,400	7.09	0.00020	0.00039	32,000	3.78	0.00020	0.00031
0.15	0.3	38,400	10.12	0.00031	0.00079	32,000	5.39	0.00031	0.00059
0.15	0.5	38,400	8.86	0.00031	0.00079	32,000	4.72	0.00031	0.00083
0.15	1	38,400	7.09	0.00020	0.00039	32,000	3.78	0.00020	0.00043
0.2	0.3	38,400	17.72	0.00079	0.00157	32,000	9.45	0.00079	0.00118
0.2	0.5	38,400	17.72	0.00079	0.00157	32,000	9.45	0.00079	0.00118
0.2	1	38,400	8.86	0.00079	0.00157	32,000	4.72	0.00079	0.00118
0.2	1.5	38,400	8.86	0.00079	0.00157	32,000	4.72	0.00079	0.00118
0.3	0.6	38,400	35.43	0.00079	0.00236	32,000	18.90	0.00079	0.00177
0.3	1	38,400	26.57	0.00079	0.00236	32,000	14.17	0.00079	0.00177
0.3	1.5	38,400	26.57	0.00079	0.00236	32,000	14.17	0.00079	0.00177
0.3	2	38,400	26.57	0.00079	0.00236	32,000	14.17	0.00079	0.00177
0.4	1	38,400	35.43	0.00098	0.00394	32,000	18.90	0.00098	0.00295
0.4	2	32,400	26.57	0.00098	0.00394	27,000	14.17	0.00098	0.00295
0.4	3	32,400	26.57	0.00098	0.00394	27,000	14.17	0.00098	0.00295
0.4	4	32,400	26.57	0.00039	0.00236	27,000	14.17	0.00039	0.00177
0.5	1	38,400	44.29	0.00157	0.00394	32,000	23.62	0.00157	0.00295
0.5	2	38,400	35.43	0.00157	0.00394	32,000	18.90	0.00157	0.00295
0.5	3	32,400	26.57	0.00157	0.00394	27,000	14.17	0.00157	0.00295
0.5	4	32,400	26.57	0.00157	0.00394	27,000	14.17	0.00157	0.00295
0.5	5	25,200	17.72	0.00157	0.00394	21,000	9.45	0.00157	0.00295
0.6	1	38,400	88.58	0.00354	0.00472	32,000	56.69	0.00315	0.00472
0.6	2	38,400	66.46	0.00354	0.00472	32,000	42.52	0.00315	0.00472
0.6	3	36,000	36.93	0.00354	0.00472	30,000	23.62	0.00315	0.00472
0.6	4	36,000	36.93	0.00354	0.00472	30,000	23.62	0.00315	0.00472
0.6	5	36,000	36.93	0.00354	0.00472	30,000	23.62	0.00315	0.00472
0.6	6	30,000	22.17	0.00354	0.00472	25,000	14.17	0.00315	0.00472
0.8	2	32,400	66.46	0.00472	0.00630	27,000	42.52	0.00433	0.00630
0.8	3	32,400	66.46	0.00472	0.00630	27,000	42.52	0.00433	0.00630
0.8	4	32,400	66.46	0.00472	0.00630	27,000	42.52	0.00433	0.00630
0.8	6	28,800	36.93	0.00472	0.00472	24,000	23.62	0.00433	0.00472
0.8	8	26,400	22.17	0.00472	0.00472	22,000	14.17	0.00433	0.00472
1	2	33,600	73.82	0.00591	0.00787	28,000	47.24	0.00551	0.00787
1	3	33,600	73.82	0.00591	0.00787	28,000	47.24	0.00551	0.00787
1	4	33,600	73.82	0.00591	0.00787	28,000	47.24	0.00551	0.00787
1	5	25,200	44.29	0.00591	0.00787	21,000	28.35	0.00551	0.00787
1	6	25,200	44.29	0.00591	0.00787	21,000	28.35	0.00551	0.00787
1	8	25,200	44.29	0.00591	0.00591	21,000	28.35	0.00551	0.00591
1	10	21,600	29.53	0.00472	0.00472	18,000	18.90	0.00433	0.00472
1	12	21,600	29.53	0.00472	0.00472	18,000	18.90	0.00433	0.00472
1.5	4	24,000	88.58	0.00945	0.01181	20,000	56.69	0.00866	0.01181
1.5	6	21,600	73.82	0.00945	0.01181	18,000	47.24	0.00866	0.01181
1.5	12	20,400	44.29	0.00945	0.00945	17,000	28.35	0.00866	0.00945
1.5	18	15,600	29.53	0.00709	0.00709	13,000	18.90	0.00630	0.00709
2	4	19,800	103.35	0.01181	0.02205	16,500	66.14	0.01063	0.02205
2	6	19,800	103.35	0.01181	0.02205	16,500	66.14	0.01063	0.02205
2	8	19,800	103.35	0.01181	0.02205	16,500	66.14	0.01063	0.02205
2	10	16,800	73.82	0.01181	0.02205	14,000	47.24	0.01063	0.02205
2	12	16,800	73.82	0.01181	0.02205	14,000	47.24	0.01063	0.02205
2	14	16,800	73.82	0.01181	0.02205	14,000	47.24	0.01063	0.02205
2	16	16,800	73.82	0.01181	0.01654	14,000	47.24	0.01063	0.01654
2	20	13,200	36.93	0.01181	0.01654	11,000	23.62	0.01063	0.01654
2	25	13,200	36.93	0.01181	0.01654	11,000	23.62	0.01063	0.01654
3	10	14,400	88.58	0.01575	0.03307	12,000	56.69	0.01417	0.03307
3	12	12,000	88.58	0.01575	0.03307	10,000	56.69	0.01417	0.03307
3	14	12,000	88.58	0.01575	0.03307	10,000	56.69	0.01417	0.03307
3	16	12,000	44.29	0.01575	0.03307	10,000	28.35	0.01417	0.03307

1. Use a rigid and precise machine and holder.
2. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
3. Use a water soluble fluid.
4. Use a non-water-soluble cutting fluid if the machined surface and accuracy are of critical importance.
5. Always use a cutting fluid recommended by the cutting fluid manufacturer as the workpiece may discolor.

CONTINUED

List 8990: 2 Flute, Stub Length, Long Neck, Ball End (Continued)

Contouring

Hardness		-				-			
Work Material		Copper, Aluminum				Copper Alloy, Aluminum Alloy			
Depth of Cut									
Mill Dia.	Neck Length	Speed RPM	Feed IPM	Aa (Inch)	Ar (Inch)	Speed RPM	Feed IPM	Aa (Inch)	Ar (Inch)
mm	mm								
3	20	12,000	44.29	0.01575	0.03307	10,000	28.35	0.01417	0.03307
3	25	12,000	44.29	0.01575	0.03307	10,000	28.35	0.01417	0.03307
3	30	10,800	36.93	0.01575	0.03307	9,000	23.62	0.01417	0.03307
4	10	10,800	118.11	0.03937	0.05118	9,000	75.59	0.03543	0.05118
4	15	10,800	9.84	0.03937	0.05118	9,000	56.69	0.03543	0.05118
4	20	4,800	59.06	0.03937	0.05118	7,000	37.80	0.03543	0.05118
4	25	4,800	59.06	0.03937	0.05118	7,000	37.80	0.03543	0.05118
4	30	4,800	59.06	0.03150	0.05118	7,000	37.80	0.02756	0.05118
4	40	6,000	36.93	0.02756	0.05118	5,000	23.62	0.02362	0.05118
6	10	10,800	132.87	0.04724	0.07087	9,000	85.04	0.04331	0.07087
6	15	10,800	132.87	0.04724	0.07087	9,000	85.04	0.04331	0.07087
6	20	8,400	73.82	0.04724	0.07087	7,000	47.24	0.04331	0.07087
6	30	7,200	73.82	0.04724	0.07087	6,000	47.24	0.04331	0.07087
6	50	6,000	44.29	0.03150	0.07087	5,000	28.35	0.02756	0.07087

1. Use a rigid and precise machine and holder.
2. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
3. Use a water soluble fluid.
4. Use a non-water-soluble cutting fluid if the machined surface and accuracy are of critical importance.
5. Always use a cutting fluid recommended by the cutting fluid manufacturer as the workpiece may discolor.

List 9510 - EXOPRO® PHX : Deep Feed, Ball Nose
List 9590 - EXOPRO® PHX : 3 Flute, Long Neck, Ball Nose
List 9581 - EXOPRO® PHX : Pencil-Neck, Deep-Feed, Ball Nose

Side Milling

Hardness			<38 HRC				38-53 HRC				<53 HRC				<55 HRC				
Work Material			Hardened and Pre-hardened Steels																
Cutting Speed			60-400 SFM				60-310 SFM				105-250 SFM				62-410 SFM				
R (mm)	L/D	Recom'd Cutting Angle	Speed (RPM)	Feed (in/min)	DOC (in) Aa	DOC (in) Ar	Speed (RPM)	Feed (in/min)	DOC (in) Aa	DOC (in) Ar	Speed (RPM)	Feed (in/min)	DOC (in) Aa	DOC (in) Ar	Speed (RPM)	Feed (in/min)	DOC (in) Aa	DOC (in) Ar	Clearance (in)
0.5	6	0.3°	18,000	39.4	0.0020	0.0063	18,000	35.4	0.0020	0.0063	18,000	11.0	0.0003	0.0012	18,000	47.2	0.0012	0.0012	0.0020
	10	0.3°	16,000	31.5	0.0016	0.0063	16,000	31.5	0.0016	0.0063	16,000	4.7	0.0001	0.0118	16,000	39.4	0.0012	0.0012	0.0012
	15	0.3°	8,000	16.5	0.0012	0.0063	8,000	16.5	0.0012	0.0063	-	-	-	-	8,000	19.7	0.0012	0.0012	0.0012
	20	0.3°	6,000	11.8	0.0008	0.0047	6,000	11.8	0.0008	0.0047	-	-	-	-	6,000	15.0	0.0012	0.0012	0.0012
	25	0.3°	6,000	5.1	0.0008	0.0031	6,000	5.1	0.0008	0.0031	-	-	-	-	6,000	13.8	0.0012	0.0012	0.0012
	30	0.3°	6,000	3.5	0.0004	0.0020	6,000	3.5	0.0004	0.0020	-	-	-	-	6,000	9.8	0.0012	0.0012	0.0012
0.75	6	0.3°	18,000	59.1	0.0039	0.0118	16,000	51.2	0.0039	0.0118	16,000	25.6	0.0028	0.0059	18,000	43.3	0.0016	0.0016	0.0020
	10	0.3°	15,000	43.3	0.0024	0.0098	15,000	37.4	0.0024	0.0098	15,000	12.6	0.0004	0.0039	15,000	35.4	0.0016	0.0016	0.0012
	16	0.3°	7,500	9.1	0.0008	0.0079	7,500	7.9	0.0008	0.0079	7,500	11.8	0.0003	0.0020	7,500	17.7	0.0016	0.0016	0.0012
1.0	6	0.3°	18,000	63.0	0.0079	0.0236	15,000	55.1	0.0079	0.0157	12,000	23.6	0.0059	0.0059	15,000	708.7	0.0024	0.0020	0.0039
	10	0.3°	12,000	49.2	0.0055	0.0157	12,000	43.3	0.0055	0.0157	12,000	23.6	0.0039	0.0020	12,000	59.1	0.0024	0.0020	0.0028
	15	0.3°	7,800	32.3	0.0055	0.0157	7,800	30.7	0.0055	0.0157	7,800	17.7	0.0028	0.0020	7,800	38.6	0.0024	0.0020	0.0028
	20	0.3°	6,200	25.6	0.0051	0.0157	6,200	23.6	0.0051	0.0118	6,200	13.4	0.0020	0.0020	6,200	23.6	0.0024	0.0020	0.0020
	25	0.3°	4,700	19.7	0.0047	0.0118	4,700	19.7	0.0047	0.0118	-	-	-	-	4,700	17.7	0.0024	0.0020	0.0020
	30	0.3°	3,500	15.7	0.0039	0.0118	3,500	15.7	0.0039	0.0118	-	-	-	-	3,500	17.7	0.0024	0.0020	0.0020
	35	0.3°	3,500	15.7	0.0028	0.0118	3,500	15.7	0.0028	0.0118	-	-	-	-	3,500	17.7	0.0024	0.0020	0.0012
	40	0.3°	3,500	11.8	0.0028	0.0098	3,500	11.8	0.0028	0.0098	-	-	-	-	3,500	17.7	0.0024	0.0020	0.0012
	45	0.3°	3,500	7.9	0.0028	0.0079	3,500	7.9	0.0028	0.0079	-	-	-	-	3,500	17.7	0.0024	0.0020	0.0012
	50	0.3°	3,500	5.9	0.0024	0.0039	3,500	5.9	0.0024	0.0039	-	-	-	-	3,500	17.7	0.0024	0.0020	0.0012
	60	0.3°	3,500	5.9	0.0020	0.0039	3,500	5.9	0.0020	0.0039	-	-	-	-	3,500	17.7	0.0024	0.0020	0.0012
1.5	10	0.3°	12,000	74.8	0.0083	0.0197	8,000	47.2	0.0083	0.0197	8,000	27.6	0.0051	0.0039	11,000	80.7	0.0035	0.0031	0.0039
	15	0.3°	10,000	61.0	0.0079	0.0197	8,000	47.2	0.0079	0.0197	8,000	21.7	0.0039	0.0039	10,000	74.8	0.0035	0.0031	0.0028
	20	0.3°	7,500	45.3	0.0075	0.0197	7,200	43.3	0.0075	0.0197	7,200	18.9	0.0024	0.0028	7,500	55.1	0.0035	0.0031	0.0028
	25	0.3°	4,800	29.5	0.0075	0.0197	4,600	27.6	0.0075	0.0197	4,600	12.6	0.0016	0.0020	4,800	35.4	0.0035	0.0031	0.0020
	30	0.3°	4,000	24.8	0.0063	0.0157	3,400	19.7	0.0063	0.0157	3,400	9.4	0.0008	0.0012	3,800	28.3	0.0035	0.0031	0.0012
	40	0.3°	2,800	17.3	0.0051	0.0157	2,600	15.7	0.0051	0.0157	-	-	-	-	2,600	19.7	0.0035	0.0031	0.0012
	50	0.3°	2,200	13.8	0.0039	0.0157	2,200	11.8	0.0039	0.0157	-	-	-	-	2,200	15.7	0.0035	0.0031	0.0012
	60	0.3°	2,200	13.8	0.0028	0.0157	2,200	11.8	0.0028	0.0157	-	-	-	-	2,200	15.7	0.0035	0.0031	0.0012
2.0	10	0.5°	9,600	78.7	0.0118	0.0236	6,000	49.2	0.0118	0.0236	6,000	31.5	0.0059	0.0039	9,500	94.5	0.0047	0.0039	0.0039
	15	0.5°	9,300	74.8	0.0106	0.0236	6,000	47.2	0.0106	0.0236	6,000	31.5	0.0047	0.0039	9,000	88.6	0.0047	0.0039	0.0039
	20	0.5°	7,600	61.0	0.0098	0.0236	6,000	45.3	0.0098	0.0236	6,000	27.6	0.0039	0.0028	8,200	80.7	0.0047	0.0039	0.0039
	25	0.5°	6,100	49.2	0.0091	0.0236	5,500	43.3	0.0091	0.0236	5,500	17.7	0.0020	0.0028	5,500	53.1	0.0047	0.0039	0.0028
	30	0.5°	5,000	41.3	0.0079	0.0236	4,500	31.5	0.0079	0.0236	4,500	13.8	0.0012	0.0020	4,500	43.3	0.0047	0.0039	0.0028
	35	0.5°	3,600	29.5	0.0063	0.0197	3,600	25.6	0.0063	0.0197	3,600	11.0	0.0004	0.0012	3,600	35.4	0.0047	0.0039	0.0020
	40	0.5°	3,000	24.8	0.0047	0.0197	3,000	21.7	0.0047	0.0197	3,000	5.9	0.0003	0.0004	3,000	29.5	0.0047	0.0039	0.0020
	45	0.5°	2,700	21.7	0.0039	0.0157	2,700	19.7	0.0039	0.0157	-	-	-	-	2,700	26.8	0.0047	0.0039	0.0012
	50	0.5°	2,500	20.5	0.0039	0.0157	2,500	17.7	0.0039	0.0157	-	-	-	-	2,500	24.8	0.0047	0.0039	0.0012
	60	0.5°	2,100	16.9	0.0031	0.0157	2,100	15.7	0.0031	0.0157	-	-	-	-	2,100	20.9	0.0047	0.0039	0.0012
2.5	10	0.5°	7,700	74.8	0.0138	0.0315	4,800	43.3	0.0138	0.0315	4,800	35.4	0.0079	0.0039	7,700	94.5	0.0059	0.0472	0.0039
	15	0.5°	7,700	74.8	0.0118	0.0315	4,800	39.4	0.0118	0.0315	4,800	33.5	0.0063	0.0039	6,100	74.8	0.0059	0.0472	0.0039
	20	0.5°	7,700	70.9	0.0118	0.0315	4,800	37.4	0.0118	0.0315	4,800	27.6	0.0047	0.0028	6,100	74.8	0.0059	0.0472	0.0039
	25	0.5°	5,100	51.2	0.0098	0.0315	4,800	35.4	0.0098	0.0315	4,800	25.6	0.0024	0.0020	5,100	63.0	0.0059	0.0472	0.0028
	30	0.5°	5,100	47.2	0.0079	0.0236	4,800	33.5	0.0079	0.0236	4,800	19.7	0.0012	0.0020	5,100	63.0	0.0059	0.0472	0.0028
	35	0.5°	4,400	43.3	0.0055	0.0236	4,400	29.5	0.0055	0.0236	4,400	15.7	0.0006	0.0012	4,400	53.1	0.0059	0.0472	0.0020
	40	0.5°	3,100	29.5	0.0039	0.0236	3,100	25.6	0.0039	0.0236	3,100	10.2	0.0003	0.0012	3,100	37.4	0.0059	0.0472	0.0020

1. The above mentioned conditions according to projection lengths are intended as general guidelines for reference only. Adjustments should be made based on actual milling conditions.
2. For 0.5R - 2.5R, the machining conditions are based on chucking the tool up to the base of the neck.
3. Highly rigid machines and tool holders should be used.
4. Tool vibrations should be kept at a minimum level for maximum accuracy.
5. In the case of linear machining, do not use the Ar value, instead refer to the Aa value.
6. More stable high-feed machining in the corners can be attained by setting an R insertion or decelleration on the CAM or machine side.
7. When cutting load fluctuates (in the corners, etc.) or when high-precision is required, be sure to control the rotational speed.
8. When cutting at greater than the recommended cutting angle, reduce the feed.

CONTINUED

List 9510 - EXOPRO® PHX : Deep Feed, Ball Nose (Continued)
List 9590 - EXOPRO® PHX : 3 Flute, Long Neck, Ball Nose (Continued)
List 9581 - EXOPRO® PHX : Pencil-Neck, Deep-Feed, Ball Nose (Continued)

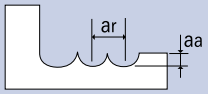
Side Milling

Hardness			<38 HRC				38-53 HRC				<53 HRC				<55 HRC				
Work Material			Hardened and Pre-hardened Steels																
Cutting Speed			60-400 SFM				60-310 SFM				105-250 SFM				62-410 SFM				
R (mm)	L/D	Recom'd Cutting Angle	Speed (RPM)	Feed (in/min)	DOC (in)		Speed (RPM)	Feed (in/min)	DOC (in)		Speed (RPM)	Feed (in/min)	DOC (in)		Speed (RPM)	Feed (in/min)	DOC (in)		Clearance (in)
					Aa	Ar			Aa	Ar			Aa	Ar			Aa	Ar	
3.0	24	0.5°	6,400	74.8	0.0169	0.0472	4,000	47.2	0.0118	0.0394	4,000	35.4	0.0118	0.0039	6,500	57.1	0.0071	0.0063	0.0039
	30	0.5°	5,100	59.1	0.0134	0.0472	4,000	45.3	0.0118	0.0394	4,000	35.4	0.0098	0.0039	5,100	76.8	0.0071	0.0063	0.0039
	36	0.5°	4,200	49.2	0.0150	0.0472	4,000	43.3	0.0118	0.0394	4,000	29.5	0.0079	0.0028	4,200	62.2	0.0071	0.0063	0.0028
	42	0.5°	3,700	41.3	0.0079	0.0354	3,700	39.4	0.0079	0.0394	3,700	19.7	0.0059	0.0020	3,700	55.1	0.0071	0.0063	0.0028
	48	0.5°	3,600	29.5	0.0059	0.0354	2,600	27.6	0.0059	0.0315	2,600	15.7	0.0039	0.0012	2,600	38.6	0.0071	0.0063	0.0020
	54	0.5°	2,100	24.8	0.0039	0.0315	2,100	23.6	0.0039	0.0315	2,100	9.4	0.0020	0.0012	2,100	31.5	0.0071	0.0063	0.0020
	66	0.5°	1,900	21.7	0.0031	0.0276	1,900	19.7	0.0031	0.0276	-	-	-	-	1,900	27.6	0.0071	0.0063	0.0012
	80	0.5°	1,700	17.7	0.0031	0.0236	1,700	15.7	0.0031	0.0236	-	-	-	-	1,700	25.6	0.0071	0.0063	0.0012
4.0	30	0.5°	4,800	90.6	0.0177	0.0591	3,000	49.6	0.0118	0.0591	3,000	41.3	0.0118	0.0059	4,800	94.5	0.0094	0.0083	0.0039
	40	0.5°	3,800	70.9	0.0150	0.0512	3,000	47.2	0.0118	0.0512	3,000	41.3	0.0118	0.0039	3,800	74.8	0.0094	0.0083	0.0039
	48	0.5°	3,200	59.1	0.0110	0.0472	3,000	43.3	0.0098	0.0472	3,000	35.4	0.0098	0.0039	3,200	63.0	0.0094	0.0083	0.0028
	56	0.5°	2,700	51.2	0.0079	0.0433	2,700	39.4	0.0079	0.0433	2,700	31.5	0.0079	0.0028	2,700	53.1	0.0094	0.0083	0.0028
	64	0.5°	1,900	35.4	0.0079	0.0394	1,900	27.6	0.0067	0.0394	1,900	19.7	0.0067	0.0028	1,900	37.4	0.0094	0.0083	0.0020
	80	0.5°	1,500	27.6	0.0059	0.0315	1,500	21.7	0.0055	0.0315	-	-	-	-	1,500	29.5	0.0094	0.0083	0.0012
	100	0.5°	1,200	23.6	0.0059	0.0315	1,200	15.7	0.0039	0.0315	-	-	-	-	1,200	23.6	0.0094	0.0083	0.0012
	120	0.5°	1,000	19.7	0.0039	0.0276	1,000	13.8	0.0028	0.0276	-	-	-	-	1,000	19.7	0.0094	0.0083	0.0012
5.0	35	0.5°	3,800	90.6	0.0256	0.0709	2,400	39.4	0.0157	0.0630	2,400	33.5	0.0157	0.0059	3,800	94.5	0.0118	0.0106	0.0039
	50	0.5°	3,100	74.8	0.0217	0.0709	2,400	39.4	0.0118	0.0630	2,400	33.5	0.0118	0.0059	3,100	76.8	0.0118	0.0106	0.0039
	60	0.5°	2,500	59.1	0.0181	0.0630	2,400	39.4	0.0118	0.0591	2,400	33.5	0.0118	0.0039	2,500	61.0	0.0118	0.0106	0.0039
	70	0.5°	2,200	51.2	0.0134	0.0630	2,200	35.4	0.0118	0.0591	2,200	31.5	0.0118	0.0039	2,200	53.1	0.0118	0.0106	0.0028
	80	0.5°	1,500	31.5	0.0094	0.0630	1,500	23.6	0.0079	0.0591	1,500	23.6	0.0079	0.0028	1,500	37.4	0.0118	0.0106	0.0028
	100	0.5°	1,200	23.6	0.0059	0.0591	1,200	19.7	0.0047	0.0591	1,200	19.7	0.0047	0.0028	1,200	29.5	0.0118	0.0106	0.0020
	120	0.5°	1,050	19.7	0.0039	0.0512	1,000	15.7	0.0039	0.0512	-	-	-	-	1,050	25.6	0.0118	0.0106	0.0020
	140	0.5°	850	15.7	0.0028	0.0512	800	13.8	0.0028	0.0512	-	-	-	-	850	19.7	0.0118	0.0106	0.0012
	160	0.5°	700	12.6	0.0028	0.0394	700	11.8	0.0028	0.0394	-	-	-	-	700	17.7	0.0118	0.0106	0.0012
6.0	45	0.5°	3,200	66.9	0.0315	0.0787	2,000	31.5	0.0315	0.0709	2,000	31.5	0.0236	0.0059	3,200	94.5	0.0142	0.0126	0.0059
	60	0.5°	2,500	51.2	0.0256	0.0787	2,000	31.5	0.0256	0.0709	2,000	31.5	0.0197	0.0059	2,500	74.8	0.0142	0.0126	0.0059
	70	0.5°	2,100	43.3	0.0224	0.0787	2,000	31.5	0.0224	0.0709	2,000	31.5	0.0197	0.0039	2,100	63.0	0.0142	0.0126	0.0039
	85	0.5°	1,800	37.4	0.0165	0.0709	1,500	23.6	0.0165	0.0669	1,500	23.6	0.0157	0.0039	1,800	53.1	0.0142	0.0126	0.0039
	100	0.5°	1,300	27.2	0.0118	0.0709	1,200	19.7	0.0118	0.0669	1,200	19.7	0.0118	0.0039	1,300	38.6	0.0142	0.0126	0.0039
	120	0.5°	1,000	20.9	0.0098	0.0591	1,000	16.5	0.0098	0.0591	-	-	-	-	1,000	29.5	0.0142	0.0126	0.0020
	140	0.5°	900	18.5	0.0079	0.0591	900	15.0	0.0079	0.0591	-	-	-	-	900	26.8	0.0142	0.0126	0.0020
	160	0.5°	700	14.6	0.0059	0.0512	700	11.8	0.0059	0.0512	-	-	-	-	700	20.9	0.0142	0.0126	0.0020
8.0	55	0.5°	2,400	63.0	0.0394	0.0866	1,500	23.6	0.0394	0.0709	1,500	23.6	0.0315	0.0059	2,400	94.5	0.0189	0.0157	0.0079
	80	0.5°	1,900	49.2	0.0354	0.0866	1,500	23.6	0.0354	0.0709	1,500	23.6	0.0315	0.0059	1,900	74.8	0.0189	0.0157	0.0059
	90	0.5°	1,600	41.3	0.0295	0.0866	1,500	23.6	0.0295	0.0709	1,500	23.6	0.0276	0.0039	1,600	63.0	0.0189	0.0157	0.0039
	105	0.5°	1,400	35.4	0.0217	0.0787	1,400	22.4	0.0217	0.0669	1,400	22.4	0.0197	0.0028	1,400	55.1	0.0189	0.0157	0.0028
	120	0.5°	1,000	25.6	0.0157	0.0787	1,000	16.5	0.0157	0.0669	1,000	16.5	0.0157	0.0020	1,000	39.4	0.0189	0.0157	0.0020
10.0	70	0.5°	1,900	59.1	0.0472	0.1417	1,200	19.7	0.0472	0.0709	1,200	19.7	0.0315	0.0059	1,900	94.5	0.0236	0.0197	0.0079
	90	0.5°	1,500	47.2	0.0433	0.1417	1,200	19.7	0.0433	0.0709	1,200	19.7	0.0315	0.0059	1,500	74.8	0.0236	0.0197	0.0059
	110	0.5°	1,300	39.4	0.0354	0.1378	1,200	19.7	0.0354	0.0709	1,200	19.7	0.0315	0.0039	1,300	63.0	0.0236	0.0197	0.0039
	130	0.5°	1,100	33.5	0.0276	0.1339	1,100	17.7	0.0276	0.0709	1,100	17.7	0.0276	0.0039	1,100	55.1	0.0236	0.0197	0.0028
	150	0.5°	760	23.6	0.0197	0.1299	760	12.6	0.0197	0.0709	760	12.6	0.0197	0.0028	760	37.4	0.0236	0.0197	0.0020

1. The above mentioned conditions according to projection lengths are intended as general guidelines for reference only. Adjustments should be made based on actual milling conditions.
2. For 0.5R - 2.5R, the machining conditions are based on chucking the tool up to the base of the neck.
3. Highly rigid machines and tool holders should be used.
4. Tool vibrations should be kept at a minimum level for maximum accuracy.
5. In the case of linear machining, do not use the Ar value, instead refer to the Aa value.
6. More stable high-feed machining in the corners can be attained by setting an R insertion or decelleration on the CAM or machine side.
7. When cutting load fluctuates (in the corners, etc.) or when high-precision is required, be sure to control the rotational speed.
8. When cutting at greater than the recommended cutting angle, reduce the feed.

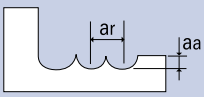
List 3610 - EXOCARB® WXL®: Ball End, Regular Length, 2 Flute

Standard Milling

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Aluminum Copper Alloy		Cast Iron, Carbon Steel, Alloy Steels, Stainless, Die Steels		Hardened Steels Pre-hardened Steels, P20, H13, S7, A2			
Cutting Speed	388 SFM		324 SFM		263 SFM		233 SFM	
Depth of Cut	Dia / aa / ar: D<1/16: 0.05D / 0.2D; 1/16≤D≤1/2: 0.10D / 0.2D 				aa=0.1D ar=0.2D		aa=0.05D ar=0.10D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	25,000	35.0	25,000	35.0	32,149	35.0	28,482	30.0
1/16	23,715	61.7	19,803	51.5	16,075	41.8	14,241	34.2
3/32	15,810	60.1	13,202	50.2	10,716	40.7	9,494	34.2
1/8	11,857	56.9	9,901	47.5	8,037	38.6	7,120	31.3
5/32	9,486	57.7	7,921	48.2	6,430	39.1	5,696	32.3
3/16	7,905	58.5	6,601	48.8	5,358	39.7	4,747	33.2
1/4	5,929	54.5	4,951	45.5	4,019	37.0	3,560	32.0
5/16	4,743	56.9	3,961	47.5	3,215	38.6	2,848	32.5
3/8	3,952	55.3	3,300	46.2	2,679	37.5	2,373	28.5
1/2	2,964	51.6	2,475	43.1	2,009	35.0	1,780	30.6

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

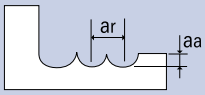
High Speed Light Milling

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Cast Iron, Carbon Steel, Alloy Steels, Stainless, Die Steels		Hardened Steels Pre-hardened Steels, P20, H13, S7, A2			
Cutting Speed	659 SFM		713 SFM		651 SFM		561 SFM	
Depth of Cut	aa=0.02D ar=0.05D		Dia / aa / ar: D≤3/16: 0.02D / 0.05D; 1/4≤D≤3/8: 0.05D / 0.10D; D=1/2: 0.40D / 0.20D 				aa=0.02D ar=0.05D	
Mill Diameter	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	25,000	35.0	25,000	35.0	25,000	35.0	25,000	30.0
1/16	25,000	65.0	25,000	65.0	25,000	65.0	25,000	60.0
3/32	25,000	95.0	25,000	95.0	25,000	95.0	22,859	82.3
1/8	20,139	96.7	21,789	104.6	19,895	95.5	17,144	75.4
5/32	16,111	98.0	17,431	106.0	15,916	96.8	13,715	77.7
3/16	13,426	99.4	14,526	107.5	13,263	98.1	11,429	80.0
1/4	10,070	92.6	10,895	100.2	9,947	91.5	8,572	77.1
5/16	8,056	96.7	8,716	104.6	7,958	95.5	6,858	78.2
3/8	6,713	94.0	7,263	101.7	6,632	92.8	5,715	68.6
1/2	5,035	87.6	5,447	94.8	4,974	86.5	4,286	73.7

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

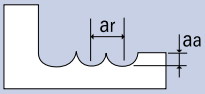
List 3710 - EXOCARB® WXL®: Ball End, Regular Length, 2 Flute

Standard Milling

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Cast Iron, Carbon Steel, Alloy Steels, Stainless, Die Steels		Hardened Steels Pre-hardened Steels, P20, H13, S7, A2			
Cutting Speed	388 SFM		324 SFM		263 SFM		233 SFM	
Depth of Cut	a_a=0.05D a_r=0.10D				a_a=0.03D a_r=0.10D		a_a=0.02D a_r=0.05D	
Mill Diameter	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.1	25,000	5.0	25,000	5.0	25,000	5.0	25,000	5.0
0.2	25,000	10.0	25,000	10.0	25,000	10.0	25,000	10.0
0.4	25,000	20.0	25,000	20.0	25,000	20.0	25,000	15.0
0.6	25,000	30.0	25,000	30.0	25,000	30.0	25,000	21.0
0.8	25,000	40.0	25,000	40.0	25,000	40.0	25,000	27.5
1.0	25,000	45.0	25,000	45.0	25,000	45.0	22,610	31.7
2.0	18,830	60.3	15,720	50.3	12,760	40.8	11,310	29.4
3.0	12,550	67.8	10,480	56.6	8,510	46.0	7,540	33.2
4.0	9,410	73.4	7,860	61.3	6,380	49.8	5,650	40.7
6.0	6,280	67.8	5,240	56.6	4,250	45.9	3,770	33.2
8.0	4,710	63.1	3,930	52.7	3,190	42.7	2,830	31.7
10.0	3,770	57.3	3,140	47.7	2,550	38.8	2,260	28.0
12.0	3,140	56.5	2,620	47.2	2,130	38.3	1,880	29.3
16.0	2,350	42.3	1,970	35.5	1,600	28.8	1,410	22.0
20.0	1,880	33.8	1,570	28.3	1,280	23.0	1,130	17.6

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

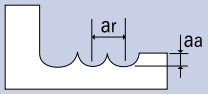
High Speed Light Milling

Hardness	–		<32 HRC		33-41 HRC		42-50 HRC	
Work Material	Copper Copper Alloy		Cast Iron, Carbon Steel, Alloy Steels, Stainless, Die Steels		Hardened Steels Pre-hardened Steels, P20, H13, S7, A2			
Cutting Speed	659 SFM		713 SFM		651 SFM		561 SFM	
Depth of Cut	a_a=0.02D a_r=0.05D				a_a=0.02D a_r=0.05D		a_a=0.01D a_r=0.05D	
Mill Diameter	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1.0	25,000	45.0	25,000	45.0	25,000	45.0	25,000	35.0
2.0	25,000	80.0	25,000	80.0	25,000	80.0	25,000	65.0
3.0	21,320	115.1	23,060	124.5	21,060	113.7	18,150	79.9
4.0	15,990	124.7	17,300	134.9	15,790	123.2	13,610	98.0
6.0	10,660	115.1	11,530	124.5	10,530	113.7	9,070	79.8
8.0	8,000	107.2	8,650	115.9	7,900	105.9	6,810	76.3
10.0	6,400	97.3	6,920	105.2	6,320	96.1	5,450	67.6
12.0	5,330	95.9	5,770	103.9	5,270	94.9	4,540	70.8
16.0	4,000	72.0	4,330	77.9	3,950	71.1	3,400	53.0
20.0	3,200	57.6	3,460	62.3	3,160	56.9	2,720	42.4

1. The indicated speeds and feeds are for high speed light milling for use with high speed/high precision machining centers.
2. Do not use flammable fluids because tools with considerable wear can cause sparks.
3. We recommend using air blow. When using cutting fluids, use a high quality fluid with high smoke retardant.

List 3690 : Ball End, Regular Length, 2 Flute, Long Neck, Rib Processing
List 3790 : Ball End, Regular Length, 2 Flute, Long Neck, Rib Processing

Standard Milling

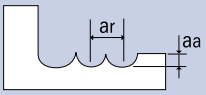
Hardness	–				<32 HRC				33-41 HRC				42-50 HRC			
Work Material	Aluminum Copper Alloy				Cast Iron, Carbon Steel, Alloy Steel, Stainless Steel, Die Steel				Prehardened & Hardened Steel							
Cutting Speed	90-460 SFM				80-340 SFM				80-280 SFM				80-280 SFM			
Depth of Cut																
Mill Dia.	L1 (mm)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)
0.1	0.3	25,000	4.6	0.0002	0.0002	25,000	2.3	0.0002	0.0002	25,000	1.5	0.0002	0.0002	25,000	1.1	0.0002	0.0002
0.1	0.5	25,000	3.7	0.0002	0.0002	25,000	1.8	0.0002	0.0002	25,000	1.2	0.0002	0.0002	25,000	0.8	0.0002	0.0002
0.2	0.3	25,000	9.2	0.0008	0.0008	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0002	0.0002
0.2	0.5	25,000	9.2	0.0008	0.0008	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0002	0.0002
0.2	0.75	25,000	9.2	0.0008	0.0008	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004	25,000	3.1	0.0002	0.0002
0.2	1	25,000	4.6	0.0008	0.0008	25,000	3.1	0.0004	0.0004	25,000	3.1	0.0004	0.0004	25,000	2.5	0.0002	0.0002
0.2	1.25	25,000	4.6	0.0008	0.0008	25,000	3.1	0.0004	0.0004	25,000	3.1	0.0004	0.0004	25,000	2.5	0.0002	0.0002
0.2	1.5	25,000	4.6	0.0008	0.0008	25,000	3.1	0.0004	0.0004	25,000	3.1	0.0004	0.0004	25,000	2.5	0.0002	0.0002
0.2	1.75	25,000	4.6	0.0008	0.0008	25,000	3.1	0.0004	0.0004	25,000	3.1	0.0004	0.0004	25,000	2.5	0.0002	0.0002
0.2	2	25,000	4.6	0.0004	0.0004	25,000	3.1	0.0002	0.0002	25,000	3.1	0.0002	0.0002	25,000	2.5	0.0002	0.0002
0.2	2.5	25,000	2.3	0.0004	0.0004	25,000	1.5	0.0002	0.0002	25,000	1.5	0.0002	0.0002	25,000	1.2	0.0001	0.0002
0.2	3	25,000	2.3	0.0004	0.0004	25,000	1.5	0.0002	0.0002	25,000	1.5	0.0002	0.0002	25,000	1.2	0.0001	0.0002
0.3	0.5	25,000	18.5	0.0008	0.0012	25,000	12.3	0.0004	0.0006	25,000	9.2	0.0004	0.0006	25,000	9.2	0.0002	0.0002
0.3	0.6	25,000	18.5	0.0008	0.0012	25,000	12.3	0.0004	0.0006	25,000	9.2	0.0004	0.0006	25,000	9.2	0.0002	0.0002
0.3	0.75	25,000	18.5	0.0008	0.0012	25,000	12.3	0.0004	0.0006	25,000	9.2	0.0004	0.0006	25,000	9.2	0.0002	0.0002
0.3	1	25,000	13.8	0.0008	0.0012	25,000	9.2	0.0004	0.0006	25,000	6.2	0.0004	0.0006	25,000	6.2	0.0002	0.0002
0.3	1.25	25,000	13.8	0.0008	0.0012	25,000	9.2	0.0004	0.0006	25,000	6.2	0.0004	0.0006	25,000	6.2	0.0002	0.0002
0.3	1.5	25,000	13.8	0.0008	0.0012	25,000	9.2	0.0004	0.0006	25,000	6.2	0.0004	0.0006	25,000	6.2	0.0002	0.0002
0.3	1.75	25,000	13.8	0.0008	0.0012	25,000	9.2	0.0004	0.0006	25,000	6.2	0.0004	0.0006	25,000	6.2	0.0002	0.0002
0.3	2	25,000	13.8	0.0008	0.0012	25,000	9.2	0.0004	0.0006	25,000	6.2	0.0004	0.0006	25,000	6.2	0.0002	0.0002
0.3	2.25	25,000	13.8	0.0008	0.0008	25,000	9.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004
0.3	2.5	25,000	13.8	0.0008	0.0008	25,000	9.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004
0.3	2.75	25,000	13.8	0.0008	0.0008	25,000	9.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004
0.3	3	25,000	13.8	0.0008	0.0008	25,000	9.2	0.0004	0.0004	25,000	6.2	0.0004	0.0004	25,000	6.2	0.0002	0.0004
0.3	3.5	25,000	8.3	0.0008	0.0008	25,000	5.5	0.0004	0.0004	25,000	3.7	0.0004	0.0004	25,000	3.7	0.0002	0.0004
0.3	4	25,000	8.3	0.0008	0.0008	25,000	5.5	0.0004	0.0004	25,000	3.7	0.0004	0.0004	25,000	3.7	0.0002	0.0002
0.3	4.5	25,000	8.3	0.0008	0.0008	25,000	5.5	0.0004	0.0004	25,000	3.7	0.0004	0.0004	25,000	3.7	0.0001	0.0002
0.3	5	25,000	4.6	0.0004	0.0008	25,000	3.1	0.0002	0.0004	25,000	2.2	0.0002	0.0004	25,000	2.2	0.0001	0.0002
0.4	0.5	25,000	23.1	0.0010	0.0020	25,000	15.4	0.0006	0.0010	25,000	12.3	0.0006	0.0008	25,000	12.3	0.0004	0.0004
0.4	0.75	25,000	23.1	0.0010	0.0020	25,000	15.4	0.0006	0.0010	25,000	12.3	0.0006	0.0008	25,000	12.3	0.0004	0.0004
0.4	1	25,000	18.5	0.0010	0.0020	25,000	12.3	0.0006	0.0010	25,000	9.2	0.0006	0.0008	25,000	9.2	0.0004	0.0004
0.4	1.5	25,000	18.5	0.0010	0.0020	25,000	12.3	0.0006	0.0010	25,000	9.2	0.0006	0.0008	25,000	9.2	0.0004	0.0004
0.4	2	25,000	16.4	0.0010	0.0020	25,000	10.9	0.0006	0.0010	25,000	7.3	0.0006	0.0008	25,000	7.3	0.0004	0.0004
0.4	2.5	25,000	16.4	0.0010	0.0020	25,000	10.9	0.0006	0.0010	25,000	7.3	0.0006	0.0008	25,000	7.3	0.0004	0.0004
0.4	3	25,000	16.4	0.0010	0.0020	25,000	10.9	0.0006	0.0010	25,000	7.3	0.0006	0.0008	25,000	7.3	0.0004	0.0004
0.4	3.5	25,000	16.4	0.0010	0.0020	25,000	10.9	0.0006	0.0010	25,000	7.3	0.0006	0.0008	25,000	7.3	0.0004	0.0004
0.4	4	25,000	16.4	0.0004	0.0012	25,000	10.9	0.0002	0.0006	25,000	7.3	0.0002	0.0005	25,000	7.3	0.0002	0.0004
0.4	4.5	24,000	11.8	0.0004	0.0012	25,000	7.3	0.0002	0.0006	25,000	3.6	0.0002	0.0005	25,000	3.6	0.0002	0.0004
0.4	5	24,000	11.8	0.0004	0.0012	25,000	7.3	0.0002	0.0006	25,000	3.6	0.0002	0.0005	25,000	3.6	0.0002	0.0004
0.4	5.5	21,000	11.8	0.0004	0.0008	25,000	7.3	0.0002	0.0004	25,000	3.6	0.0002	0.0003	25,000	3.6	0.0002	0.0002
0.4	6	21,000	5.9	0.0004	0.0006	25,000	3.6	0.0002	0.0003	25,000	2.9	0.0002	0.0002	25,000	2.9	0.0001	0.0002
0.5	1	25,000	23.1	0.0016	0.0020	25,000	15.4	0.0008	0.0010	25,000	12.3	0.0008	0.0008	25,000	12.3	0.0004	0.0004
0.5	1.5	25,000	23.1	0.0016	0.0020	25,000	15.4	0.0008	0.0010	25,000	12.3	0.0008	0.0008	25,000	12.3	0.0004	0.0004
0.5	2	25,000	18.5	0.0016	0.0020	25,000	12.3	0.0008	0.0010	25,000	9.2	0.0008	0.0008	25,000	9.2	0.0004	0.0004
0.5	2.5	25,000	16.4	0.0016	0.0020	25,000	10.9	0.0008	0.0010	25,000	7.3	0.0008	0.0008	25,000	7.3	0.0004	0.0004
0.5	3	25,000	16.4	0.0016	0.0020	25,000	10.9	0.0008	0.0010	25,000	7.3	0.0008	0.0008	25,000	7.3	0.0004	0.0004
0.5	3.5	25,000	16.4	0.0016	0.0020	25,000	10.9	0.0008	0.0010	25,000	7.3	0.0008	0.0008	25,000	7.3	0.0004	0.0004
0.5	4	25,000	16.4	0.0016	0.0020	25,000	10.9	0.0008	0.0010	25,000	7.3	0.0008	0.0008	25,000	7.3	0.0004	0.0004
0.5	4.5	21,000	11.8	0.0016	0.0020	20,000	7.9	0.0008	0.0010	20,000	7.9	0.0008	0.0008	20,000	7.9	0.0004	0.0004
0.5	5	21,000	11.8	0.0016	0.0020	20,000	7.9	0.0008	0.0010	20,000	5.9	0.0008	0.0008	20,000	5.9	0.0004	0.0004
0.5	5.5	21,000	11.8	0.0008	0.0012	20,000	7.9	0.0004	0.0006	20,000	5.9	0.0004	0.0004	20,000	5.9	0.0004	0.0004
0.5	6	21,000	11.8	0.0008	0.0012	20,000	7.9	0.0004	0.0006	20,000	5.9	0.0004	0.0004	20,000	5.9	0.0004	0.0004
0.5	7	21,000	11.8	0.0008	0.0012	20,000	7.9	0.0004	0.0006	20,000	5.9	0.0004	0.0004	20,000	5.9	0.0004	0.0004

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

CONTINUED

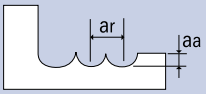
List 3690 : Ball End, Regular Length, 2 Flute, Long Neck, Rib Processing (Continued)
List 3790 : Ball End, Regular Length, 2 Flute, Long Neck, Rib Processing (Continued)

Standard Milling

Hardness	–				<32 HRC				33-41 HRC				42-50 HRC			
Work Material	Aluminum Copper Alloy				Cast Iron, Carbon Steel, Alloy Steel, Stainless Steel, Die Steel				Prehardened & Hardened Steel							
Cutting Speed	90-460 SFM				80-340 SFM				80-280 SFM				80-280 SFM			
Depth of Cut																
Mill Dia.	L1 (mm)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)
0.5	8	21,000	11.8	0.0008	0.0012	15,000	7.9	0.0004	0.0006	15,000	5.9	0.0004	0.0004	15,000	5.9	0.0002	0.0004
0.5	9	18,000	5.9	0.0008	0.0008	15,000	3.9	0.0004	0.0004	15,000	3.1	0.0002	0.0004	15,000	3.1	0.0002	0.0002
0.5	10	18,000	5.9	0.0004	0.0004	15,000	3.9	0.0002	0.0002	15,000	3.1	0.0002	0.0002	15,000	3.1	0.0001	0.0002
0.6	1	25,000	27.7	0.0018	0.0047	25,000	18.5	0.0012	0.0024	25,000	15.4	0.0012	0.0020	25,000	15.4	0.0012	0.0012
0.6	1.5	25,000	27.7	0.0018	0.0047	25,000	18.5	0.0012	0.0024	25,000	15.4	0.0012	0.0020	25,000	15.4	0.0012	0.0012
0.6	2	25,000	20.8	0.0018	0.0047	25,000	13.8	0.0012	0.0024	25,000	9.2	0.0012	0.0020	25,000	9.2	0.0012	0.0012
0.6	2.5	25,000	22.1	0.0018	0.0047	25,000	13.8	0.0012	0.0024	25,000	9.2	0.0012	0.0020	25,000	9.2	0.0012	0.0012
0.6	3	25,000	12.3	0.0018	0.0047	25,000	9.8	0.0012	0.0024	24,000	7.9	0.0012	0.0020	24,000	7.9	0.0012	0.0012
0.6	3.5	25,000	12.3	0.0018	0.0047	25,000	9.8	0.0012	0.0024	24,000	7.9	0.0012	0.0016	24,000	7.9	0.0012	0.0012
0.6	4	25,000	12.3	0.0018	0.0047	25,000	9.8	0.0012	0.0024	24,000	7.9	0.0012	0.0016	24,000	7.9	0.0012	0.0012
0.6	4.5	25,000	12.3	0.0018	0.0047	25,000	9.8	0.0012	0.0024	24,000	7.9	0.0012	0.0016	24,000	7.9	0.0012	0.0012
0.6	5	25,000	12.3	0.0018	0.0047	25,000	9.8	0.0012	0.0024	24,000	7.9	0.0012	0.0016	24,000	7.9	0.0008	0.0008
0.6	5.5	25,000	11.8	0.0018	0.0047	20,000	7.9	0.0012	0.0024	20,000	7.9	0.0012	0.0016	20,000	7.9	0.0008	0.0008
0.6	6	25,000	8.9	0.0018	0.0047	20,000	5.9	0.0012	0.0024	20,000	5.9	0.0012	0.0016	20,000	5.9	0.0008	0.0008
0.6	6.5	25,000	8.9	0.0018	0.0047	20,000	5.9	0.0012	0.0024	20,000	5.9	0.0012	0.0016	20,000	5.9	0.0008	0.0008
0.6	7	25,000	8.9	0.0018	0.0047	20,000	5.9	0.0012	0.0024	20,000	5.9	0.0012	0.0016	20,000	5.9	0.0008	0.0008
0.6	7.5	25,000	8.9	0.0018	0.0047	20,000	5.9	0.0012	0.0024	20,000	5.9	0.0012	0.0016	20,000	5.9	0.0008	0.0008
0.6	8	25,000	8.9	0.0018	0.0047	20,000	5.9	0.0012	0.0024	20,000	5.9	0.0012	0.0016	20,000	5.9	0.0008	0.0008
0.6	8.5	22,000	8.9	0.0018	0.0047	20,000	5.9	0.0012	0.0024	20,000	5.9	0.0008	0.0016	20,000	5.9	0.0004	0.0004
0.6	9	22,000	8.9	0.0012	0.0039	20,000	5.9	0.0008	0.0020	20,000	5.9	0.0008	0.0016	20,000	5.9	0.0004	0.0004
0.6	9.5	22,000	8.9	0.0012	0.0039	17,000	5.9	0.0008	0.0020	17,000	5.9	0.0008	0.0016	17,000	5.9	0.0004	0.0004
0.6	10	20,000	5.9	0.0010	0.0020	17,000	3.9	0.0006	0.0010	17,000	3.9	0.0006	0.0008	17,000	3.9	0.0002	0.0002
0.6	11	20,000	5.9	0.0010	0.0020	17,000	3.9	0.0006	0.0010	17,000	3.9	0.0004	0.0008	17,000	3.9	0.0002	0.0002
0.6	12	20,000	4.7	0.0010	0.0020	17,000	3.1	0.0006	0.0010	17,000	3.1	0.0004	0.0005	17,000	3.1	0.0002	0.0002
0.8	2	25,000	24.6	0.0024	0.0063	23,000	17.7	0.0016	0.0031	21,000	11.8	0.0016	0.0024	21,000	11.8	0.0016	0.0016
0.8	3	25,000	24.6	0.0024	0.0063	23,000	17.7	0.0016	0.0031	21,000	11.8	0.0016	0.0024	21,000	11.8	0.0016	0.0016
0.8	4	25,000	24.6	0.0024	0.0063	23,000	17.7	0.0016	0.0031	21,000	11.8	0.0016	0.0024	21,000	11.8	0.0016	0.0016
0.8	5	24,000	14.8	0.0024	0.0047	21,000	9.8	0.0016	0.0024	19,000	7.9	0.0016	0.0020	19,000	7.9	0.0008	0.0010
0.8	6	24,000	14.8	0.0024	0.0047	21,000	9.8	0.0016	0.0024	19,000	7.9	0.0016	0.0020	19,000	7.9	0.0008	0.0010
0.8	7	24,000	14.8	0.0024	0.0047	21,000	9.8	0.0016	0.0024	19,000	7.9	0.0016	0.0020	19,000	7.9	0.0008	0.0010
0.8	8	22,000	8.9	0.0024	0.0047	19,000	5.9	0.0016	0.0024	17,000	5.9	0.0016	0.0020	17,000	5.9	0.0008	0.0010
0.8	9	22,000	8.9	0.0024	0.0047	19,000	5.9	0.0016	0.0024	17,000	5.9	0.0016	0.0020	17,000	5.9	0.0008	0.0010
0.8	10	22,000	8.9	0.0024	0.0047	19,000	5.9	0.0016	0.0024	17,000	5.9	0.0016	0.0020	17,000	5.9	0.0008	0.0010
0.8	12	20,000	8.9	0.0024	0.0047	19,000	5.9	0.0016	0.0024	17,000	5.9	0.0016	0.0020	17,000	5.9	0.0008	0.0010
1	2.5	25,000	31.6	0.0030	0.0079	25,000	23.6	0.0020	0.0039	21,000	15.7	0.0020	0.0031	21,000	15.7	0.0020	0.0020
1	3	25,000	26.4	0.0030	0.0079	25,000	19.7	0.0020	0.0039	21,000	11.8	0.0020	0.0031	21,000	11.8	0.0020	0.0020
1	4	25,000	26.4	0.0030	0.0079	25,000	19.7	0.0020	0.0039	21,000	11.8	0.0020	0.0031	21,000	11.8	0.0020	0.0020
1	5	21,000	17.7	0.0030	0.0079	19,000	11.8	0.0020	0.0039	16,000	7.9	0.0020	0.0031	16,000	7.9	0.0020	0.0020
1	6	21,000	17.7	0.0030	0.0079	19,000	11.8	0.0020	0.0039	16,000	7.9	0.0020	0.0031	16,000	7.9	0.0020	0.0020
1	7	21,000	17.7	0.0030	0.0059	19,000	11.8	0.0020	0.0030	16,000	7.9	0.0020	0.0024	16,000	7.9	0.0012	0.0012
1	8	21,000	17.7	0.0030	0.0059	19,000	11.8	0.0020	0.0030	16,000	7.9	0.0020	0.0024	16,000	7.9	0.0012	0.0012
1	9	21,000	17.7	0.0030	0.0059	19,000	11.8	0.0020	0.0030	16,000	7.9	0.0020	0.0024	16,000	7.9	0.0012	0.0012
1	10	18,000	11.8	0.0024	0.0047	17,000	7.9	0.0012	0.0020	14,000	5.9	0.0012	0.0016	14,000	5.9	0.0004	0.0006
1	12	18,000	11.8	0.0024	0.0047	17,000	7.9	0.0012	0.0020	14,000	5.9	0.0012	0.0016	14,000	5.9	0.0004	0.0006
1	14	18,000	11.8	0.0024	0.0047	17,000	7.9	0.0012	0.0020	14,000	5.9	0.0012	0.0016	14,000	5.9	0.0004	0.0006
1	16	16,000	11.8	0.0024	0.0047	13,000	7.9	0.0012	0.0020	10,000	5.9	0.0012	0.0016	10,000	5.9	0.0004	0.0006
1	18	16,000	11.8	0.0024	0.0047	13,000	7.9	0.0012	0.0020	10,000	5.9	0.0012	0.0016	10,000	5.9	0.0004	0.0006
1	20	16,000	11.8	0.0024	0.0047	13,000	7.9	0.0012	0.0020	10,000	5.9	0.0012	0.0016	10,000	5.9	0.0004	0.0006
1	22	16,000	8.9	0.0020	0.0020	13,000	5.9	0.0008	0.0010	10,000	3.9	0.0008	0.0008	10,000	3.9	0.0002	0.0002
1.2	4	20,000	29.5	0.0035	0.0094	17,000	19.7	0.0024	0.0047	14,000	11.8	0.0024	0.0039	14,000	11.8	0.0024	0.0024
1.2	6	20,000	17.7	0.0035	0.0094	17,000	11.8	0.0024	0.0047	14,000	7.9	0.0024	0.0039	14,000	7.9	0.0024	0.0024
1.2	8	20,000	17.7	0.0035	0.0094	17,000	11.8	0.0024	0.0047	14,000	7.9	0.0024	0.0039	14,000	7.9	0.0024	0.0024
1.2	10	20,000	17.7	0.0035	0.0071	17,000	11.8	0.0024	0.0035	14,000	7.9	0.0024	0.0028	14,000	7.9	0.0012	0.0012
1.2	12	16,000	11.8	0.0035	0.0071	14,000	7.9	0.0024	0.0035	11,000	5.9	0.0024	0.0028	11,000	5.9	0.0012	0.0012
1.2	14	16,000	11.8	0.0035	0.0071	14,000	7.9	0.0024	0.0035	11,000	5.9	0.0024	0.0028	11,000	5.9	0.0004	0.0012

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

Standard Milling

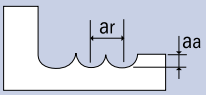
Hardness	–				<32 HRC				33-41 HRC				42-50 HRC			
Work Material	Aluminum Copper Alloy				Cast Iron, Carbon Steel, Alloy Steel, Stainless Steel, Die Steel				Prehardened & Hardened Steel							
Cutting Speed	90-460 SFM				80-340 SFM				80-280 SFM				80-280 SFM			
Depth of Cut																
Mill Dia.	L1 (mm)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)
1.2	16	16,000	11.8	0.0035	0.0071	14,000	7.9	0.0024	0.0035	11,000	5.9	0.0024	0.0028	11,000	5.9	0.0004	0.0012
1.2	18	16,000	11.8	0.0035	0.0071	14,000	7.9	0.0024	0.0035	11,000	5.9	0.0024	0.0028	11,000	5.9	0.0004	0.0012
1.2	20	16,000	11.8	0.0035	0.0071	14,000	7.9	0.0024	0.0035	11,000	5.9	0.0024	0.0028	11,000	5.9	0.0004	0.0012
1.2	24	16,000	11.8	0.0035	0.0071	14,000	7.9	0.0024	0.0035	11,000	5.9	0.0024	0.0028	11,000	5.9	0.0004	0.0012
1.4	8	18,000	17.7	0.0039	0.0110	15,500	11.8	0.0028	0.0055	12,000	9.8	0.0028	0.0039	12,000	9.8	0.0028	0.0028
1.4	12	18,000	17.7	0.0039	0.0079	15,500	11.8	0.0028	0.0039	12,000	9.8	0.0028	0.0031	12,000	9.8	0.0028	0.0028
1.4	16	13,000	11.8	0.0035	0.0071	12,000	7.9	0.0024	0.0035	9,000	5.9	0.0016	0.0028	9,000	5.9	0.0004	0.0012
1.5	3	20,000	35.4	0.0047	0.0118	15,000	23.6	0.0031	0.0059	12,000	19.7	0.0031	0.0047	12,000	11.8	0.0031	0.0039
1.5	4	20,000	35.4	0.0047	0.0118	15,000	23.6	0.0031	0.0059	12,000	19.7	0.0031	0.0047	12,000	11.8	0.0031	0.0039
1.5	6	18,000	29.5	0.0047	0.0118	15,000	19.7	0.0031	0.0059	12,000	13.8	0.0031	0.0047	12,000	11.8	0.0031	0.0039
1.5	8	17,000	17.7	0.0047	0.0118	15,000	11.8	0.0031	0.0059	12,000	9.8	0.0031	0.0047	12,000	9.8	0.0031	0.0039
1.5	10	17,000	17.7	0.0047	0.0118	15,000	11.8	0.0031	0.0059	12,000	9.8	0.0031	0.0047	12,000	9.8	0.0031	0.0039
1.5	12	17,000	17.7	0.0047	0.0094	15,000	11.8	0.0031	0.0047	12,000	9.8	0.0031	0.0035	12,000	9.8	0.0020	0.0024
1.5	14	17,000	17.7	0.0047	0.0094	15,000	11.8	0.0031	0.0047	12,000	9.8	0.0031	0.0035	12,000	9.8	0.0020	0.0024
1.5	16	13,000	11.8	0.0035	0.0071	12,000	7.9	0.0024	0.0039	9,500	5.9	0.0024	0.0028	9,500	5.9	0.0004	0.0012
1.5	18	13,000	11.8	0.0035	0.0071	12,000	7.9	0.0024	0.0039	9,500	5.9	0.0024	0.0028	9,500	5.9	0.0004	0.0012
1.5	20	13,000	11.8	0.0035	0.0071	12,000	7.9	0.0024	0.0039	9,500	5.9	0.0024	0.0028	9,500	5.9	0.0004	0.0012
1.5	22	13,000	11.8	0.0035	0.0071	12,000	7.9	0.0024	0.0039	9,500	5.9	0.0024	0.0028	9,500	5.9	0.0004	0.0012
1.5	30	13,000	11.8	0.0035	0.0071	12,000	7.9	0.0024	0.0039	9,500	5.9	0.0024	0.0028	9,500	5.9	0.0004	0.0012
1.6	4	20,000	35.4	0.0047	0.0126	14,000	23.6	0.0031	0.0063	11,000	19.7	0.0031	0.0051	11,000	13.8	0.0031	0.0039
1.6	8	16,500	17.7	0.0047	0.0126	14,000	11.8	0.0031	0.0063	11,000	9.8	0.0031	0.0051	11,000	9.8	0.0031	0.0039
1.6	12	16,500	17.7	0.0047	0.0094	14,000	11.8	0.0031	0.0047	11,000	9.8	0.0031	0.0031	11,000	9.8	0.0020	0.0020
1.6	16	11,500	11.8	0.0047	0.0094	11,000	7.9	0.0031	0.0047	9,000	5.9	0.0031	0.0031	9,000	5.9	0.0020	0.0020
1.6	20	11,500	11.8	0.0035	0.0079	11,000	7.9	0.0024	0.0047	9,000	5.9	0.0024	0.0030	9,000	5.9	0.0006	0.0012
1.8	8	16,500	23.6	0.0051	0.0142	14,000	15.7	0.0035	0.0071	11,000	11.8	0.0035	0.0063	11,000	11.8	0.0035	0.0047
1.8	12	16,500	23.6	0.0051	0.0142	14,000	15.7	0.0035	0.0071	11,000	11.8	0.0035	0.0063	11,000	11.8	0.0035	0.0047
1.8	16	16,500	23.6	0.0051	0.0106	14,000	15.7	0.0035	0.0055	11,000	11.8	0.0035	0.0047	11,000	11.8	0.0020	0.0024
1.8	20	11,000	11.8	0.0039	0.0087	11,000	7.9	0.0024	0.0051	8,000	7.9	0.0024	0.0031	8,000	7.9	0.0008	0.0012
2	3	16,500	53.1	0.0059	0.0220	16,500	35.4	0.0039	0.0110	13,500	31.5	0.0039	0.0110	13,500	27.6	0.0039	0.0079
2	4	16,500	41.3	0.0059	0.0220	16,500	27.6	0.0039	0.0110	13,500	19.7	0.0039	0.0110	13,500	19.7	0.0039	0.0079
2	6	16,500	41.3	0.0059	0.0220	16,500	27.6	0.0039	0.0110	13,500	19.7	0.0039	0.0110	13,500	19.7	0.0039	0.0079
2	8	16,500	41.3	0.0059	0.0220	16,500	27.6	0.0039	0.0110	13,500	19.7	0.0039	0.0110	13,500	19.7	0.0039	0.0079
2	10	14,000	29.5	0.0059	0.0220	13,000	19.7	0.0039	0.0110	10,000	11.8	0.0039	0.0110	10,000	11.8	0.0039	0.0079
2	12	14,000	29.5	0.0059	0.0220	13,000	19.7	0.0039	0.0110	10,000	11.8	0.0039	0.0110	10,000	11.8	0.0039	0.0079
2	14	14,000	29.5	0.0059	0.0220	13,000	19.7	0.0039	0.0110	10,000	11.8	0.0039	0.0110	10,000	11.8	0.0039	0.0079
2	16	14,000	29.5	0.0059	0.0165	13,000	19.7	0.0039	0.0083	10,000	11.8	0.0039	0.0071	10,000	11.8	0.0024	0.0039
2	18	14,000	29.5	0.0059	0.0165	13,000	19.7	0.0039	0.0083	10,000	11.8	0.0039	0.0071	10,000	11.8	0.0024	0.0039
2	20	11,000	14.8	0.0059	0.0165	10,000	9.8	0.0039	0.0083	8,000	7.9	0.0039	0.0071	8,000	7.9	0.0024	0.0039
2	22	11,000	14.8	0.0059	0.0165	10,000	9.8	0.0039	0.0083	8,000	7.9	0.0039	0.0071	8,000	7.9	0.0024	0.0039
2	25	11,000	14.8	0.0059	0.0165	10,000	9.8	0.0039	0.0083	8,000	7.9	0.0039	0.0071	8,000	7.9	0.0024	0.0039
2	30	11,000	14.8	0.0059	0.0165	10,000	9.8	0.0039	0.0083	8,000	7.9	0.0039	0.0071	8,000	7.9	0.0024	0.0039
2	35	10,000	14.8	0.0059	0.0165	10,000	9.8	0.0039	0.0083	8,000	7.9	0.0039	0.0071	8,000	7.9	0.0024	0.0039
2	40	10,000	11.8	0.0059	0.0165	10,000	7.9	0.0039	0.0083	8,000	6.3	0.0039	0.0071	8,000	6.3	0.0024	0.0039
2.5	6	16,000	41.3	0.0071	0.0276	12,000	27.6	0.0047	0.0138	10,000	23.6	0.0047	0.0118	10,000	23.6	0.0039	0.0098
2.5	10	14,000	41.3	0.0071	0.0276	12,000	27.6	0.0047	0.0138	10,000	23.6	0.0047	0.0118	10,000	23.6	0.0039	0.0098
2.5	15	14,000	23.6	0.0071	0.0276	10,000	15.7	0.0047	0.0138	8,500	11.8	0.0047	0.0118	8,500	11.8	0.0039	0.0098
2.5	20	12,000	23.6	0.0071	0.0220	10,000	15.7	0.0047	0.0110	8,500	11.8	0.0047	0.0079	8,500	11.8	0.0031	0.0059
2.5	25	12,000	17.7	0.0071	0.0220	8,000	11.8	0.0047	0.0110	6,500	9.8	0.0047	0.0079	6,500	9.8	0.0031	0.0059
2.5	30	12,000	14.8	0.0071	0.0220	8,000	9.8	0.0047	0.0110	6,500	7.9	0.0047	0.0079	6,500	7.9	0.0031	0.0059
2.5	35	12,000	14.8	0.0071	0.0220	8,000	9.8	0.0047	0.0110	6,500	7.9	0.0047	0.0079	6,500	7.9	0.0031	0.0059
3	6	15,000	47.2	0.0079	0.0331	9,500	31.5	0.0059	0.0165	7,500	23.6	0.0059	0.0165	7,500	23.6	0.0059	0.0118
3	8	12,000	35.4	0.0079	0.0331	9,500	23.6	0.0059	0.0165	7,500	15.7	0.0059	0.0142	7,500	15.7	0.0059	0.0118
3	10	12,000	35.4	0.0079	0.0331	9,500	23.6	0.0059	0.0165	7,500	15.7	0.0059	0.0142	7,500	15.7	0.0059	0.0118
3	12	10,000	35.4	0.0079	0.0331	9,500	23.6	0.0059	0.0165	7,500	15.7	0.0059	0.0142	7,500	15.7	0.0059	0.0118

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

CONTINUED

List 3690 : Ball End, Regular Length, 2 Flute, Long Neck, Rib Processing (Continued)
List 3790 : Ball End, Regular Length, 2 Flute, Long Neck, Rib Processing (Continued)

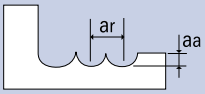
Standard Milling

Hardness	–				<32 HRC				33-41 HRC				42-50 HRC			
Work Material	Aluminum Copper Alloy				Cast Iron, Carbon Steel, Alloy Steel, Stainless Steel, Die Steel				Prehardened & Hardened Steel							
Cutting Speed	90-460 SFM				80-340 SFM				80-280 SFM				80-280 SFM			
Depth of Cut																
Mill Dia.	L1 (mm)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)	Speed RPM	Feed in/min	aa (in)	ar (in)
3	14	10,000	35.4	0.0079	0.0331	9,500	23.6	0.0059	0.0165	7,500	15.7	0.0059	0.0142	7,500	15.7	0.0059	0.0118
3	15	10,000	23.6	0.0079	0.0331	8,500	15.7	0.0059	0.0165	6,500	9.8	0.0059	0.0142	6,500	9.8	0.0059	0.0118
3	16	10,000	17.7	0.0079	0.0331	8,500	11.8	0.0059	0.0165	6,500	9.8	0.0059	0.0142	6,500	9.8	0.0059	0.0118
3	20	10,000	17.7	0.0079	0.0331	8,500	11.8	0.0059	0.0165	6,500	9.8	0.0059	0.0142	6,500	9.8	0.0059	0.0118
3	25	10,000	17.7	0.0079	0.0331	8,500	11.8	0.0059	0.0165	6,500	9.8	0.0059	0.0118	6,500	9.8	0.0035	0.0059
3	30	9,000	14.8	0.0079	0.0331	7,500	9.8	0.0059	0.0165	6,000	7.9	0.0059	0.0118	6,000	7.9	0.0035	0.0059
3	35	9,000	14.8	0.0079	0.0331	7,500	9.8	0.0059	0.0165	6,000	7.9	0.0059	0.0118	6,000	7.9	0.0035	0.0059
3	40	9,000	14.8	0.0079	0.0331	7,500	9.8	0.0059	0.0165	6,000	7.9	0.0059	0.0118	6,000	7.9	0.0035	0.0059
3.5	10	10,000	41.3	0.0157	0.0386	8,500	27.6	0.0059	0.0193	6,500	19.7	0.0059	0.0165	6,500	19.7	0.0059	0.0138
3.5	15	10,000	35.4	0.0157	0.0386	8,500	23.6	0.0059	0.0193	6,500	15.7	0.0059	0.0165	6,500	15.7	0.0059	0.0138
3.5	20	8,000	29.5	0.0157	0.0386	7,500	19.7	0.0059	0.0193	5,500	11.8	0.0059	0.0165	5,500	11.8	0.0059	0.0138
3.5	25	8,000	23.6	0.0157	0.0386	7,500	15.7	0.0059	0.0193	5,500	10.8	0.0059	0.0165	5,500	10.8	0.0059	0.0138
3.5	30	8,000	17.7	0.0157	0.0386	7,500	11.8	0.0059	0.0193	5,500	9.8	0.0059	0.0138	5,500	9.8	0.0039	0.0079
3.5	35	8,000	14.8	0.0157	0.0386	6,000	9.8	0.0059	0.0193	5,000	7.9	0.0059	0.0138	5,000	7.9	0.0039	0.0079
3.5	40	6,000	14.8	0.0118	0.0386	6,000	9.8	0.0059	0.0193	5,000	7.9	0.0059	0.0138	5,000	7.9	0.0039	0.0079
3.5	45	6,000	14.8	0.0118	0.0386	6,000	9.8	0.0059	0.0193	5,000	7.9	0.0059	0.0138	5,000	7.9	0.0039	0.0079
4	8	11,000	47.2	0.0197	0.0504	7,500	31.5	0.0079	0.0252	6,000	27.6	0.0079	0.0236	6,000	27.6	0.0079	0.0157
4	10	9,000	35.4	0.0197	0.0504	7,500	23.6	0.0079	0.0252	6,000	15.7	0.0079	0.0236	6,000	15.7	0.0079	0.0157
4	12	9,000	35.4	0.0197	0.0504	7,500	23.6	0.0079	0.0252	6,000	15.7	0.0079	0.0236	6,000	15.7	0.0079	0.0157
4	14	9,000	35.4	0.0197	0.0504	7,500	23.6	0.0079	0.0252	6,000	15.7	0.0079	0.0236	6,000	15.7	0.0079	0.0157
4	15	9,000	35.4	0.0197	0.0504	7,500	23.6	0.0079	0.0252	6,000	15.7	0.0079	0.0236	6,000	15.7	0.0079	0.0157
4	16	9,000	35.4	0.0197	0.0504	7,500	23.6	0.0079	0.0252	6,000	15.7	0.0079	0.0236	6,000	15.7	0.0079	0.0157
4	20	7,000	23.6	0.0197	0.0504	6,000	15.7	0.0079	0.0252	5,000	9.8	0.0079	0.0236	5,000	9.8	0.0079	0.0157
4	25	7,000	23.6	0.0197	0.0504	6,000	15.7	0.0079	0.0252	5,000	9.8	0.0079	0.0236	5,000	9.8	0.0079	0.0157
4	30	7,000	23.6	0.0157	0.0504	6,000	15.7	0.0079	0.0252	5,000	9.8	0.0079	0.0220	5,000	9.8	0.0047	0.0079
4	35	7,000	23.6	0.0157	0.0504	6,000	15.7	0.0079	0.0252	5,000	9.8	0.0079	0.0220	5,000	9.8	0.0047	0.0079
4	40	5,000	14.8	0.0138	0.0504	5,000	9.8	0.0079	0.0252	4,000	7.9	0.0079	0.0220	4,000	7.9	0.0047	0.0079
4	45	5,000	14.8	0.0138	0.0504	5,000	9.8	0.0079	0.0252	4,000	7.9	0.0079	0.0220	4,000	7.9	0.0047	0.0079
4	50	5,000	14.8	0.0138	0.0504	5,000	9.8	0.0079	0.0252	4,000	7.9	0.0079	0.0220	4,000	7.9	0.0047	0.0079
5	10	9,000	53.1	0.0236	0.0709	6,500	35.4	0.0098	0.0354	5,000	29.5	0.0098	0.0276	5,000	29.5	0.0098	0.0197
5	15	9,000	53.1	0.0236	0.0709	6,500	35.4	0.0098	0.0354	5,000	29.5	0.0098	0.0276	5,000	29.5	0.0098	0.0197
5	20	7,000	29.5	0.0236	0.0709	6,500	19.7	0.0098	0.0354	5,000	15.7	0.0098	0.0276	5,000	15.7	0.0098	0.0197
5	25	6,000	29.5	0.0236	0.0709	5,000	19.7	0.0098	0.0354	4,000	9.8	0.0098	0.0276	4,000	9.8	0.0098	0.0197
5	30	6,000	29.5	0.0236	0.0709	5,000	19.7	0.0098	0.0354	4,000	9.8	0.0098	0.0276	4,000	9.8	0.0098	0.0197
5	35	6,000	29.5	0.0236	0.0709	5,000	19.7	0.0098	0.0354	4,000	9.8	0.0098	0.0276	4,000	9.8	0.0098	0.0197
5	40	5,000	23.6	0.0157	0.0709	4,000	15.7	0.0098	0.0354	4,000	7.9	0.0098	0.0236	4,000	7.9	0.0079	0.0098
5	45	5,000	23.6	0.0157	0.0709	4,000	15.7	0.0098	0.0354	4,000	7.9	0.0098	0.0236	4,000	7.9	0.0079	0.0098
5	50	5,000	17.7	0.0157	0.0709	4,000	11.8	0.0098	0.0354	4,000	7.9	0.0098	0.0236	4,000	7.9	0.0079	0.0098
6	10	7,000	59.1	0.0295	0.0945	5,500	39.4	0.0118	0.0472	4,500	31.5	0.0118	0.0378	4,500	31.5	0.0118	0.0236
6	20	7,000	47.2	0.0295	0.0945	5,500	31.5	0.0118	0.0472	4,500	23.6	0.0118	0.0378	4,500	23.6	0.0118	0.0236
6	25	6,000	35.4	0.0295	0.0945	5,500	23.6	0.0118	0.0472	4,500	15.7	0.0118	0.0378	4,500	15.7	0.0118	0.0236
6	30	5,000	23.6	0.0295	0.0945	4,000	15.7	0.0118	0.0472	4,000	11.8	0.0118	0.0378	4,000	11.8	0.0118	0.0236
6	35	5,000	23.6	0.0295	0.0945	4,000	15.7	0.0118	0.0472	4,000	11.8	0.0118	0.0378	4,000	11.8	0.0118	0.0236
6	40	5,000	23.6	0.0236	0.0945	4,000	15.7	0.0118	0.0472	4,000	11.8	0.0118	0.0378	4,000	11.8	0.0118	0.0236
6	45	5,000	23.6	0.0236	0.0945	4,000	15.7	0.0118	0.0472	4,000	11.8	0.0118	0.0378	4,000	11.8	0.0118	0.0236
6	50	5,000	23.6	0.0236	0.0945	4,000	15.7	0.0118	0.0472	4,000	11.8	0.0118	0.0378	4,000	11.81	0.0118	0.0118

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

List 3711 - EXOCARB® WXL®: 2 Flute, Ball End, Stub Length, Long Shank

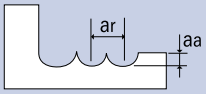
Side Milling

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Cast Iron		Mild Steels Carbon Steels		Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Stainless Steel Hardened Steels		Hardened Steels		Hardened Steels	
Cutting Speed	330-490 SFM		330-390 SFM		300-330 SFM		230-260 SFM		200-230 SFM		170-200 SFM		120-150 SFM	
Depth of Cut	 aa=0.1D ar=0.2D										aa=0.05D ar=0.1D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	50.0	25,000	50.0	25,000	50.0	25,000	50.0	22,000	35.2	19,000	26.6	14,000	19.6
2	23,500	79.9	19,000	64.6	15,500	52.7	12,500	42.5	11,000	35.2	9,500	26.6	7,150	20.0
3	15,500	74.4	12,500	60.0	10,500	50.4	8,450	40.6	7,400	32.6	6,350	25.4	4,750	19.0
4	11,500	69.0	9,500	57.0	7,950	47.7	6,350	38.1	5,550	31.1	4,750	24.7	3,550	18.5
5	9,500	72.2	7,600	57.8	6,350	48.3	5,050	38.4	4,450	32.0	3,800	25.8	2,850	19.4
6	7,950	70.0	6,350	55.9	5,300	46.6	4,200	37.0	3,700	31.1	3,150	25.2	2,350	18.8
8	5,950	71.4	4,750	57.0	3,950	47.4	3,150	37.8	2,750	31.9	2,350	26.3	1,750	19.6
10	4,750	67.5	3,800	54.0	3,150	44.7	2,500	35.5	2,200	30.4	1,900	25.5	1,400	18.8
12	3,950	67.2	3,150	53.6	2,650	45.1	2,100	35.7	1,850	30.7	1,550	24.8	1,150	18.4
14	3,400	57.8	2,700	45.9	2,250	38.3	1,800	30.6	1,550	25.7	1,350	21.6	1,000	16.0
16	2,950	50.2	2,350	40.0	1,950	33.2	1,550	26.4	1,350	22.4	1,150	18.4	895	14.3
18	2,650	45.1	2,100	35.7	1,750	29.8	1,400	23.8	1,200	19.9	1,050	16.8	795	12.7
20	2,350	40.0	1,900	32.3	1,550	26.4	1,250	21.3	1,100	18.3	955	15.3	715	11.4
25	1,900	32.3	1,500	25.5	1,250	21.3	1,000	17.0	890	14.8	760	12.2	570	9.1
30	1,550	26.4	1,250	21.3	1,050	17.9	845	14.4	740	12.3	635	10.2	475	7.6

1. Use a rigid and precise machine and holder.
2. Use a suitable cutting fluid with high smoke retardant.
3. When the length of tool extension from the machine is long, reduce the speed and feed.

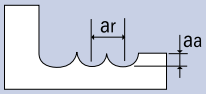
List 4413: Ball Nose, Regular Length, 2 Flute, Sphere Type

Profiling

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Stainless Steels Pre-hardened Steels		Hardened Steels		Hardened Steels	
Cutting Speed	720 SFM		640 SFM		580 SFM		560 SFM		520 SFM		440 SFM	
Depth of Cut	a_a=0.05D a_r=0.1D								a_a=0.02D a_r=0.1D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	48.9	25,000	43.0	25,000	43.0	25,000	43.0	25,000	43.0	25,000	39.9
3/32	25,000	83.7	25,000	65.9	23,650	62.3	22,800	60.1	21,200	55.8	17,950	45.9
1/8	22,000	98.2	19,550	71.0	17,700	61.2	17,100	57.0	15,900	53.6	13,450	44.0
3/16	14,650	91.2	13,050	72.0	11,800	63.9	11,400	59.8	10,600	56.1	8,950	48.1
1/4	11,000	85.6	9,800	71.9	8,850	66.0	8,550	63.0	7,950	58.8	6,700	49.1
5/16	8,800	70.7	7,800	53.6	7,100	48.5	6,850	47.2	6,350	43.0	5,400	37.8
3/8	7,350	59.1	6,500	42.2	5,900	38.8	5,700	38.5	5,300	35.6	4,500	30.3
1/2	5,500	47.2	4,900	31.0	4,450	29.5	4,300	30.0	3,950	28.0	3,350	22.7

List 4513: Ball Nose, Regular Length, 2 Flute, Sphere Type

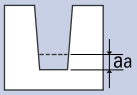
Profiling

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Tool		Hardened Steels Pre-hardened Steels		Stainless Steels Pre-hardened Steels		Hardened Steels		Hardened Steels	
Cutting Speed	720 SFM		640 SFM		580 SFM		470 SFM		520 SFM		440 SFM	
Depth of Cut	a_a=0.05D a_r=0.1D								a_a=0.02D a_r=0.1D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	26.5	25,000	26.5	25,000	26.5	25,000	26.5	25,000	26.5	25,000	23.3
2	25,000	70.3	24,000	53.1	24,000	53.1	23,500	51.2	24,000	53.1	22,000	47.2
4	17,500	98.4	15,500	70.9	14,000	61.0	11,500	49.2	12,500	53.1	11,000	45.3
5	14,000	91.5	12,400	71.9	11,250	64.0	10,900	60.0	10,100	56.1	8,550	48.3
6	11,500	84.6	10,500	72.8	9,500	66.9	7,950	55.1	8,450	59.1	7,400	51.2
8	8,750	70.9	7,950	55.1	7,150	49.2	5,950	41.3	6,350	43.3	5,550	39.2
10	7,000	59.1	6,350	43.3	5,700	39.4	4,750	33.7	5,050	35.6	4,450	31.5

1. Use a rigid and precise machine and holder.
2. Use a suitable cutting fluid with high smoke retardant.

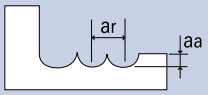
List 4581: 4 Flute, Ball End, Tapered

Slotting

Hardness	<20 HRC			20-30 HRC			30-38 HRC			38-45 HRC			45-55 HRC		
Work Material	Mild Steels Carbon Steels Cast Iron			Alloy Steels Tool Steels			Hardened Steels Pre-hardened Steels			Stainless Steels Hardened Steels			Hardened Steels		
Cutting Speed	400 SFM			330 SFM			300 SFM			240 SFM			160 SFM		
Depth of Cut															
Mill Dia.	Speed (RPM)	Feed (in/min)	aa	Speed (RPM)	Feed (in/min)	aa	Speed (RPM)	Feed (in/min)	aa	Speed (RPM)	Feed (in/min)	aa	Speed (RPM)	Feed (in/min)	aa
0.5	25,000	20.0	0.0004	25,000	20.0	0.0004	25,000	20.0	0.0004	25,000	20.0	0.0004	25,000	10.0	0.0002
0.6	25,000	42.5	0.0009	25,000	42.5	0.0009	25,000	42.5	0.0009	25,000	42.5	0.0009	25,000	22.5	0.0005
0.7	25,000	65.0	0.0013	25,000	65.0	0.0013	25,000	65.0	0.0013	25,000	65.0	0.0013	22,178	31.0	0.0007
0.8	25,000	87.5	0.0018	25,000	87.5	0.0018	25,000	87.5	0.0018	25,000	87.5	0.0018	19,406	36.9	0.0010
0.9	25,000	110.0	0.0022	25,000	110.0	0.0022	25,000	110.0	0.0022	25,000	110.0	0.0022	17,249	41.4	0.0012
1.0	25,000	132.5	0.0027	25,000	132.5	0.0027	25,000	132.5	0.0027	23,287	123.4	0.0027	15,524	45.0	0.0015
1.2	25,000	155.0	0.0031	25,000	155.0	0.0031	24,257	150.4	0.0031	19,406	120.3	0.0031	12,937	44.0	0.0017
1.5	25,000	177.5	0.0036	21,346	151.6	0.0036	19,406	137.8	0.0036	15,524	110.2	0.0036	10,350	40.4	0.0020
1.6	24,257	194.1	0.0040	20,012	160.1	0.0040	18,193	145.5	0.0040	14,554	116.4	0.0040	9,703	42.7	0.0022
1.8	21,562	191.9	0.0045	17,788	158.3	0.0045	16,171	143.9	0.0045	12,937	115.1	0.0045	8,625	42.3	0.0025
2.0	19,406	190.2	0.0049	16,010	156.9	0.0049	14,554	142.6	0.0049	11,643	114.1	0.0049	7,762	41.9	0.0027
2.5	15,524	166.1	0.0054	12,808	137.0	0.0054	11,643	124.6	0.0054	9,315	99.7	0.0054	6,210	36.6	0.0030
3.0	12,937	150.1	0.0058	10,673	123.8	0.0058	9,703	112.6	0.0058	7,762	90.0	0.0058	5,175	33.1	0.0032

1. To achieve flute depth, sequential use of each neck length is most effective.
2. When corner processing, reduce the feed rate by approximately half.
3. Use cutting fluid.

List 4730 & 4630: 3-Flute, Stub Length, Ball End

Hardness			-		-		-		-		45 HRC		65 HRC		70 HRC	
Work Material			Stainless Steel		Cobalt-Chromium Alloy (Stellite)		Titanium Alloy		Ni-Based Alloy (Inconel 718)		Hardened Steel					
SFM			195-260		165-230		135-190		70-130		165-230		135-190		70-130	
Depth of Cut																
Mill Dia.		Non-Tapered Neck Length	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	2	4	11100	43.3	9500	37.0	8000	31.1	4800	18.9	9500	37.0	8000	31.1	4800	18.9
		8	5600	19.7	4800	16.9	4300	15.4	2600	9.1	4800	16.9	4300	15.4	2600	9.1
3/32	-	3/16	9371	36.6	8020	31.2	6754	26.3	4052	16.0	8020	31.2	6754	26.3	4052	16.0
		3/8	4728	16.6	4052	14.3	3630	13.0	2195	7.7	4052	14.3	3630	13.0	2195	7.7
-	3	6	7400	43.3	6400	37.8	5300	31.5	3200	18.9	6400	37.8	5300	31.5	3200	18.9
		12	4400	23.2	3800	20.1	3300	17.7	2000	10.6	3800	20.1	3300	17.7	2000	10.6
1/8	-	1/4	7028	41.1	6078	35.9	5034	29.9	3039	17.9	6078	35.9	5034	29.9	3039	17.9
		1/2	4179	22.0	3609	19.1	3134	16.8	1899	10.1	3609	19.1	3134	16.8	1899	10.1
-	4	8	5600	42.5	4800	36.6	4000	30.3	2400	18.5	4800	36.6	4000	30.3	2400	18.5
		16	3400	22.4	2900	19.3	2500	16.5	1500	9.8	2900	19.3	2500	16.5	1500	9.8
3/16	-	3/8	4685	35.6	3956	30.2	3332	25.2	1978	15.2	3956	30.2	3332	25.2	1978	15.2
		3/4	2844	18.7	2438	16.2	2032	13.4	1219	8.0	2438	16.2	2032	13.4	1219	8.0
-	5	10	4500	42.5	3800	35.8	3200	30.3	1900	18.1	3800	35.8	3200	30.3	1900	18.1
		20	2800	23.6	2400	20.5	2000	16.9	1200	11.0	2400	21.7	2000	16.9	1200	11.0
-	6	-	3700	44.1	3200	37.8	2700	31.5	1600	18.9	3200	37.8	2700	31.5	1600	18.9
1/4	-	-	3514	41.9	3012	35.6	2510	29.3	1506	17.8	3012	35.6	2510	29.3	1506	17.8
5/16	-	-	2811	39.6	2431	34.3	2051	29.0	1216	17.1	2431	34.3	2051	29.0	1216	17.1
-	8	-	2800	39.4	2400	33.9	2000	28.3	1200	16.9	2400	33.9	2000	28.3	1200	16.9
-	10	-	2200	39.4	1900	33.9	1600	28.3	960	16.9	1900	33.9	1600	28.3	960	16.9
-	12	-	1900	44.1	1600	37.8	1300	31.5	800	18.9	1600	37.8	1300	31.5	800	18.9
9/16	-	-	1562	36.3	1325	31.3	1089	26.4	663	15.7	1325	31.3	1089	26.4	663	15.7
-	16	-	1400	36.2	1200	31.1	1000	26.0	600	15.4	1200	31.1	1000	26.0	600	15.4
3/4	-	-	1171	30.3	1030	26.7	843	21.9	506	13.0	1030	26.7	843	21.9	506	13.0
-	20	-	1100	33.1	1000	28.3	800	23.6	480	14.2	1000	28.3	800	23.6	480	14.2

Dia	a_a	a_r
R≤6	≤0.15D	0.05D
R>6	≤3mm	

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2. Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4. Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the speed, feed and depth of cut accordingly when the overhang length is longer than specified.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromium based alloy, titanium alloy, and Ni-based alloy.
9. Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.

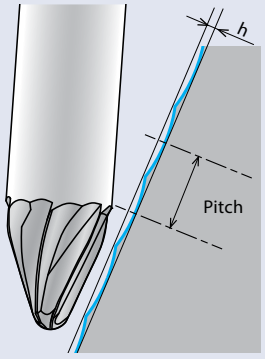
List 3785: EXOCARB VU-TBR: Using Peripheral Edge Radius (R2)

Hardness	< 30 HRC			30 - 45 HRC			45 - 55 HRC		
Work Material	Carbon Steel Alloy Steel			Hardened Steel Prehardened Steel			Hardened Steel Prehardened Steel		
Cutting Speed	360 SFM			300 SFM			230 SFM		
Depth of Cut	Aa = 0.012"			Aa = 0.012"			Aa = 0.012"		
Mill Dia.	Speed RPM	Feed in/min	Pitch	Speed RPM	Feed in/min	Pitch	Speed RPM	Feed in/min	Pitch
6 (R0.5 x R150 x 20°)	10700	133.9	Based on cusp height (See chart below)	8800	98.5	Based on cusp height (See chart below)	6800	63.0	Based on cusp height (See chart below)
8 (R1 x R150 x 20°)	7300	90.6		6000	67.0		4700	43.4	
10 (R1.5 x R300 x 20°)	5600	70.9		4600	51.2		3600	35.5	
12 (R2 x R300 x 20°)	4500	86.7		3700	63.0		2900	39.4	
16 (R2.5 x R500 x 20°)	3400	63.0		2800	47.3		2200	31.5	
16 (R3 x R500 x 20°)	3300	63.0		2700	43.4		2100	31.5	

1. This chart should be used when machining with the Peripheral Edge Radius, R2.
2. Use a rigid and precise machine and holder.
3. Use a coolant with low air-blow or fuming property according to the work material. MQL (oil mist coolant) is recommended for cutting hardened steels.
4. Using Peripheral Edge Radius (R2)" is the guide to use the intermediate position of peripheral edge radius. Please adjust the rotation speed, feed rate and cutting pitch based on the cutting shape, machine rigidity, workpiece and holding conditions.
5. When chattering, vibration or abnormal cutting noise occurs, please adjust the rotation speed, feed rate and cutting pitch.
6. In order to change the rotation speed, both the rotation speed and the feed rate should be changed at the same ratio.

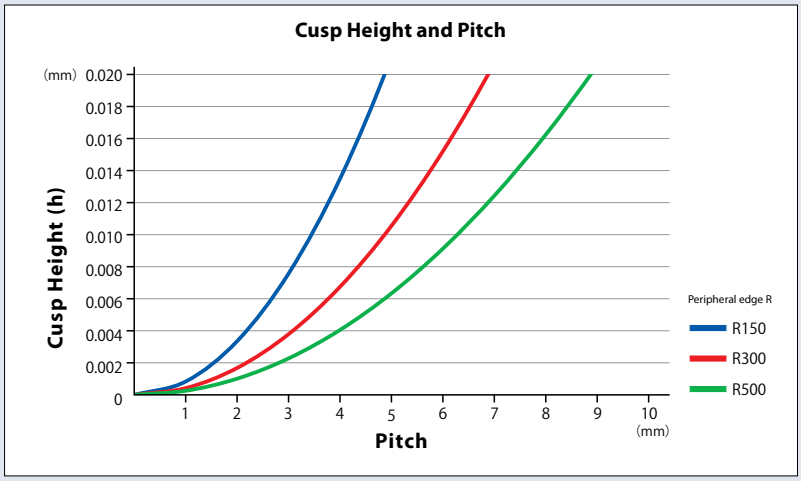
Theoretical Cusp Height

VU-TBR
Taper Barrel Type



$$h = 0.5 \times \left(2 \times R2 - \sqrt{(2 \times R2)^2 - P^2}\right)$$

h: Cusp Height P:Pitch R2: Peripheral Edge R



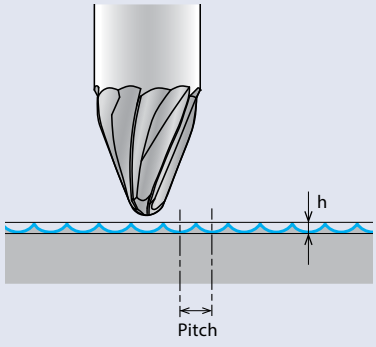
List 3785: EXOCARB VU-TBR: Using Tip Radius (R1)

Hardness	< 30 HRC			30 - 45 HRC			45 - 55 HRC		
Work Material	Carbon Steel Alloy Steel			Hardened Steel Prehardened Steel			Hardened Steel Prehardened Steel		
Cutting Speed	660 SFM			525 SFM			460 SFM		
Depth of Cut	D=6 Aa = 0.004″ D=8 Aa = 0.008″ D=10 Aa = 0.010″ D≥12 Aa = 0.012″			D=6 Aa = 0.004″ D=8 Aa = 0.008″ D=10 Aa = 0.010″ D≥12 Aa = 0.012″			D=6 Aa = 0.004″ D=8 Aa = 0.008″ D=10 Aa = 0.010″ D≥12 Aa = 0.012″		
Mill Dia.	Speed RPM	Feed in/min	Pitch	Speed RPM	Feed in/min	Pitch	Speed RPM	Feed in/min	Pitch
6 (R0.5 x R150 x 20°)	19500	244.1	Based on cusp height (See chart below)	15600	173.3	Based on cusp height (See chart below)	13600	130.0	Based on cusp height (See chart below)
8 (R1 x R150 x 20°)	13300	169.3		10700	118.2		9300	86.7	
10 (R1.5 x R300 x 20°)	10300	130.0		8200	90.6		7200	67.0	
12 (R2 x R300 x 20°)	8300	157.5		6600	110.3		5800	82.7	
16 (R2.5 x R500 x 20°)	6300	118.2		5000	82.7		4400	63.0	
16 (R3 x R500 x 20°)	6000	114.2		4800	78.8		4200	59.1	

1. This chart should be used when machining with the Tip Radius, R1.
2. Use a rigid and precise machine and holder.
3. Use a coolant with low air-blow or fuming property according to the work material. MQL (oil mist coolant) is recommended for cutting hardened steels.
4. Using Tip Radius (R1)" is the guide to use the tip radius. Please adjust the rotation speed, feed rate and cutting pitch based on the cutting shape, machine rigidity, workpiece and holding conditions.
5. When chattering, vibration or abnormal cutting noise occurs, please adjust the rotation speed, feed rate and cutting pitch.
6. In order to change the rotation speed, both the rotation speed and the feed rate should be changed at the same ratio.

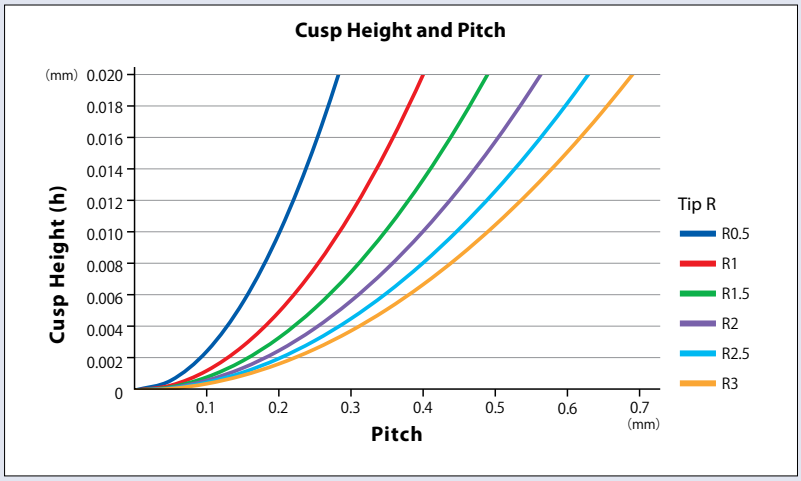
Theoretical Cusp Height

VU-TBR
Taper Barrel Type



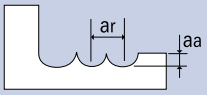
$$h = 0.5 \times \left(2 \times R1 - \sqrt{(2 \times R1)^2 - P^2}\right)$$

h: Cusp Height P:Pitch R1: Tip R



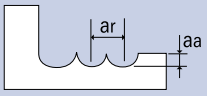
List 9010: MAX Ball, Stub Length, 2 Flute
List 9110: MAX Ball, Stub Length, 2 Flute
List 9011: MAX Ball, Long Shank, 2 Flute
List 9111: MAX Ball, Long Shank, 2 Flute

High Speed Light Milling

Hardness	<45 HRC		<50 HRC		<55 HRC		<60 HRC		<65 HRC	
Work Material	Hardened Steels		Hardened Steels		Hardened Steels		Hardened Steels		Hardened Steels	
Cutting Speed	1,650 SFM		1,250 SFM		900 SFM		740 SFM		410 SFM	
Depth of Cut	Dia / aa / ar: D≤2: 0.6D / 0.1D; D≤4: 0.1D / 0.15D; D≤10: 0.2D / 0.2D 						Dia / aa / ar: D≤4: 0.05D / 0.1D; D≤10: 0.10D / 0.15D		aa=0.02D ar=0.1D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	100	25,000	85	25,000	76	25,000	60	25,000	19
2	25,000	175	25,000	150	25,000	130	25,000	87	20,000	63
3	25,000	175	25,000	150	25,000	130	25,000	105	15,000	57
4	25,000	159	25,000	135	22,000	130	18,000	105	10,000	53
6	25,000	157	20,000	133	15,000	118	12,000	94	6,600	47
8	20,000	138	15,000	117	11,000	104	9,000	83	5,000	41
10	15,000	125	12,000	106	8,750	94	7,200	75	4,000	38

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

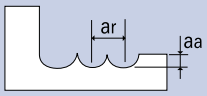
High Speed Light Milling

Hardness	<45 HRC		<50 HRC		<55 HRC		<60 HRC		<65 HRC	
Work Material	Hardened Steels		Hardened Steels		Hardened Steels		Hardened Steels		Hardened Steels	
Cutting Speed	1,600 SFM		1,300 SFM		1,000 SFM		790 SFM		430 SFM	
Depth of Cut	Dia / aa / ar: D≤1/16: 0.6D / 0.1D; D≤1/8: 0.1D / 0.15D; D≤3/8: 0.2D / 0.2D 						Dia / aa / ar: D≤1/8: 0.05D / 0.1D; D≤3/8: 0.10D / 0.15D		aa=0.02D ar=0.1D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	25,000	100	25,000	85	25,000	76	25,000	60	25,000	19
1/16	25,000	150	25,000	140	25,000	120	25,000	68	20,000	57
1/8	25,000	175	25,000	150	25,000	130	25,000	105	15,000	63
3/16	25,000	159	25,000	143	17,000	125	16,000	100	9,000	50
1/4	25,000	157	20,000	133	15,000	118	12,000	94	6,600	47
5/16	20,000	138	15,000	117	11,000	104	9,000	83	5,000	41
3/8	15,000	125	12,000	106	8,750	94	7,200	75	4,000	38

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Use a suitable cutting fluid with high smoke retardant.

List 9191: CBN, Ball End, Long Length, 2 Flute

Standard Milling

Hardness	30-45 HRC		45-55 HRC		55-60 HRC		60-68 HRC	
Work Material	Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	a_a=0.015D a_r=0.04D 						a_a=0.01D a_r=0.03D	
Mill Dia. (mm)	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.4	25,000	39.3	25,000	39.3	25,000	39.3	25,000	39.3
0.6	25,000	39.3	25,000	39.3	25,000	39.3	25,000	39.3
1.0	25,000	59.0	25,000	59.0	25,000	59.0	25,000	59.0
2.0	25,000	78.7	25,000	78.7	25,000	78.7	25,000	78.7
3.0	25,000	78.7	25,000	78.7	25,000	78.7	21,500	66.9

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. When using low speed machines, use the maximum speed and adjust feed rate.
4. During heavy load operations such as corner processing, reduce the speed and feed.
5. The run out of the end mill should be within 10 microns (.0004") after chucking.

List 9192: 2 Flute, Ball End, Super Long Neck, CBN, Stub Length

Standard Milling

Hardness	30-45 HRC		45-55 HRC		55-60 HRC		60-68 HRC	
Work Material	Hardened Steels Pre-hardened Steels		Hardened Steels					
Depth of Cut	a_a=0.015D a_r=0.04D						a_a=0.01D a_r=0.03D	
Mill Dia. (mm)	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.4	25,000	39.4	25,000	39.4	25,000	39.4	25,000	39.4
0.6	25,000	39.4	25,000	39.4	25,000	39.4	25,000	39.4
1.0	25,000	59.1	25,000	59.1	25,000	59.1	25,000	59.1
2.0	25,000	78.8	25,000	78.8	25,000	78.8	25,000	76.9
3.0	25,000	78.4	25,000	78.4	25,000	78.0	21,500	66.9

1. Use a rigid and precise machine and holder.
2. We suggest using air blow or MQL (mist).
3. When using low speed machines, use the maximum speed and adjust feed rate.
4. During heavy load operations such as corner processing, reduce the speed and feed.
5. The run out of the end mill should be within 10 microns (.0004") after chucking.

List 2010: Ball End, Regular Length, 2 Flute

Slotting

Work Material	Aluminum Alloy A6061, A7075		Aluminum Alloy Casting	
Cutting Speed	990 SFM		900 SFM	
Depth of Cut	Aa < 0.6D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	25,000	139.1	25,000	130.6
3/16	20,170	171.9	18,336	147.4
1/4	15,127	174.3	13,752	151.0
5/16	12,102	178.2	11,002	154.1
3/8	10,085	181.9	9,168	157.5
7/16	8,644	185.0	7,858	160.5
1/2	7,564	188.1	6,876	164.6
5/8	6,051	180.4	5,501	156.0
3/4	5,042	177.3	4,584	153.2
1	3,782	173.2	3,438	149.9

1. Use a rigid and precise machine and holder.
2. Use a water soluble cutting fluid.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.

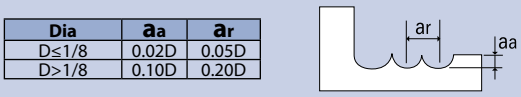
Profiling

Work Material	Aluminum Alloy A6061, A7075		Aluminum Alloy Casting	
Cutting Speed	1190 SFM		1100 SFM	
Depth of Cut	Aa = 0.1D Ar = 0.2D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	25,000	139.1	25,000	130.6
3/16	24,244	206.7	22,411	180.1
1/4	18,183	209.5	16,808	184.6
5/16	14,547	214.2	13,446	188.4
3/8	12,122	218.6	11,205	192.5
7/16	10,390	222.4	9,605	196.2
1/2	9,092	226.1	8,404	201.1
5/8	7,273	216.9	6,723	190.7
3/4	6,061	213.1	5,603	187.2
1	4,546	208.2	4,202	183.2

1. Use a rigid and precise machine and holder.
2. Use a water soluble cutting fluid.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.

List 7230: Ball End, Long Reach, 2 & 4 Flute
List 7231: Ball End, Regular Length, 2 & 4 Flute, Long Reach

Side Milling

Work Material	Graphite		
Cutting Speed	160-300 SFM		
Depth of Cut			

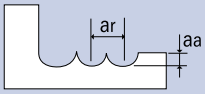
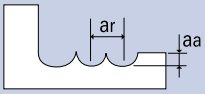
Dia	aa	ar
D≤1/8	0.02D	0.05D
D>1/8	0.10D	0.20D

Mill Dia.	Style	Speed RPM	Feed in/tooth
1/64	Regular	25,000	0.0002–0.0005
1/64	Long	25,000	0.0001–0.0003
1/32	Regular	25,000	0.0005–0.0010
1/32	Long	25,000	0.0003–0.0007
1/16	Regular	14,000	0.0010–0.0020
1/16	Long	13,700	0.0006–0.0012
3/32	Regular	9,500	0.0010–0.0020
3/32	Long	9,300	0.0006–0.0012
1/8	Regular	7,000	0.0010–0.0020
1/8	Long	6,850	0.0006–0.0012
3/16	Regular	4,700	0.0010–0.0020
3/16	Long	4,600	0.0006–0.0012
1/4	Regular	3,500	0.0020–0.0040
1/4	Long	3,430	0.0012–0.0024

1. Please reduce speed and feed by 20% when L/D>3D.
2. Please reduce speed and feed by 30% when slotting > 0.5D.
3. Please reduce depth of cut if running at elevated speed and feed.

List 7430: DG-EBML

Contouring

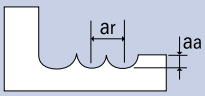
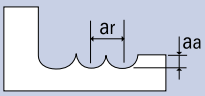
Work Material	Graphite			
	Roughing		Finishing	
Cutting Speed	164 SFM		164 SFM	
Depth of Cut	 Aa = 0.2D Ar = 0.2D		 Aa = 0.03D Ar = 003D	
Mill Dia. Inch	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	20,000	95	20,000	95
3/64	13,365	63	13,365	63
1/16	10,025	47	10,025	47
3/32	6,680	32	6,680	32
1/8	5,010	24	5,010	24
3/16	3,340	16	3,340	16
1/4	2,505	12	2,505	12
3/8	1,670	8	1,670	8
1/2	1,255	6	1,255	6

Set the ramping angle to be approximately 0.5°.

1. Adjust the speed, the feed rate, and the depth of cut to suit your operating conditions, such as the milling shape, machine rigidity, tool holder rigidity, and work holding force.
2. If you are unable to reach the speed and feed rate indicated in the table above, lower the speed and feed rate using the same ratio.
3. If the workpiece gets chipped or if the operation requires a higher level of milling precision, lower the feed rate as necessary.
4. Depending on the shape, if the workpiece chatters, lower the speed and feed rate using the same ratio.
5. To mill graphite, use a dedicated milling machine. To prevent inhalation of dust, use a dust collector and a dust mask when working around graphite.
6. During milling, keep the runout at the tip of the end mill to be less than 0.0004 inches (0.01 mm).
7. If a cut involves the shaping of a corner, use the corner radius process of the program, or adjust the speed so that it will not cause chattering, and reduce the speed at the corner at the same time (approximately 60%).

List 7431: DG-LN-EBML

Contouring

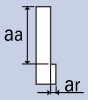
Work Material	Graphite			
	Roughing		Finishing	
Cutting Speed	82 SFM		82 SFM	
Depth of Cut	 Aa = 0.2D Ar = 0.2D		 Aa = 0.03D Ar = 003D	
Mill Dia. Inch	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	10,000	31	10,000	31
3/64	6,685	21	6,685	21
1/16	5,015	16	5,015	16
3/32	3,340	11	3,340	11
1/8	2,505	8	2,505	8
3/16	1,670	5	1,670	5
1/4	1,255	4	1,255	4
3/8	835	3	835	3
1/2	630	2	630	2

Set the ramping angle to be approximately 0.5°.

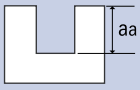
1. Adjust the speed, the feed rate, and the depth of cut to suit your operating conditions, such as the milling shape, machine rigidity, tool holder rigidity, and work holding force.
2. If you are unable to reach the speed and feed rate indicated in the table above, lower the speed and feed rate using the same ratio.
3. If the workpiece gets chipped or if the operation requires a higher level of milling precision, lower the feed rate as necessary.
4. Depending on the shape, if the workpiece chatters, lower the speed and feed rate using the same ratio.
5. To mill graphite, use a dedicated milling machine. To prevent inhalation of dust, use a dust collector and a dust mask when working around graphite.
6. During milling, keep the runout at the tip of the end mill to be less than 0.0004 inches (0.01 mm).
7. If a cut involves the shaping of a corner, use the corner radius process of the program, or adjust the speed so that it will not cause chattering, and reduce the speed at the corner at the same time (approximately 60%).

List VG441BN: 4 Flute - Ball Nose

Side Milling

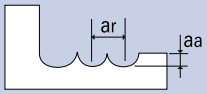
Hardness	<25 HRC		25-30 HRC		30-35 HRC		35-45 HRC		45-50 HRC		<40 HRC		<45 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	400-500 SFM		300-400 SFM		200-350 SFM		200-250 SFM		175-225 SFM		150-250 SFM		100-135 SFM	
Depth of Cut	Aa=1.5D Ar=0.5D 						Aa=1.25D Ar=0.4D		Aa=1.25D Ar=0.2D		Aa=1.25D Ar=0.4D		Aa=1D Ar=0.2D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	13,750	44.0	10,695	25.7	8,400	18.6	6,875	15.2	6,110	14.5	6,110	12.9	3,665	9.5
3/16	9,170	46.8	7,130	28.8	5,600	20.6	4,585	16.9	4,075	16.3	4,075	13.7	2,445	10.9
1/4	6,875	46.8	5,350	31.1	4,200	20.3	3,440	16.7	3,050	16.8	3,050	13.9	1,835	11.2
5/16	5,500	48.1	4,210	31.8	3,350	21.4	2,750	17.6	2,450	17.8	2,450	15.1	1,465	11.7
3/8	4,585	47.1	3,565	30.5	2,800	20.6	2,290	16.9	2,040	16.3	2,040	14.6	1,220	11.1
7/16	3,930	45.4	3,055	30.2	2,400	20.1	1,965	16.5	1,750	16.3	1,750	14.0	1,050	11.1
1/2	3,440	45.4	2,675	29.2	2,100	19.5	1,720	15.9	1,525	15.7	1,525	13.9	915	10.8
5/8	2,750	40.6	2,140	27.7	1,700	19.0	1,375	15.4	1,225	14.7	1,225	12.5	730	9.9
3/4	2,290	37.3	1,785	25.3	1,400	16.8	1,150	13.8	1,025	13.5	1,025	11.8	610	9.3
1	1,720	33.0	1,340	22.8	1,050	14.9	860	12.2	765	12.2	765	10.6	460	8.4
1 1/4	1,375	26.4	1,070	18.2	850	12.1	690	9.8	610	9.7	610	8.3	365	6.7

Slotting

Hardness	<25 HRC		25-30 HRC		30-35 HRC		35-45 HRC		45-50 HRC		<40 HRC		<45 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	325-400 SFM		250-325 SFM		175-275 SFM		160-200 SFM		140-180 SFM		125-200 SFM		75-100 SFM	
Depth of Cut	Aa=1D 						Aa=0.75D		Aa=0.5D		Aa=0.5D		Aa=0.2D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	11,240	35.8	8,860	21.3	6,900	15.4	5,500	10.7	4,890	11.6	5,050	10.6	2,750	7.3
3/16	7,495	38.5	5,910	23.9	4,600	17.5	3,670	11.5	3,260	12.8	3,350	11.5	1,835	8.1
1/4	5,620	37.9	4,430	25.5	3,450	17.2	2,750	12.2	2,445	14.0	2,550	11.8	1,375	8.1
5/16	4,500	39.4	3,545	26.8	2,750	18.3	2,200	12.9	1,955	14.2	2,000	11.8	1,100	9.0
3/8	3,750	38.2	2,955	25.5	2,300	17.5	1,835	12.2	1,630	12.8	1,700	11.6	915	8.3
7/16	3,210	37.1	2,530	24.7	1,950	16.7	1,575	11.8	1,395	12.8	1,450	11.8	785	8.3
1/2	2,810	37.2	2,215	24.2	1,700	16.1	1,375	11.5	1,225	12.8	1,300	12.1	690	8.1
5/8	2,250	33.1	1,775	22.5	1,400	15.9	1,100	11.0	975	11.6	1,000	10.0	550	7.6
3/4	1,875	31.1	1,480	20.9	1,150	14.4	920	10.0	815	10.5	850	9.4	460	6.9
1	1,405	26.7	1,110	18.7	875	12.6	685	8.6	610	9.8	650	9.0	345	6.5
1 1/4	1,115	21.2	885	14.9	700	10.1	550	6.9	490	7.8	500	6.9	275	5.1

List HP421BN, HP441BN

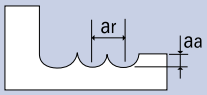
Profiling Milling (Fractional)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	575 SFM	460 SFM	375 SFM	310 SFM	260 SFM	230 SFM	165 SFM
Depth of Cut	ar=0.1D aa=0.2D					ar=0.05D aa=0.1D	

Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	31.3	25,000	30.5	23,000	25.1	19,000	16.9	16,000	11.4	14,000	8.5	10,000	5.3
3/32	23,500	42.6	18,800	34.2	15,300	27.4	12,600	18.2	10,600	12.7	9,400	9.3	6,700	5.7
1/8	17,500	45.3	14,000	36.2	11,600	29.5	9,300	19.3	8,150	14.6	7,000	10.6	5,200	7.1
5/32	14,050	44.1	11,550	35.8	9,700	29.5	7,750	20.5	6,750	16.9	5,800	12.2	4,300	7.9
3/16	11,750	48.0	9,500	39.0	7,900	29.9	6,300	20.9	5,550	17.3	4,700	13.0	3,550	7.9
1/4	8,750	53.1	7,000	42.9	5,800	33.1	4,600	22.8	4,050	19.3	3,450	14.2	2,550	8.7
5/16	7,250	60.6	5,800	48.8	4,800	36.6	3,800	25.6	3,350	20.9	2,850	15.0	2,100	9.4
3/8	5,900	57.1	4,700	45.3	3,900	35.0	3,100	24.4	2,700	20.5	2,350	15.4	1,700	9.4
7/16	4,950	53.1	3,950	42.1	3,300	33.1	2,600	23.2	2,300	19.7	1,950	14.6	1,450	9.1
1/2	4,350	50.4	3,450	40.6	2,900	31.9	2,300	22.4	2,000	18.9	1,700	14.2	1,250	8.7
5/8	3,600	49.6	2,850	39.4	2,350	30.3	1,850	22.4	1,600	17.7	1,400	12.6	1,050	8.7
3/4	3,000	46.1	2,400	36.6	2,000	28.0	1,600	21.7	1,350	17.3	1,200	11.8	900	7.9
1	2,450	37.6	1,760	31.3	1,430	21.5	1,185	16.5	1,000	13.5	880	9.6	630	6.5

Increase feeds 40% to 50% for Series HP441BN.

Profiling Milling (Metric)

Hardness	–	<20 HRC	20-30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC
Work Material	Cast Iron	Mild Steels Carbon Steels	Alloy Steels Tool Steels Ti Alloys (Annealed)	Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)	Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys	Hardened Steels	Hardened Steels
Cutting Speed	575 SFM	460 SFM	375 SFM	310 SFM	260 SFM	230 SFM	165 SFM
Depth of Cut	ar=0.1D aa=0.2D					ar=0.05D aa=0.1D	

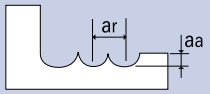
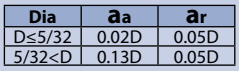
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	23.5	25,000	23.5	25,000	19.3	25,000	15.7	25,000	12.7	25,000	10.8	16,000	6.2
2	25,000	38.9	22,350	34.9	18,200	28.1	15,050	18.7	12,600	12.8	11,150	9.5	8,000	6.0
3	18,600	46.4	14,900	37.4	12,150	29.9	10,050	20.0	8,400	14.0	7,450	10.5	5,350	6.8
4	14,000	44.5	11,150	34.9	9,100	28.1	7,550	20.5	6,300	16.2	5,600	12.2	4,000	7.5
5	11,200	50.1	8,950	40.7	7,300	29.7	6,000	21.5	5,050	17.0	4,450	13.4	3,200	8.0
6	9,300	52.6	7,450	42.9	6,050	32.4	5,000	23.5	4,200	18.7	3,700	14.5	2,650	8.7
8	7,000	59.2	5,600	47.8	4,550	35.2	3,750	25.5	3,150	20.1	2,800	14.9	2,000	9.3
10	5,600	56.5	4,450	44.7	3,650	34.4	3,000	25.1	2,500	19.8	2,250	15.9	1,600	9.5
12	4,650	52.6	3,700	41.9	3,050	32.9	2,500	23.9	2,100	19.6	1,850	15.0	1,350	9.3
14	4,000	48.6	3,200	40.2	2,600	30.7	2,150	22.3	1,800	17.7	1,600	14.0	1,150	8.5
16	3,500	48.6	2,800	39.0	2,300	29.8	1,900	22.7	1,600	17.6	1,400	12.9	1,000	8.0
18	3,100	46.1	2,500	37.1	2,050	28.1	1,650	22.0	1,400	17.4	1,250	12.1	900	7.8
20	2,800	43.3	2,250	35.0	1,800	25.7	1,500	20.8	1,250	16.2	1,100	11.1	800	7.3
22	2,550	42.1	2,050	32.4	1,650	22.5	1,350	18.9	1,150	15.3	1,000	10.4	750	7.5
25	2,250	36.8	1,800	31.7	1,450	21.3	1,200	17.0	1,000	12.9	900	9.6	650	6.5

Increase feeds 40% to 50% for Series HP441BN.

CONTINUED

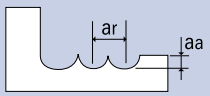
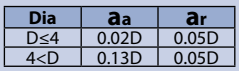
List HP421BN, HP441BN: (continued)

High Speed Light Milling (Fractional)

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	985 SFM		855 SFM		740 SFM		590 SFM		590 SFM		400 SFM	
Depth of Cut	a_a=0.02D a_r=0.05D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/16	25,000	80.3	25,000	77.6	25,000	69.9	25,000	65.9	25,000	63.4	24,450	54.3
3/32	25,000	125.5	25,000	127.6	25,000	115.4	24,050	104.4	24,050	99.4	16,300	58.4
1/8	25,000	174.8	25,000	181.6	22,650	146.5	18,050	110.5	18,050	106.7	12,250	59.7
5/32	24,100	192.4	20,900	177.8	18,100	129.3	14,450	101.7	14,450	96.7	9,800	52.9
3/16	20,100	198.9	17,450	180.2	15,100	121.5	12,050	96.5	12,050	96.3	8,150	49.3
1/4	15,050	189.5	13,100	164.9	11,300	106.1	9,000	83.8	9,000	83.8	6,100	42.0
5/16	12,050	151.1	10,500	132.4	9,050	83.9	7,250	67.7	7,250	67.7	5,000	35.4
3/8	10,050	125.1	8,700	108.4	7,400	69.3	5,900	55.1	5,900	55.1	4,100	28.7
7/16	8,250	102.8	7,450	92.3	6,200	57.9	4,950	45.7	4,950	45.7	3,400	24.0
1/2	7,250	90.2	6,550	81.3	5,450	50.4	4,300	40.2	4,300	40.2	3,000	20.9
5/8	6,050	75.6	5,200	63.8	4,500	41.7	3,600	33.9	3,600	33.9	2,450	17.3
3/4	5,050	62.6	4,350	54.7	3,750	35.4	3,000	28.3	3,000	28.3	2,100	14.6
1	3,765	46.8	3,270	41.1	2,830	26.7	2,250	21.2	2,250	21.2	1,530	10.6

Increase feeds 40% to 50% for Series HP441BN.

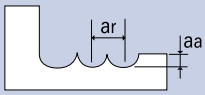
High Speed Light Milling (Metric)

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	985 SFM		855 SFM		740 SFM		590 SFM		590 SFM		400 SFM	
Depth of Cut	a_a=0.02D a_r=0.05D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	55	25,000	55	25,000	49	25,000	47	25,000	47	25,000	39
2	25,000	108	25,000	109	25,000	99	25,000	93	25,000	93	19,400	60
3	25,000	170	25,000	175	23,950	151	19,100	113	19,100	113	12,950	62
4	23,900	192	20,750	178	17,950	129	14,350	102	14,350	102	9,700	53
5	19,150	202	16,600	181	14,350	119	11,450	96	11,450	96	7,750	49
6	15,950	201	13,850	174	12,000	113	9,550	89	9,550	89	6,450	44
8	12,000	150	10,400	131	9,000	83	7,150	67	7,150	67	4,850	34
10	9,550	119	8,300	103	7,200	67	5,750	54	5,750	54	3,900	28
12	7,950	99	6,900	85	6,000	56	4,750	44	4,750	44	3,250	23
14	6,850	85	5,950	73	5,150	48	4,100	39	4,100	39	2,750	19
16	6,000	75	5,200	64	4,500	42	3,600	34	3,600	34	2,450	17
18	5,300	65	4,600	58	4,000	38	3,200	30	3,200	30	2,150	15
20	4,800	60	4,150	52	3,600	34	2,850	27	2,850	27	1,950	14
22	4,350	54	3,750	47	3,250	31	2,600	24	2,600	24	1,750	12
25	3,850	48	3,300	41	2,850	27	2,300	22	2,300	22	1,550	11

Increase feeds 40% to 50% for Series HP441BN.

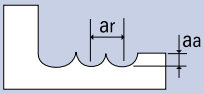
List HP419

Profiling Milling (Fractional)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Cast Iron		Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	574 SFM		460 SFM		377 SFM		295 SFM		262 SFM		230 SFM		164 SFM	
Depth of Cut	ae=0.1D ar=0.2D										ae=0.05D ar=0.1D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	25,000	23.4	25,000	23.4	25,000	18.8	25,000	12.1	25,000	8.6	25,000	8.7	20,050	6.3
1/16	25,000	31.6	25,000	30.9	23,050	25.5	18,050	16.1	16,000	11.7	14,050	8.6	10,050	5.5
3/32	23,400	42.3	18,750	34.2	15,350	27.7	12,050	17.3	10,700	12.7	9,400	9.4	6,700	5.9
1/8	17,760	44.4	14,370	36.1	12,060	29.8	9,690	19.5	8,490	14.4	7,280	10.4	5,440	6.9
3/16	11,970	48.3	9,660	39.4	8,070	29.9	6,420	21.0	5,650	17.5	4,830	13.3	3,610	8.3

Reduce speeds and feeds 10% to 25% for Series HP419.

Profiling Milling (Metric)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Cast Iron		Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	574 SFM		460 SFM		377 SFM		295 SFM		262 SFM		230 SFM		164 SFM	
Depth of Cut	ae=0.1D ar=0.2D										ae=0.05D ar=0.1D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.5	25,000	19.2	25,000	19.2	25,000	15.4	25,000	9.7	25,000	7.7	25,000	4.3	25,000	4.4
0.6	25,000	20.8	25,000	20.8	25,000	16.9	25,000	10.3	25,000	8.2	25,000	4.7	25,000	4.5
0.8	25,000	23.1	25,000	23.1	25,000	18.2	25,000	10.8	25,000	8.5	25,000	8.2	19,900	6.0
1.0	25,000	23.5	25,000	23.5	25,000	19.3	25,000	15.7	25,000	12.7	25,000	10.8	15,900	6.1
2.0	25,000	38.9	22,350	34.9	18,300	28.2	14,300	17.7	12,700	12.9	11,150	9.5	7,950	5.9
3.0	18,600	46.4	14,900	37.4	12,200	30.1	9,550	19.0	8,500	14.2	7,450	10.5	5,300	6.7
4.0	13,950	44.3	11,150	34.9	9,150	28.2	7,150	19.4	6,350	16.4	5,600	12.2	4,000	7.5
5.0	11,150	49.8	9,000	40.9	7,300	29.7	5,750	20.6	5,100	17.2	4,450	13.4	3,200	8.0
6.0	9,300	52.6	7,450	42.9	6,100	32.6	4,750	22.4	4,250	19.0	3,700	14.5	2,650	8.7
8.0	7,000	59.2	5,600	47.8	4,600	35.6	3,600	24.6	3,200	20.4	2,800	14.9	2,000	9.3
10.0	5,550	56.0	4,450	44.7	3,650	34.4	2,850	23.8	2,550	20.2	2,250	15.9	1,600	9.5
12.0	4,650	52.7	3,700	41.9	3,050	32.9	2,400	22.9	2,100	19.6	1,850	15.0	1,350	9.3

Reduce feeds 10% to 20% for Series HP419L.

CONTINUED

List HP419: (continued)

High Speed Light Milling (Fractional)

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	951 SFM		820 SFM		722 SFM		574 SFM		574 SFM		394 SFM	
Depth of Cut	a_a=0.1D a_r=0.2D								Dia / a_a / a_r D≤5/32 / 0.02D / 0.05D 5/32<D / 0.13D / 0.05D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/32	25,000	43.3	25,000	43.3	25,000	39.4	25,000	37.4	25,000	35.3	25,000	30.8
1/16	25,000	80.8	25,000	78.1	25,000	70.3	25,000	66.3	25,000	64.0	24,060	53.6
3/32	25,000	125.3	25,000	126.7	25,000	115.8	23,370	101.2	23,370	96.9	16,040	57.6
1/8	25,000	169.9	25,000	175.1	22,050	139.5	17,530	104.1	17,530	101.1	12,030	57.6
3/16	19,360	186.1	16,700	169.4	14,700	116.4	11,680	92.7	11,680	92.2	8,020	48.4

Reduce speeds and feeds 10% to 25% for Series HP419.

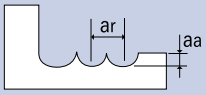
High Speed Light Milling (Metric)

Hardness	<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	951 SFM		820 SFM		722 SFM		574 SFM		574 SFM		394 SFM	
Depth of Cut	a_a=0.1D a_r=0.2D								Dia / a_a / a_r D≤8 / 0.02D / 0.05D 8<D / 0.13D / 0.05D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
0.5	25,000	28.5	25,000	27.6	25,000	27.6	25,000	23.6	25,000	22.6	25,000	22.6
0.6	25,000	32.5	25,000	32.5	25,000	32.5	25,000	27.6	25,000	27.1	25,000	27.1
0.8	25,000	43.3	25,000	43.3	25,000	39.4	25,000	37.4	25,000	35.4	25,000	30.8
1.0	25,000	55.1	25,000	55.1	25,000	49.2	25,000	46.6	25,000	44.6	25,000	39.4
2.0	25,000	108.1	25,000	108.6	25,000	98.9	25,000	92.8	25,000	88.5	19,100	59.3
3.0	25,000	169.9	25,000	175.1	23,330	147.6	18,550	110.1	18,550	107.0	12,730	61.0
4.0	23,050	185.3	19,870	170.4	17,500	125.7	13,910	98.7	13,910	94.0	9,550	51.8
5.0	18,440	194.4	15,900	173.5	14,000	116.6	11,130	93.4	11,130	93.8	7,640	48.2
6.0	15,360	193.4	13,250	166.3	11,670	109.6	9,280	86.6	9,280	86.6	6,370	43.9
8.0	11,530	144.2	9,940	125.3	8,750	80.9	6,960	65.2	6,960	65.2	4,780	33.8
10.0	9,220	114.6	7,950	98.6	7,000	65.5	5,570	51.9	5,570	51.9	3,820	27.0
12.0	7,680	95.3	6,630	82.0	5,830	54.0	4,640	42.8	4,640	42.8	3,180	22.4

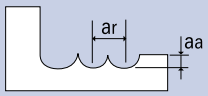
Reduce feeds 10% to 20% for Series HP419L.

List HP418

Profiling Milling (Fractional)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Cast Iron		Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	497 SFM		397 SFM		330 SFM		262 SFM		230 SFM		196 SFM		146 SFM	
Depth of Cut	ar=0.1D aa=0.2D										ar=0.05D aa=0.1D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3/32	20,450	37.0	16,520	30.1	13,590	24.5	10,955	15.8	9,625	11.4	8,295	8.3	6,235	5.5
1/8	14,800	37.0	11,975	30.1	10,050	24.8	8,080	16.2	7,075	12.0	6,070	8.7	4,540	5.7
3/16	9,975	40.3	8,050	32.8	6,730	24.9	5,355	17.5	4,710	14.6	4,025	11.1	3,015	6.9
1/4	7,600	43.0	6,070	35.0	5,060	27.2	4,015	18.9	3,530	15.8	3,010	11.8	2,245	7.4
3/8	5,035	48.1	4,025	38.6	3,340	29.7	2,650	20.9	2,330	17.1	2,005	13.1	1,480	8.3

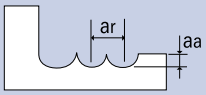
Profiling Milling (Metric)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC		55-60 HRC	
Work Material	Cast Iron		Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	497 SFM		397 SFM		330 SFM		262 SFM		230 SFM		196 SFM		146 SFM	
Depth of Cut	ar=0.1D aa=0.2D										ar=0.05D aa=0.1D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	23.5	25,000	23.5	25,000	19.3	2,500	1.6	25,000	12.7	19,050	8.2	14,200	5.5
2	25,000	38.9	19,250	30.1	16,000	24.7	12,700	15.8	11,150	11.3	9,500	8.1	7,100	5.3
3	16,100	40.2	12,850	32.2	10,700	26.4	8,500	16.9	7,450	12.4	6,350	8.9	4,750	6.0
4	12,050	38.3	9,650	30.2	8,000	24.7	6,350	17.2	5,600	14.4	4,750	10.4	3,550	6.7
5	9,650	43.1	7,700	35.0	6,400	26.0	5,100	18.2	4,450	15.0	3,800	11.5	2,850	7.1
6	8,050	45.5	6,400	36.8	5,350	28.6	4,250	20.0	3,700	16.5	3,150	12.4	2,350	7.7
8	6,050	51.2	4,800	41.0	4,000	30.9	3,200	21.8	2,800	17.9	2,400	12.8	1,750	8.1
10	4,850	49.0	3,850	38.7	3,200	30.1	2,550	21.3	2,250	17.8	1,900	13.4	1,400	8.3
12	4,000	45.3	3,200	36.2	2,650	28.6	2,100	20.1	1,850	17.3	1,600	13.0	1,200	8.3

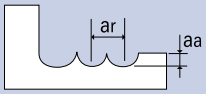
CONTINUED

List HP418: (continued)

High Speed Light Milling (Fractional)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	980 SFM		850 SFM		740 SFM		590 SFM		590 SFM		410 SFM	
Depth of Cut	a_a=0.02D a_r=0.05D								Dia / a_a / a_r D≤5/32 / 0.02D / 0.05D 5/32<D / 0.13D / 0.05D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3/32	25,000	125.3	25,000	126.7	25,000	115.8	24,050	104.2	24,050	99.8	16,700	60.1
1/8	25,000	170.0	25,000	175.2	22,650	143.3	18,050	107.2	18,050	104.0	12,550	60.1
3/16	17,350	166.8	17,350	176.0	15,050	119.3	12,050	95.6	12,050	95.2	8,350	50.4
1/4	13,000	163.6	12,880	161.7	11,050	103.8	9,080	84.8	9,080	84.8	6,305	43.5
3/8	8,650	107.7	8,660	108.0	7,575	70.7	6,035	56.4	6,035	56.4	4,180	29.6

High Speed Light Milling (Metric)

Hardness	–		<20 HRC		20-30 HRC		30-38 HRC		38-45 HRC		45-55 HRC	
Work Material	Mild Steels Carbon Steels		Alloy Steels Tool Steels Ti Alloys (Annealed)		Hardened Steels Pre-hardened Steels Ti Alloys (Solution Treated and Aged)		Hardened Steels Pre-hardened Steels Stainless Steels Inconel Ni Based Alloys		Hardened Steels		Hardened Steels	
Cutting Speed	980 SFM		850 SFM		740 SFM		590 SFM		590 SFM		410 SFM	
Depth of Cut	a_a=0.02D a_r=0.05D								Dia / a_a / a_r D≤8 / 0.02D / 0.05D 8<D / 0.13D / 0.05D			
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	55.1	25,000	55.1	25,000	49.2	25,000	44.6	25,000	44.6	25,000	39.4
2	25,000	107.8	25,000	108.6	25,000	98.9	25,000	88.0	25,000	88.0	19,900	61.8
3	25,000	169.7	25,000	174.9	24,000	151.7	19,100	110.1	19,100	110.1	13,250	63.0
4	20,650	165.9	20,650	177.0	17,950	128.9	14,300	96.2	14,300	96.2	9,950	53.6
5	16,500	173.6	16,500	179.6	14,350	119.2	11,450	96.4	11,450	96.4	7,950	50.1
6	13,750	172.8	13,750	172.3	12,000	112.4	9,550	89.0	9,550	89.0	6,650	45.7
8	10,300	128.6	10,300	129.7	9,000	83.2	7,150	66.7	7,150	66.7	5,000	35.0
10	8,250	102.5	8,250	102.0	7,200	67.3	5,750	53.5	5,750	53.5	4,000	28.3
12	6,900	85.4	6,900	85.1	6,000	55.6	4,750	43.6	4,750	43.6	3,300	22.9

Standard Ball Nose Carbide 2 Flute and 3 Flute

Profiling (Fractional)

Hardness	–		–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Cast Iron		Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	330 SFM		115 SFM		115 SFM		80 SFM		65 SFM		82 SFM	
Depth of Cut	ae=0.1D ar=0.2D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3/64	25,000	5.9	9,365	3.0	9,365	2.6	6,515	1.5	5,295	0.7	6,675	1.5
5/64	16,120	7.6	5,620	3.5	5,620	3.1	3,910	1.8	3,175	0.9	4,005	1.8
1/8	10,075	7.6	3,510	3.7	3,510	3.3	2,445	1.9	1,985	1.1	2,505	2.1
5/32	8,060	7.6	2,810	3.9	2,810	3.5	1,954	2.0	1,590	1.2	2,005	2.2
3/16	6,720	7.9	2,340	4.1	2,340	3.7	1,630	2.0	1,325	1.2	1,670	2.3
1/4	5,040	7.1	1,760	3.6	1,760	3.2	1,220	1.8	990	1.2	1,250	2.1
5/16	4,030	8.8	1,405	3.9	1,405	3.5	975	2.0	795	1.2	1,000	2.2
13/32	3,100	8.4	1,080	3.8	1,080	3.4	750	1.9	610	1.1	770	2.1
15/32	2,685	9.0	935	3.9	935	3.5	650	2.0	530	1.2	670	2.2
5/8	2,015	8.8	700	3.9	700	3.5	490	2.0	395	1.2	500	2.2
25/32	1,610	8.8	560	3.9	560	3.5	390	2.0	320	1.2	400	2.2
1	1,260	9.1	440	3.8	440	3.4	305	1.9	250	1.2	315	2.2

1. Increase speeds & feeds 5-10% for Series 412BN, 414BN, 442BN and 444BN.
2. Reduce speeds & feeds 20-30% for Series 462BN and 464BN.
3. Reduce speeds & feeds 40-50% for Series 482BN and 484BN.
4. Increase speeds & feeds 20-30% for Series 402BN TiN and 404BN TiN.
5. Column for Hardened Steels (40-50 HRC) is for 402BN TiN and 404BN TiN only.

Profiling (Metric)

Hardness	–		–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Cast Iron		Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	330 SFM		115 SFM		115 SFM		80 SFM		65 SFM		82 SFM	
Depth of Cut	ae=0.1D ar=0.2D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	5.8	11,130	3.6	11,130	3.2	7,950	1.8	6,360	0.9	7,950	1.8
2	15,905	7.4	5,565	3.5	5,565	3.1	3,975	1.8	3,180	0.9	3,975	1.8
3	10,600	7.9	3,710	3.9	3,710	3.6	2,650	2.0	2,120	1.2	2,650	2.2
4	7,950	7.4	2,785	3.9	2,785	3.5	1,990	2.0	1,590	1.2	1,990	2.2
5	6,360	7.4	2,225	4.0	2,225	3.6	1,590	2.0	1,270	1.2	1,590	2.2
6	5,300	7.5	1,855	3.8	1,855	3.5	1,325	2.0	1,060	1.3	1,325	2.2
8	3,975	8.6	1,390	3.9	1,390	3.5	995	2.0	795	1.2	995	2.2
10	3,180	8.6	1,115	4.0	1,115	3.6	795	2.0	635	1.2	795	2.2
12	2,650	8.8	930	3.9	930	3.5	665	2.0	530	1.2	665	2.2
16	1,990	8.6	695	3.9	695	3.5	495	1.9	400	1.2	495	2.1
20	1,590	8.6	555	3.9	555	3.5	400	2.0	320	1.2	400	2.2
25	1,270	9.2	445	3.9	445	3.5	320	2.0	255	1.2	320	2.2

1. Increase speeds & feeds 5-10% for Series 412BN, 414BN, 442BN and 444BN.
2. Reduce speeds & feeds 20-30% for Series 462BN and 464BN.
3. Reduce speeds & feeds 40-50% for Series 482BN and 484BN.
4. Increase speeds & feeds 20-30% for Series 402BN TiN and 404BN TiN.
5. Column for Hardened Steels (40-50 HRC) is for 402BN TiN and 404BN TiN only.

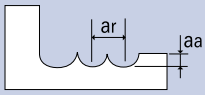
Standard Ball Nose Carbide 4 Flute and Multiple Flute

Profiling (Fractional)

Hardness	–		–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Cast Iron		Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	330 SFM		100-115 SFM		100-130 SFM		65-100 SFM		65-82 SFM		43 SFM	
Depth of Cut	∂a=0.1D ∂r=0.2D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3/64	25,000	8.2	8,755	4.0	9,365	3.7	6,720	2.1	5,985	1.2	3,500	1.1
5/64	16,120	10.6	5,250	4.7	5,620	4.4	4,030	2.5	3,590	1.5	2,100	1.3
1/8	10,075	10.6	3,280	4.9	3,510	4.7	2,520	2.7	2,245	1.8	1,315	1.5
5/32	8,060	10.6	2,625	5.2	2,810	5.0	2,015	2.8	1,795	1.9	1,050	1.6
3/16	6,720	11.0	2,190	5.5	2,340	5.3	1,680	2.9	1,495	2.0	875	1.6
1/4	5,040	10.0	1,640	4.7	1,755	4.6	1,260	2.7	1,120	1.9	655	1.5
5/16	4,030	12.2	1,315	5.2	1,405	5.0	1,010	2.8	900	1.9	525	1.6
13/32	3,100	11.7	1,010	5.1	1,080	4.9	775	2.7	690	1.8	405	1.5
15/32	2,685	12.5	875	5.2	935	5.0	670	2.8	600	1.9	350	1.6
5/8	2,015	12.2	655	5.1	700	5.0	505	2.8	450	1.9	265	1.6
25/32	1,610	12.2	525	5.2	560	5.0	405	2.8	360	1.9	210	1.6
1	1,260	12.7	410	5.0	440	4.9	315	2.8	280	1.9	165	1.5

1. Increase speeds & feeds 5-10% for Series 412BN, 414BN, 442BN and 444BN.
2. Reduce speeds & feeds 20-30% for Series 462BN and 464BN.
3. Reduce speeds & feeds 40-50% for Series 482BN and 484BN.
4. Increase speeds & feeds 20-30% for Series 402BN TiN and 404BN TiN.
5. Column for Hardened Steels (40-50 HRC) is for 402BN TiN and 404BN TiN only.

Profiling (Metric)

Hardness	–		–		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC	
Work Material	Aluminum		Cast Iron		Mild Carbon Steels Mild Steels		Pre-hardened Steels Die & Alloy Steels		Pre-hardened Steels Die & Alloy Steels		Hardened Steels	
Cutting Speed	330 SFM		100-115 SFM		100-130 SFM		65-100 SFM		65-82 SFM		43 SFM	
Depth of Cut	aa=0.1D ar=0.2D 											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	25,000	7.0	10,420	4.7	11,150	4.5	8,000	2.5	7,125	1.5	4,170	1.3
2	15,995	8.9	5,210	4.6	5,575	4.4	4,000	2.5	3,565	1.5	2,085	1.3
3	10,665	9.5	3,475	5.2	3,715	5.0	2,665	2.8	2,375	1.9	1,390	1.6
4	8,000	8.9	2,605	5.1	2,785	4.9	2,000	2.8	1,780	1.8	1,040	1.6
5	6,400	8.9	2,085	5.2	2,230	5.0	1,600	2.8	1,425	1.8	835	1.6
6	5,330	8.9	1,735	5.0	1,860	4.9	1,335	2.8	1,190	2.0	695	1.6
8	4,000	12.1	1,305	5.1	1,395	4.9	1,000	2.8	890	1.8	520	1.6
10	3,200	12.1	1,040	5.2	1,115	5.0	800	2.8	715	1.8	415	1.6
12	2,665	12.4	870	5.2	930	5.0	665	2.8	595	1.9	345	1.6
16	2,000	12.1	650	5.1	695	4.9	500	2.8	445	1.8	260	1.6
20	1,600	12.1	520	5.1	555	4.9	400	2.8	355	1.8	210	1.6
25	1,280	12.9	415	5.1	445	4.9	320	2.8	285	1.9	165	1.6

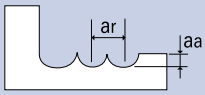
1. Increase speeds & feeds 5-10% for Series 412BN, 414BN, 442BN and 444BN.
2. Reduce speeds & feeds 20-30% for Series 462BN and 464BN.
3. Reduce speeds & feeds 40-50% for Series 482BN and 484BN.
4. Increase speeds & feeds 20-30% for Series 402BN TiN and 404BN TiN.
5. Column for Hardened Steels (40-50 HRC) is for 402BN TiN and 404BN TiN only.

Ball End

Cobalt High Speed Steel

List 521: Single End, Regular Length, 2 Flute
List 523: Double End, Regular Length, 2 Flute
List 526: Single End, Regular Length, 2 Flute, Extension Type
List 544: Single End, Regular Length, 4 Flute
List 621: Ball End, Regular Length, 2 Flute
List 644: Ball End, Regular Length, Multiple Flute

Profiling

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Medium Carbon Steels Medium Strength Titanium Alloys Medium Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Heat Resistant High Alloys High Strength Stainless Steels Titanium Alloys		Aluminum Aluminum Alloys	
Cutting Speed	80-150 SFM		80-110 SFM		50-65 SFM		30-50 SFM		16-32 SFM		80-390 SFM	
Depth of Cut	a_a 2FL = 1/2D 4FL = 1/4D				$a_{r=0.1D}$							
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/8	3,515	4.0	2,900	2.9	1,800	1.5	1,250	0.9	800	0.4	7,180	7.2
3/16	2,340	5.2	1,935	3.9	1,120	1.8	800	1.1	500	0.5	4,790	9.1
1/4	1,760	5.6	1,450	4.2	900	2.0	630	1.3	400	0.6	3,590	9.6
5/16	1,400	6.2	1,160	4.7	710	2.3	500	1.4	315	0.6	2,875	11.0
3/8	1,170	6.2	970	4.6	630	2.4	450	1.5	280	0.6	2,390	10.1
7/16	1,000	6.7	830	5.0	500	2.5	355	1.5	224	0.6	2,050	10.9
1/2	880	6.6	725	4.6	450	2.4	315	1.5	200	0.8	1,795	10.8
9/16	780	6.3	645	4.6	400	2.4	280	1.6	180	0.8	1,595	10.0
5/8	700	6.0	580	4.4	355	2.4	250	1.6	160	0.8	1,435	9.6
3/4	585	5.6	485	3.9	315	2.3	225	1.6	140	0.8	1,195	9.0
7/8	500	5.3	415	3.3	250	2.0	180	1.5	110	0.8	1,025	8.7
1	440	4.9	360	2.9	224	1.8	160	1.3	100	0.8	900	8.1
1-1/8	390	4.3	320	2.5	200	1.6	140	1.1	90	0.8	800	7.6
1-1/4	350	4.2	290	2.3	180	1.5	125	1.0	80	0.6	720	6.8
1-1/2	295	3.7	240	2.0	140	1.1	100	0.8	63	0.5	600	6.0

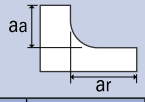
Reduce Speeds and Feeds by 10% for List 526
In case of deeper operation, slow down feed by 20-50%

List 440: Ball End - Multiple Flute - General Purpose - Regular Pitch

Side Milling

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		–	
Work Material	Mild Steels Carbon Steels Cast Iron		Medium Carbon Steels Hard Brass and Bronze Cast Iron		High Carbon Steel Titanium Alloys Medium Strength Stainless Effects		Heat Resistant High Alloys Austenitic Alloys Tool Steels		Aluminum Aluminum Alloys	
Cutting Speed	100-130 SFM		60-75 SFM		40-55 SFM		26-40 SFM		190-330 SFM	
Depth of Cut										

Dia	aa	ar
1/2≤D≤1	1.5D	0.5D
1-1/4≤D≤2	1.0D	0.5D

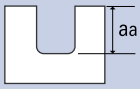


Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/2	875	3.9	500	2.7	365	1.7	250	1.1	2,000	12.6
5/8	700	4.4	420	3.1	300	1.9	200	1.3	1,600	14.1
3/4	590	4.1	350	3.1	250	2.0	170	1.2	1,350	13.9
1	500	5.0	250	2.9	180	1.8	125	1.3	1,000	14.2
1-1/4	350	5.0	200	3.3	150	2.3	100	1.4	800	15.9
1-1/2	300	5.0	175	3.3	120	1.9	80	1.3	650	14.3
2	250	4.3	130	2.7	90	1.6	65	1.2	500	11.7

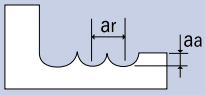
Slotting

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		–	
Work Material	Mild Steels Carbon Steels Cast Iron		Medium Carbon Steels Hard Brass and Bronze Cast Iron		High Carbon Steel Titanium Alloys Medium Strength Stainless Effects		Heat Resistant High Alloys Austenitic Alloys Tool Steels		Aluminum Aluminum Alloys	
Cutting Speed	80-150 SFM		50-65 SFM		30-50 SFM		16-32 SFM		80-390 SFM	
Depth of Cut										

# of Flutes	aa
4FL	1/4D
6FL	1/6D
8FL	1/8D



ar = 0.3D



Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/2	1,000	10.5	450	3.3	315	2.1	200	1.1	2,500	21.0
5/8	800	8.5	355	3.0	250	2.0	160	0.9	2,000	16.7
3/4	710	8.5	315	2.8	225	2.0	140	0.9	1,800	16.9
1	500	7.0	224	2.2	160	1.6	100	0.9	1,250	14.1
1-1/4	400	5.3	180	1.7	125	1.1	80	0.7	1,000	10.5
1-1/2	315	4.0	140	1.1	100	0.8	63	0.5	800	8.0
2	250	3.9	112	1.1	80	0.8	50	0.5	630	7.8

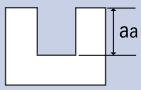
In case of deeper operation, slow down feed by 20-50%.

List 2061: BNC, Nick Router
List 2066: HBC, Compression Router, 30° Helix
List 2064: HBC 45, Compression Router, 45° Helix

Side Milling

Work Material	Carbon & Glass Fiber Reinforced Plastics	
Cutting Speed	400-800 SFM	
Depth of Cut	a_a<1.5D a_r<1D 	
Drill Diameter (Inch)	Speed RPM	Feed IPR
1/8	12,200 - 24,400	0.0011 - 0.0022
3/16	8,100 - 16,300	0.0021 - 0.0042
1/4	6,100 - 12,200	0.0033 - 0.0067
5/16	5,000 - 9,800	0.0047 - 0.0093
3/8	4,100 - 8,100	0.0067 - 0.0133
1/2	3,000 - 6,100	0.0111 - 0.0222

Slotting

Work Material	Carbon & Glass Fiber Reinforced Plastics	
Cutting Speed	300-600 SFM	
Depth of Cut	a_a<1D 	
Drill Diameter (Inch)	Speed RPM	Feed IPR
1/8	9,200 - 18,300	0.0016 - 0.0020
3/16	6,100 - 12,200	0.0020 - 0.0024
1/4	4,600 - 9,200	0.004 - 0.005
5/16	3,600 - 7,300	0.006 - 0.008
3/8	3,000 - 6,100	0.009 - 0.012
1/2	2,300 - 4,600	0.012 - 0.020

1. The conditions listed above are based on approximately 1xDc thickness of part with rigid work holding.
2. Conventional cut is recommended at part side for good surface finish.
3. Milling speed can be increased by 20-50% with the use of appropriate cutting oil.
4. Please provide appropriate measures against dust (Such as vacuum dust collection).
5. Depending on the workpiece thickness and form as well as work holding, vibration may occur. When it occurs, please adjust RPM and feed rate.

Feed Reduction

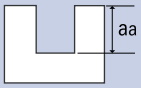
Material Thickness	Feed Reduction
≤0.25D	x80%
0.25D ~ 0.5D	x150%
0.5D ~ 1D	x120%
1D ~ 2D	x80%
2D ~ 3D	x50%

List 2068: HBC 60, Compression Router, 60° Helix
List 668: HBC 60, Compression Router, 60° Helix, Bright

Side Milling

Work Material	Carbon & Glass Fiber Reinforced Plastics		Honeycomb Structures & Aramid Fiber Reinforced Plastics	
Cutting Speed	400-800 SFM		1,000-2,600 SFM	
Depth of Cut	a_a<1.5D a_r<1D			
Drill Diameter (Inch)	Speed RPM	Feed IPR	Speed RPM	Feed IPR
1/4	6,100 - 12,200	0.0033 - 0.0067	15,300 - 39,700	0.0003 - 0.0007
3/8	4,000 - 8,100	0.0067 - 0.0133	10,100 - 26,500	0.0006 - 0.0009
1/2	3,000 - 6,100	0.0111 - 0.0222	7,600 - 19,900	0.0011 - 0.0014

Slotting

Work Material	Carbon & Glass Fiber Reinforced Plastics		Honeycomb Structures & Aramid Fiber Reinforced Plastics	
Cutting Speed	300-600 SFM		750-1,900 SFM	
Depth of Cut	a_a<1D			
Drill Diameter (Inch)	Speed RPM	Feed IPR	Speed RPM	Feed IPR
1/4	4,600 - 9,200	0.0021 - 0.0043	11,500 - 29,000	0.0002 - 0.0005
3/8	4,000 - 8,000	0.0044 - 0.0089	7,600 - 19,400	0.0007 - 0.0011
1/2	3,000 - 6,100	0.0071 - 0.0143	5,700 - 14,500	0.0013 - 0.0017

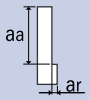
1. The conditions listed above are based on approximately 1xDc thickness of part with rigid work holding.
2. Conventional cut is recommended at part side for good surface finish.
3. Milling speed can be increased by 20-50% with the use of appropriate cutting oil.
4. Please provide appropriate measures against dust (Such as vacuum dust collection).
5. Depending on the workpiece thickness and form as well as work holding, vibration may occur. When it occurs, please adjust RPM and feed rate.
6. Kevlar laminate machinability can vary greatly by fiber and resin. If hole quality is not achieved with the feed rates provided above, reducing the feed rates may produce better quality surfaces.

Feed Reduction

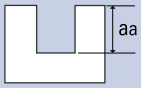
Material Thickness	Feed Reduction
≤0.25D	x80%
0.25D ~ 0.5D	x150%
0.5D ~ 1D	x120%
1D ~ 2D	x80%
2D ~ 3D	x50%

List 2680: REC, Rougher Router

Side Milling

Work Material	Carbon & Glass Fiber Reinforced Plastics	
Cutting Speed	400-800 SFM	
Depth of Cut	a_a<1.5D a_r<1D 	
Drill Diameter (Inch)	**Speed RPM**	**Feed IPR**
1/4	6,100 - 12,200	0.0067 - 0.0200
3/8	4,100 - 8,100	0.0200 - 0.0400
1/2	3,000 - 6,100	0.0333 - 0.0667

Slotting

Work Material	Carbon & Glass Fiber Reinforced Plastics	
Cutting Speed	300-600 SFM	
Depth of Cut	a_a<1D 	
Drill Diameter (Inch)	**Speed RPM**	**Feed IPR**
1/4	4,600 - 9,200	0.0064 - 0.0129
3/8	3,000 - 6,100	0.0133 - 0.0267
1/2	2,300 - 4,600	0.0214 - 0.0429

1. The conditions listed above are based on approximately 1xDc thickness of part with rigid work holding.
2. Conventional cut is recommended at part side for good surface finish.
3. Milling speed can be increased by 20-50% with the use of appropriate cutting oil.
4. Please provide appropriate measures against dust (Such as vacuum dust collection).
5. Depending on the workpiece thickness and form as well as work holding, vibration may occur. When it occurs, please adjust RPM and feed rate.

Feed Reduction

Material Thickness	Feed Reduction
≤0.25D	x80%
0.25D ~ 0.5D	x150%
0.5D ~ 1D	x120%
1D ~ 2D	x80%
2D ~ 3D	x50%

List 2650: MFR, Finishing Router

Side Milling

Work Material	Carbon & Glass Fiber Reinforced Plastics	
Cutting Speed	325-600 SFM	
Depth of Cut	a_a<1.0D a_r≤0.2D 	
Drill Diameter (Inch)	**Speed RPM**	**Feed IPR**
1/4	5,000 - 9,000	0.009 - 0.016
3/8	3,300 - 6,000	0.019 - 0.047
1/2	2,500 - 4,000	0.028 - 0.055

1. The conditions listed above are based on approximately 1xDc thickness of part with rigid work holding.
2. Conventional cut is recommended at part side for good surface finish.
3. Milling speed can be increased by 20-50% with the use of appropriate cutting oil.
4. Please provide appropriate measures against dust (Such as vacuum dust collection).
5. Depending on the workpiece thickness and form as well as work holding, vibration may occur. When it occurs, please adjust RPM and feed rate.

Feed Reduction

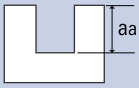
Material Thickness	Feed Reduction
≤0.25D	x80%
0.25D ~ 0.5D	x150%
0.5D ~ 1D	x120%
1D ~ 2D	x80%
2D ~ 3D	x50%

List 641R: HFR, Hand Router

Side Milling

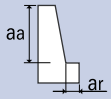
Work Material	Carbon & Glass Fiber Reinforced Plastics	
Cutting Speed	400-800 SFM	
Depth of Cut	a_a<1.5D a_r<1D 	
Drill Diameter (Inch)	Speed RPM	Feed IPR
3/16	8,100 - 16,300	0.0015 - 0.0027
1/4	6,100 - 12,200	0.0033 - 0.0067
3/8	4,100 - 8,100	0.0067 - 0.0117
1/2	3,000 - 6,100	0.0111 - 0.0222

Slotting

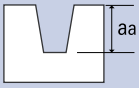
Work Material	Carbon & Glass Fiber Reinforced Plastics	
Cutting Speed	300-600 SFM	
Depth of Cut	a_a<1D 	
Drill Diameter (Inch)	Speed RPM	Feed IPR
3/16	6,100 - 12,200	0.0010 - 0.0020
1/4	4,600 - 9,200	0.0021 - 0.0043
3/8	3,100 - 6,100	0.0044 - 0.0078
1/2	2,300 - 4,600	0.0071 - 0.0143

List 591: 1° Taper on Side - 3 Flute

Side Milling

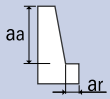
Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Brass Bronze Cast Iron		Med. Carbon Steels Hard Brass and Bronze Mild Steel Forgings		High Carbon Steel Unalloyed Titanium Ferritic Low Alloys		High Carbon Steel Unalloyed Titanium Ferritic Low Alloys		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Aluminum Aluminum Alloys	
Cutting Speed	80-120 SFM		60-80 SFM		45-60 SFM		25-45 SFM		16-32 SFM		150-400 SFM	
Depth of Cut	a_a=1.5D a_r= 0.1D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5/64	4,890	6.9	3,425	4.8	2,570	3.6	1,710	2.4	1,175	1.6	13,445	19.0
3/32	4,075	5.7	2,850	4.0	2,140	3.0	1,425	1.9	980	1.2	11,200	15.8
1/8	3,055	7.2	2,140	5.1	1,600	3.8	1,070	2.6	735	1.6	8,400	19.9
3/16	2,040	6.7	1,425	4.7	1,070	3.4	715	2.3	490	1.5	5,600	18.5
1/4	1,530	5.5	1,070	3.8	800	2.7	535	2.0	365	1.2	4,200	14.9
3/8	1,020	9.6	715	6.4	535	4.9	355	3.4	245	2.2	2,800	26.4
1/2	765	8.2	535	5.9	400	4.3	270	3.0	185	1.9	2,100	23.6
5/8	610	7.3	430	5.1	320	3.9	215	2.6	145	1.6	1,680	20.8

Slotting

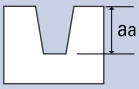
Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Brass Bronze Cast Iron		Med. Carbon Steels Hard Brass and Bronze Mild Steel Forgings		High Carbon Steel Unalloyed Titanium Ferritic Low Alloys		High Carbon Steel Unalloyed Titanium Ferritic Low Alloys		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Aluminum Aluminum Alloys	
Cutting Speed	80-120 SFM		60-80 SFM		45-60 SFM		10 - 20 SFM		8-15 SFM		150-350 SFM	
Depth of Cut	a_a=1/3D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5/64	4,890	3.5	3,420	2.2	2,570	1.4	776	0.5	504	0.3	12,225	6.9
3/32	4,075	3.6	2,850	2.5	2,140	1.5	640	0.4	416	0.2	10,185	5.7
1/8	3,055	3.8	2,140	2.6	1,600	1.8	480	0.6	312	0.3	7,640	7.2
3/16	2,040	3.4	1,425	2.4	1,070	1.6	320	0.5	208	0.3	5,095	6.7
1/4	1,530	3.5	1,070	2.5	800	1.8	240	0.4	156	0.2	3,820	7.5
3/8	1,020	4.8	715	3.2	535	2.2	160	0.7	104	0.4	2,545	9.6
1/2	765	4.3	535	3.0	400	2.2	120	0.6	78	0.4	1,910	8.6
5/8	610	3.7	430	2.6	320	1.9	96	0.6	62	0.3	1,530	7.6

List 593: 2° Taper on Side - 3 Flute
List 594: 3° Taper on Side - 3 Flute

Side Milling

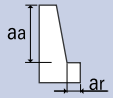
Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Med. Strength Titanium Alloys Med. Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Aluminum Aluminum Alloys	
Cutting Speed	130-150 SFM		105-120 SFM		65-80 SFM		20-50 SFM		15-20 SFM		400-590 SFM	
Depth of Cut	$a_{a=1.5D}$ $a_{r=0.1D}$ 											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5/64	6,845	9.7	5,500	7.8	3,545	5.0	1,710	2.4	855	1.1	24,200	33.3
3/32	5,700	8.1	4,585	6.4	2,955	4.1	1,425	2.1	715	0.9	20,170	28.5
1/8	4,280	10.1	3,440	8.0	2,215	5.2	1,070	2.4	535	1.1	15,130	35.6
3/16	2,850	9.4	2,295	7.5	1,480	4.8	715	2.3	355	1.1	10,085	33.3
1/4	2,140	7.5	1,720	6.0	1,110	3.9	525	1.8	270	0.8	7,560	26.7
3/8	1,425	13.5	1,145	10.7	740	6.9	355	3.3	180	1.5	5,040	47.6
1/2	1,070	12.0	860	9.6	550	6.2	270	3.0	135	1.4	3,780	42.3
5/8	855	10.6	690	8.5	440	5.5	215	2.6	105	1.2	3,025	37.5

Slotting

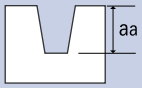
Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Med. Strength Titanium Alloys Med. Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Aluminum Aluminum Alloys	
Cutting Speed	80-120 SFM		60-80 SFM		45-60 SFM		25-45 SFM		8-20 SFM		150-350 SFM	
Depth of Cut	$a_{a=1/3D}$ 											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5/64	4,890	3.2	3,420	2.4	2,670	1.5	1,710	1.2	685	0.3	12,225	7.0
3/32	4,075	3.1	2,850	2.4	2,140	1.5	1,425	0.9	570	0.3	10,190	7.2
1/8	3,055	3.2	2,140	2.5	1,600	1.9	1,070	1.2	430	0.3	7,640	7.3
3/16	2,040	3.1	1,425	2.7	1,070	1.8	715	1.2	285	0.3	5,095	7.5
1/4	1,530	3.6	1,070	3.2	800	2.2	535	0.9	215	0.3	3,820	7.9
3/8	1,020	4.4	715	3.3	535	2.6	355	1.5	140	0.5	2,545	9.7
1/2	765	4.1	535	2.8	400	2.2	270	1.5	105	0.5	1,910	8.7
5/8	610	3.4	430	2.6	320	2.0	215	1.2	85	0.3	1,530	7.9

List 595: 5° Taper on Side - 3 Flute
List 596: 7° Taper on Side - 3 Flute

Side Milling

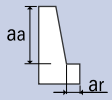
Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Med. Strength Titanium Alloys Med. Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Aluminum Aluminum Alloys	
Cutting Speed	130-165 SFM		105-125 SFM		65-80 SFM		20-50 SFM		15-20 SFM		400-590 SFM	
Depth of Cut	a_a=1.5D a_r= 0.1D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5/64	7,210	10.9	5,625	8.0	3,545	5.0	1,710	2.4	855	1.1	24,200	36.4
3/32	6,010	8.4	4,685	6.5	2,955	4.2	1,425	2.1	715	0.9	20,170	28.4
1/8	4,510	10.6	3,515	8.3	2,215	5.2	1,070	2.5	535	1.1	15,130	35.5
3/16	3,000	9.9	2,345	7.5	1,470	4.8	715	2.3	355	1.1	10,085	33.1
1/4	2,250	8.5	1,760	5.8	1,110	3.9	535	2.0	270	0.9	7,565	28.5
3/8	1,500	14.1	1,170	10.8	740	6.9	355	3.2	180	1.5	5,040	47.5
1/2	1,125	13.2	880	9.4	555	6.2	270	2.9	135	1.3	3,780	44.3

Slotting

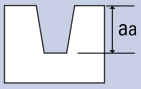
Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Med. Strength Titanium Alloys Med. Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Heat Resistant High Alloys Austenitic Alloys Nickel Base Alloys		Aluminum Aluminum Alloys	
Cutting Speed	80-120 SFM		60-80 SFM		45-60 SFM		8 - 15 SFM		5 - 10 SFM		150-350 SFM	
Depth of Cut	a_a=1/3D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5/64	4,890	3.3	3,420	2.4	2,570	1.6	565	0.4	365	0.2	12,225	7.4
3/32	4,075	3.2	2,855	2.3	2,140	1.5	470	0.3	300	0.2	10,190	7.6
1/8	3,055	3.1	2,140	2.5	1,600	2.0	350	0.4	230	0.2	7,640	8.2
3/16	2,040	3.9	1,425	3.2	1,070	2.4	235	0.4	150	0.2	5,095	9.9
1/4	1,530	5.1	1,070	4.6	800	3.0	175	0.3	115	0.1	3,820	10.0
3/8	1,020	4.7	715	3.6	535	2.5	120	0.6	75	0.3	2,545	10.7
1/2	765	4.1	535	2.8	400	2.4	90	0.5	60	0.2	1,910	9.5

List 597: 10° Taper on Side - 3 Flute

Side Milling

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Med. Strength Titanium Alloys Med. Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Heat Resistant High Alloys Austentitic Alloys Nickel Base Alloys		Heat Resistant High Alloys Austentitic Alloys Nickel Base Alloys		Aluminum Aluminum Alloys	
Cutting Speed	80-120 SFM		60-80 SFM		45-60 SFM		25-45 SFM		15-20 SFM		150-350 SFM	
Depth of Cut	a_a=1.5D a_r= 0.1D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3/32	4,075	5.7	2,850	4.0	2,140	3.1	1,425	2.1	715	0.9	10,185	14.4
1/8	3,055	7.2	2,140	5.0	1,600	3.7	1,070	2.5	535	1.1	7,640	18.1
1/4	1,530	5.8	1,070	3.6	800	2.8	535	2.0	270	0.9	3,820	13.5

Slotting

Hardness	<145 Brinell		<20 HRC		20-30 HRC		30-40 HRC		40-50 HRC		–	
Work Material	Mild Steels Hard Brass Bronze Cast Iron		Med. Carbon Steels Med. Strength Titanium Alloys Med. Strength Stainless Steels		High Carbon Steel Titanium Alloys High Strength Stainless Steels		Heat Resistant High Alloys Austentitic Alloys Nickel Base Alloys		Heat Resistant High Alloys Austentitic Alloys Nickel Base Alloys		Aluminum Aluminum Alloys	
Cutting Speed	80-120 SFM		60-80 SFM		45-60 SFM		25-45 SFM		5 - 12 SFM		150-350 SFM	
Depth of Cut	a_a=1/3D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3/32	4,075	2.5	2,850	2.0	2,140	1.5	1,425	1.0	345	0.2	10,185	7.2
1/8	3,055	3.2	2,140	2.5	1,600	1.8	1,070	1.3	260	0.2	7,640	8.0
1/4	1,530	4.7	1,070	4.1	800	3.0	535	1.0	130	0.2	3,820	10.0

For Standard LDR (Up to 6:1)

Speeds

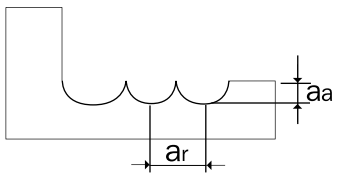
Diameter	Roughing & Semi-finishing			Finishing		
	RPM			RPM		
	30 - 40 HRC	40 - 50 HRC	50 - 60 HRC	30 - 40 HRC	40 - 50 HRC	50 - 60 HRC
1/32	38,400 – 60,000	32,000 – 50,000	24,600 – 40,000	20,000 – 50,000	20,000 – 50,000	20,000 – 50,000
1/16	26,400 – 42,000	22,000 – 35,000	16,600 – 28,000	20,000 – 50,000	20,000 – 50,000	20,000 – 50,000
3/32	21,600 – 31,200	18,000 – 26,000	13,400 – 20,800	20,000 – 50,000	20,000 – 50,000	20,000 – 50,000
1/8	19,200 – 28,800	16,000 – 24,000	11,800 – 19,200	20,000 – 50,000	20,000 – 38,000	20,000 – 30,500
3/16	15,000 – 19,776	12,500 – 16,480	9,000 – 13,184	20,000 – 34,000	20,000 – 26,000	16,000 – 20,300
1/4	12,120 – 16,800	10,100 – 14,000	7,080 – 11,200	18,000 – 24,400	15,000 – 18,000	12,000 – 15,000
5/16	11,400 – 15,900	9,200 – 13,250	6,360 – 10,600	14,600 – 19,000	12,000 – 14,000	9,700 – 12,000
3/8	10,560 – 14,520	8,800 – 12,100	6,040 – 9,680	12,000 – 16,200	10,000 – 12,000	8,100 – 10,000
7/16	9,480 – 12,480	7,900 – 10,400	5,320 – 8,320	10,000 – 13,900	8,700 – 10,400	6,900 – 8,700
1/2	8,280 – 10,920	6,900 – 9,100	4,520 – 7,280	9,100 – 12,200	7,800 – 9,800	6,100 – 7,600

Chip Load per Tooth

Diameter	30 - 40 HRC		40 - 50 HRC		50 - 60 HRC	
	Rough & Semi	Finishing	Rough & Semi	Finishing	Rough & Semi	Finishing
1/32	0.0006 – 0.0010	0.0006 – 0.0009	0.0006 – 0.0008	0.0005 – 0.0007	0.0004 – 0.0007	0.0004 – 0.0006
1/16	0.0012 – 0.0016	0.0010 – 0.0015	0.0010 – 0.0015	0.0010 – 0.0014	0.0008 – 0.0012	0.0007 – 0.0010
3/32	0.0020 – 0.0025	0.0014 – 0.0024	0.0015 – 0.0022	0.0014 – 0.0020	0.0012 – 0.0020	0.0010 – 0.0014
1/8	0.0025 – 0.0030	0.0019 – 0.0028	0.0020 – 0.0027	0.0019 – 0.0026	0.0017 – 0.0022	0.0015 – 0.0020
3/16	0.0035 – 0.0043	0.0032 – 0.0042	0.0032 – 0.0041	0.0030 – 0.0040	0.0030 – 0.0039	0.0023 – 0.0031
1/4	0.0050 – 0.0060	0.0040 – 0.0053	0.0050 – 0.0057	0.0040 – 0.0051	0.0040 – 0.0050	0.0038 – 0.0048
5/16	0.0063 – 0.0070	0.0053 – 0.0068	0.0052 – 0.0066	0.0052 – 0.0063	0.0051 – 0.0062	0.0046 – 0.0054
3/8	0.0070 – 0.0080	0.0062 – 0.0079	0.0062 – 0.0077	0.0054 – 0.0065	0.0060 – 0.0072	0.0050 – 0.0061
7/16	0.0080 – 0.0087	0.0068 – 0.0086	0.0068 – 0.0084	0.0060 – 0.0078	0.0066 – 0.0080	0.0053 – 0.0070
1/2	0.0087 – 0.0100	0.0080 – 0.0094	0.0080 – 0.0092	0.0070 – 0.0090	0.0078 – 0.0090	0.0062 – 0.0081

Axial Depths of Cut (aa)

30 - 40 HRC 10% of Diameter
40 - 50 HRC 7% of Diameter
50 - 60 HRC 5% of Diameter



Radial Depths of Cut (ar)

Up to 35% of Diameter for roughing and semi-finishing operations. However, radial depths of cut for finishing operations are normally determined by the surface finish requirements specific to each application.

CONTINUED

For Long LDR (6:1 to 8:1)

Speeds

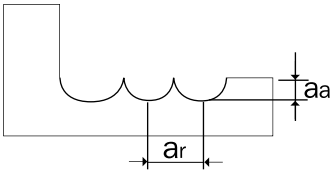
Diameter	Roughing & Semi-finishing			Finishing		
	RPM			RPM		
	30 - 40 HRC	40 - 50 HRC	50 - 60 HRC	30 - 40 HRC	40 - 50 HRC	50 - 60 HRC
1/32	28,800 – 45,000	24,000 – 37,500	18,450 – 30,000	15,000 – 37,500	15,000 – 37,500	15,000 – 37,500
1/16	19,800 – 31,500	16,500 – 26,250	12,450 – 21,000	15,000 – 37,500	15,000 – 37,500	15,000 – 37,500
3/32	16,200 – 23,400	13,500 – 19,500	10,050 – 15,600	15,000 – 37,500	15,000 – 37,500	15,000 – 37,500
1/8	14,400 – 21,600	12,000 – 18,000	8,850 – 14,400	15,000 – 37,500	15,000 – 28,500	15,000 – 22,875
3/16	11,250 – 14,832	9,375 – 12,360	6,750 – 9,888	15,000 – 25,500	15,000 – 19,500	12,000 – 15,225
1/4	9,090 – 12,600	7,575 – 10,500	5,310 – 8,400	13,500 – 18,300	11,250 – 13,500	9,000 – 11,250
5/16	8,550 – 11,925	6,900 – 9,845	4,770 – 7,950	10,950 – 14,250	9,000 – 10,500	7,275 – 9,000
3/8	7,920 – 10,890	6,600 – 9,075	4,530 – 7,260	9,000 – 12,150	7,500 – 9,000	6,075 – 7,500
7/16	7,110 – 9,360	5,925 – 7,800	3,990 – 6,240	7,500 – 10,425	6,525 – 7,800	5,175 – 6,525
1/2	6,210 – 8,190	5,175 – 6,825	3,390 – 5,460	6,825 – 9,150	5,850 – 7,350	4,575 – 5,700

Chip Load per Tooth

Diameter	30 - 40 HRC		40 - 50 HRC		50 - 60 HRC	
	Rough & Semi	Finishing	Rough & Semi	Finishing	Rough & Semi	Finishing
1/32	0.0005 – 0.0008	0.0004 – 0.0007	0.0004 – 0.0005	0.0005 – 0.0006	0.0003 – 0.0005	0.0003 – 0.0005
1/16	0.0009 – 0.0012	0.0008 – 0.0011	0.0008 – 0.0011	0.0008 – 0.0011	0.0006 – 0.0009	0.0005 – 0.0008
3/32	0.0015 – 0.0019	0.0011 – 0.0018	0.0011 – 0.0017	0.0011 – 0.0015	0.0009 – 0.0015	0.0008 – 0.0011
1/8	0.0019 – 0.0023	0.0014 – 0.0021	0.0015 – 0.0020	0.0014 – 0.0020	0.0013 – 0.0017	0.0011 – 0.0015
3/16	0.0026 – 0.0032	0.0024 – 0.0032	0.0024 – 0.0031	0.0023 – 0.0030	0.0023 – 0.0029	0.0017 – 0.0023
1/4	0.0038 – 0.0045	0.0030 – 0.0040	0.0038 – 0.0043	0.0030 – 0.0038	0.0030 – 0.0038	0.0029 – 0.0036
5/16	0.0047 – 0.0053	0.0040 – 0.0051	0.0039 – 0.0050	0.0039 – 0.0047	0.0038 – 0.0047	0.0035 – 0.0041
3/8	0.0053 – 0.0060	0.0047 – 0.0059	0.0047 – 0.0058	0.0041 – 0.0049	0.0045 – 0.0054	0.0038 – 0.0046
7/16	0.0060 – 0.0065	0.0051 – 0.0065	0.0051 – 0.0063	0.0045 – 0.0059	0.0050 – 0.0060	0.0040 – 0.0053
1/2	0.0065 – 0.0075	0.0060 – 0.0071	0.0060 – 0.0069	0.0053 – 0.0068	0.0059 – 0.0068	0.0047 – 0.0061

Axial Depths of Cut (aa)

30 - 40 HRC 10% of Diameter
40 - 50 HRC 7% of Diameter
50 - 60 HRC 5% of Diameter



Radial Depths of Cut (ar)

Up to 35% of Diameter for roughing and semi-finishing operations. However, radial depths of cut for finishing operations are normally determined by the surface finish requirements specific to each application.

For Extra Long LDR (Beyond 8:1)

Speeds

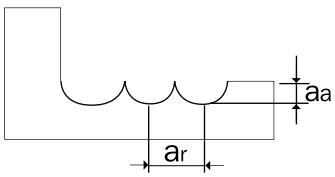
Diameter	Roughing & Semi-finishing			Finishing		
	RPM			RPM		
	30 - 40 HRC	40 - 50 HRC	50 - 60 HRC	30 - 40 HRC	40 - 50 HRC	50 - 60 HRC
1/32	19,200 – 30,000	16,000 – 25,000	12,300 – 20,000	10,000 – 25,000	10,000 – 25,000	10,000 – 25,000
1/16	13,200 – 21,000	11,000 – 17,500	8,300 – 14,000	10,000 – 25,000	10,000 – 25,000	10,000 – 25,000
3/32	10,800 – 15,600	9,000 – 13,000	6,700 – 10,400	10,000 – 25,000	10,000 – 25,000	10,000 – 25,000
1/8	9,600 – 14,400	8,000 – 12,000	5,900 – 9,600	10,000 – 25,000	10,000 – 19,000	10,000 – 15,250
3/16	7,500 – 9,888	6,250 – 8,240	4,500 – 6,592	10,000 – 17,000	10,000 – 13,000	8,000 – 10,150
1/4	6,060 – 8,400	5,050 – 7,000	3,540 – 5,600	9,000 – 12,200	7,500 – 9,000	6,000 – 7,500
5/16	5,700 – 7,950	4,600 – 6,625	3,180 – 5,300	7,300 – 9,500	6,000 – 7,000	4,850 – 6,000
3/8	5,280 – 7,260	4,400 – 6,050	3,020 – 4,840	6,000 – 8,100	5,000 – 6,000	4,050 – 5,000
7/16	4,740 – 6,240	3,950 – 5,200	2,660 – 4,160	5,000 – 6,950	4,350 – 5,200	3,450 – 4,350
1/2	4,140 – 5,460	3,450 – 4,550	2,260 – 3,640	4,550 – 6,100	3,900 – 4,900	3,050 – 3,800

Chip Load per Tooth

Diameter	30 - 40 HRC		40 - 50 HRC		50 - 60 HRC	
	Rough & Semi	Finishing	Rough & Semi	Finishing	Rough & Semi	Finishing
1/32	0.0003 – 0.0005	0.0003 – 0.0005	0.0003 – 0.0004	0.0003 – 0.0004	0.0002 – 0.0004	0.0002 – 0.0003
1/16	0.0006 – 0.0008	0.0005 – 0.0008	0.0005 – 0.0008	0.0005 – 0.0007	0.0004 – 0.0006	0.0004 – 0.0005
3/32	0.0010 – 0.0013	0.0007 – 0.0012	0.0008 – 0.0011	0.0007 – 0.0010	0.0006 – 0.0010	0.0005 – 0.0007
1/8	0.0013 – 0.0015	0.0010 – 0.0014	0.0010 – 0.0014	0.0010 – 0.0013	0.0009 – 0.0011	0.0008 – 0.0010
3/16	0.0018 – 0.0022	0.0016 – 0.0021	0.0016 – 0.0021	0.0015 – 0.0020	0.0015 – 0.0020	0.0012 – 0.0016
1/4	0.0025 – 0.0030	0.0020 – 0.0027	0.0025 – 0.0029	0.0020 – 0.0026	0.0020 – 0.0025	0.0019 – 0.0024
5/16	0.0032 – 0.0035	0.0027 – 0.0034	0.0026 – 0.0033	0.0026 – 0.0032	0.0026 – 0.0031	0.0023 – 0.0027
3/8	0.0035 – 0.0040	0.0031 – 0.0040	0.0031 – 0.0039	0.0027 – 0.0033	0.0030 – 0.0036	0.0025 – 0.0031
7/16	0.0040 – 0.0044	0.0034 – 0.0043	0.0034 – 0.0042	0.0030 – 0.0039	0.0033 – 0.0040	0.0027 – 0.0035
1/2	0.0044 – 0.0050	0.0040 – 0.0047	0.0040 – 0.0046	0.0035 – 0.0045	0.0039 – 0.0045	0.0031 – 0.0041

Axial Depths of Cut (aa)

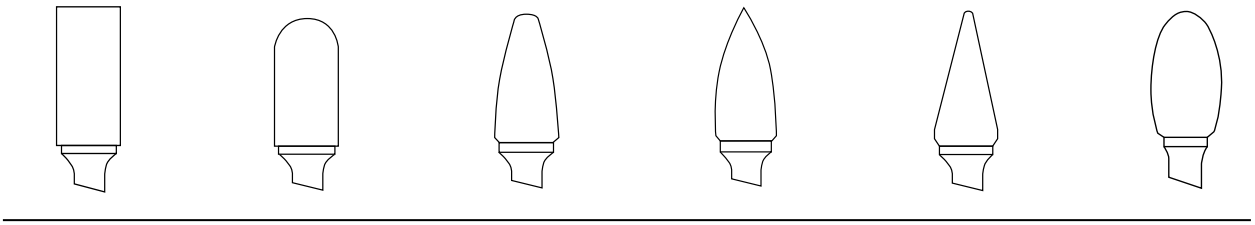
30 - 40 HRC 10% of Diameter
40 - 50 HRC 7% of Diameter
50 - 60 HRC 5% of Diameter



Radial Depths of Cut (ar)

Up to 35% of Diameter for roughing and semi-finishing operations. However, radial depths of cut for finishing operations are normally determined by the surface finish requirements specific to each application.

Shapes & SCTI Identification



Series SA
Cylindrical

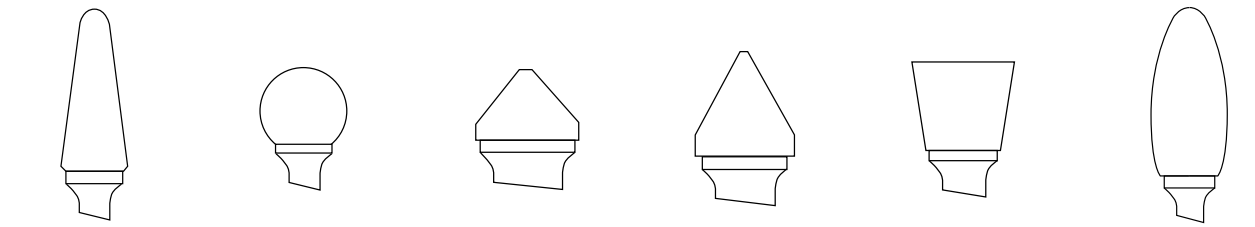
Series SC
Cylindrical Ball End

Series SF
Round Nose Tree

Series SG
Pointed Tree

Series SM
Pointed Cone

Series SE
Egg Shape



Series SL
14 Degree Included Angle

Series SD
Ball Shape

Series SK
90 Degree Included Angle

Series SJ
60 Degree Included Angle

Series SN
Inverted Taper

Series SH
Flame Shape

Styles of Cut

Medium Tough Cut

Engineered specifically for tough applications. Tough cut insures faster, splinter-free cutting in weld and alloy castings with increased tool life.



Medium Right Hand Spiral

General purpose - Recommended for stock removal and a smooth finish.



Aluminum Cut

Designed for use on aluminum, non-ferrous metals, soft steel, reinforced plastics, and other soft materials.



Coarse and Fine Cuts are available on request.

Recommended Cutting Speeds for Carbide Burs

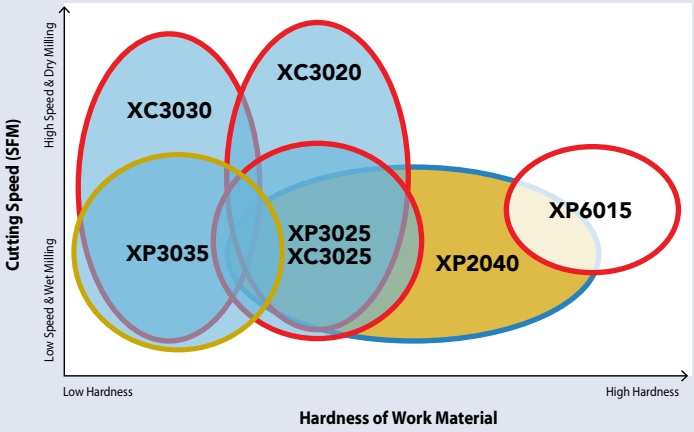
Diameter	RPM	Max RPM
1/16″	55,000 - 85,000	90,000
3/32″	50,000 - 60,000	85,000
1/8″	35,000 - 65,000	80,000
3/16″	30,000 - 55,000	75,000
1/4″	25,000 - 50,000	70,000
5/16″	18,000 - 38,000	65,000
3/8″	17,000 - 38,000	63,000
7/16″	13,000 - 37,000	55,000
1/2″	14,000 - 36,000	50,000
5/8″	11,000 - 23,000	40,000
3/4″	8,000 - 19,000	30,000
1″	7,000 - 18,000	25,000

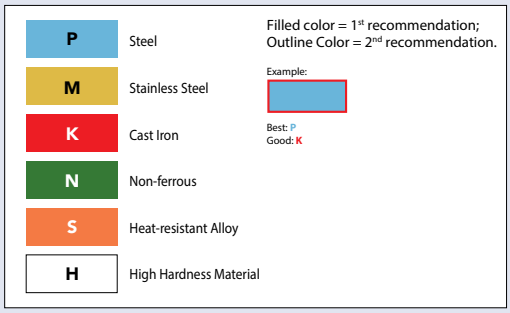
Note: Use lower speeds when cutting harder ferrous materials and higher speeds for softer non-ferrous materials.

Type of Insert

Material Class	Grade	Coating Method	Hardness (HRA)	Surface Treament		Features
				Main Component	Coating Thickness	
P	XC3020	CVD	90.5	TiCN + Al_2O_3	10 µm	**For Machining Steel and Cast Iron** Composed of a tough, high-strength carbide material with a chipping-resistant and wear-resistance coating.
	XP3025	PVD	90.5	TiAlN	5 µm	**For Machining Steel and Cast Iron** Composed of a tough, high-strength carbide material with a chipping-resistant and wear-resistance coating.
	XC3025	CVD	90.8	TiCN + TiN + Al_2O_3	4 µm	**For Machining Steel, Stainless Steel and Cast Iron** Composed of a tough, high-strength carbide material with a chipping-resistant and wear-resistant coating.
	XC3030	CVD	89.5	TiCN + Al_2O_3	10 µm	**For Machining Steel and Cast Iron** Composed of a tough, high-strength carbide material with a chipping-resistant and wear-resistant coating.
	XP3035	PVD	89.5	TiAlN	5 µm	**For Machining Steel, Stainless Steel and Cast Iron** A grade for general purpose milling. Composed of a tough, high-strength carbide material with a chipping-resistant and wear-resistant coating.
	XP3930	PVD	90.8	TiAlN	3 µm	**For Machining Steel, Stainless Steel and Cast Iron** Excellent balance; can accommodate a wide range of workpiece materials.
	XP8030	PVD	91.9	TiAlN	3 µm	**For machining steel and stainless steel** Excellent balance of wear-resistance and chipping-resistance; can accommodate a wide range of workpiece materials.
	XC8035	CVD	89.6	TiCN + Al_2O_3	7 µm	**For machining steel and cast iron** Composed of a tough, high-strength carbide material with a chipping-resistant and wear-resistant coating.
	XP3225	PVD	91.5	Cr	3 µm	**For Machining Steel, Stainless Steel and Cast Iron** Composed of a tough carbide material with an excellent general purpose coating.
	XP3310	PVD	92.5	SiC Silicon-based heat-resistant coating	3 µm	**For Machining Steel and Cast Iron** Composed of a tough, high-strength carbide material with a chipping-resistant and wear-resistant coating.
	XP3320	PVD	91.5	SiC Silicon-based heat-resistant coating	3 µm	**For Machining Steel, Stainless Steel and Cast Iron** Composed of a tough carbide material with a heat-resistant and wear-resistant coating.
M	XP2025	PVD	91.0	TiAlN	5 µm	**For Machining Stainless Steel and Steel** Composed of a tough, high-strength carbide material with an anti-chipping and wear resistant coating.
	XP2040	PVD	89.6	TiAlN	5 µm	**For Machining Stainless Steel and Steel** Ideal for general-purpose milling. Composed of a tough, high-strength carbide with an anti-chipping and wear-resistant coating.
	XP2225	PVD	91.5	Cr	3 µm	**For machining stainless steel** Composed of a heat-resistant carbide material with a heat-resistant and wear-resistant coating.
K	XC1015	CVD	91.5	TiCN + Al_2O_3	10 µm	**For Machining Cast Iron** Composed of a tough, high-strength carbide material with an anti-chipping and wear-resistant coating.
	XP1020	PVD	91.5	TiAlN	5 µm	**For Machining Cast Iron** Composed of a tough, high-strength carbide material with an anti-chipping and wear-resistant coating.
N	CK010	–	92.0	–	–	**For Machining Non-Ferrous Materials** Composed of a non-coated carbide material with an anti-chipping and wear-resistant properties.
	XC4505	CVD	93.0	DIA	12 µm	**For Machining Non-Ferrous Materials** Micro crystal diamond provides a coating layer with excellent strength.
S	XC5035	CVD	89.3	TiN + Ti(CN) + Al_2O_3 + Ti(BN)	6 µm	**For Machining Heat-Resistant Alloy and Stainless Steel** Composed of a tough carbide material with an oxidation-resistant and high-lubricity coating.
	XC5040	CVD	89.3	TiN + TiB_2	4 µm	**For Machining Heat-Resistant Alloy and Stainless Steel** Can be used for wet machining. Composed of a tough carbide material with an oxidation-resistant and high-lubricity coating.
H	XP6015	PVD	92.2	TiAlN	4 µm	**For Machining High Hardness Steel** Composed of a tough, high-strength carbide material with a wear-resistant coating.
	XP6305	PVD	93.0	SiC Silicon-based heat-resistant coating	3 µm	**For Machining High Hardness Steel** Composed of a tough, high-strength carbide material with excellent thermal conductivity.

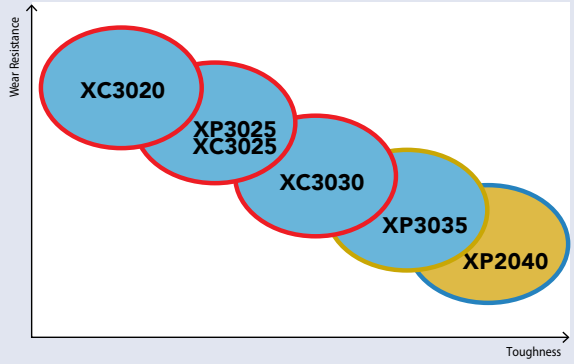
Insert Application Chart



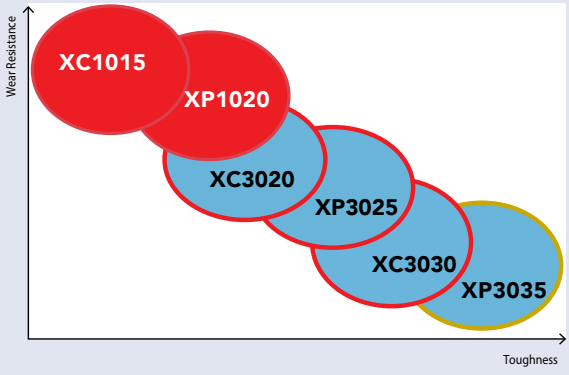


Application Chart of Insert Material

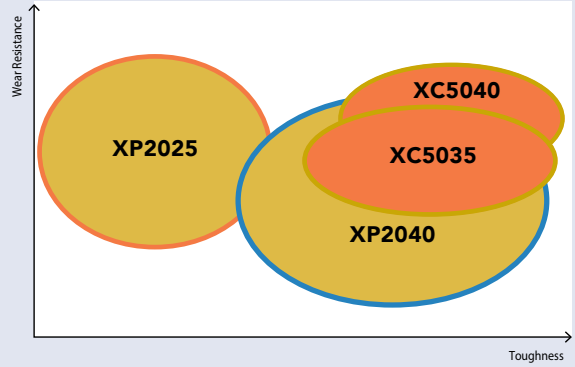
Steel-based Work Material
(Mild Steel, Steel, Hardened Steel)

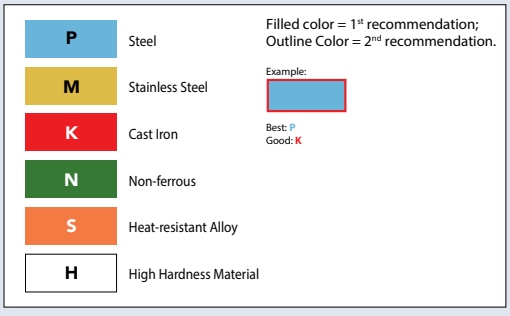


Cast Iron & Ductile Iron

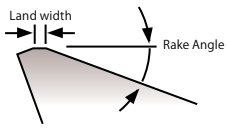
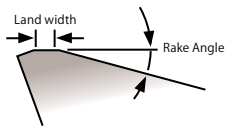
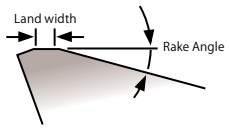
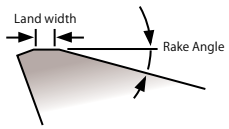
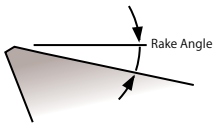
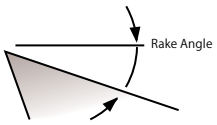


Stainless Steel





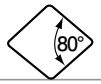
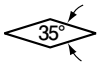
Type of Chip Breaker

Machining Method	Chip Breaker	Cutting Edge Cross-Section (Approximate)	Application
Milling	GL		For milling stainless steel: a breaker with a large rake angle and a small flat land to reduce cutting force.
	GM		For milling various materials from steel to cast iron: a breaker with a superior balance of rake angle and flat land.
	GR		For milling various materials from steel to cast iron: a highly rigid breaker with large rake angle and flat and to provide a sharp cutting edge and enable efficient milling.
	HR		For milling high hardened steel: a breaker with sharpness and excellent rigidity.
	SM		For milling difficult materials: a breaker with a sharp cutting edge to reduce cutting force and provide smooth chip evacuation.
	NM		For milling non-ferrous materials: a breaker with a sharp cutting edge and a large rake angle to suppress welding, improve the milling surface and prevent burrs.

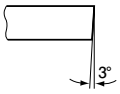
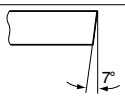
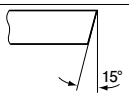
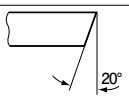
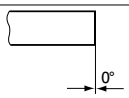
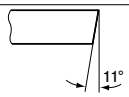
Insert Designation

Z	D	K	T
①	②	③	④

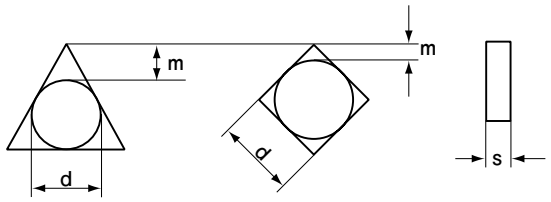
Shape of Insert

C	Diamond Apex 80°	
D	Diamond Apex 55°	
O	Octagon	
R	Round	
S	Square	
T	Triangle	
V	Diamond Apex 35°	
W	Axonometric Hexagon	
Z	Other Shapes	–

Clearance Angle

A	3°	
C	7°	
D	15°	
E	20°	
N	0°	
P	11°	
X	Special Dimension	

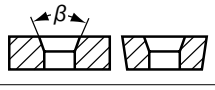
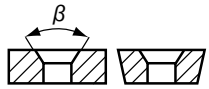
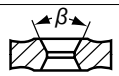
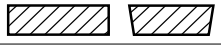
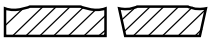
Tolerance



Symbol	Inscribed Circle Tolerance (mm)	Corner Height Tolerance (mm)	Thickness Tolerance (mm)
A	±0.025	±0.005	±0.025
C	±0.025	±0.013	±0.025
E	±0.025	±0.025	±0.025
H	±0.013	±0.013	±0.025
K*	±0.05~±0.15	±0.013	±0.025
M*	±0.05~±0.15	±0.08~±0.18	±0.13
N*	±0.05~±0.15	±0.08~±0.18	±0.025

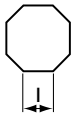
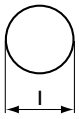
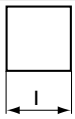
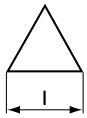
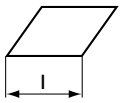
*Sintered insert shown on the side

Special Cutting and Fastening Feature

Symbol	Shape of Hole	With or Without Breaker	Insert Cross Section
W	(40°~60°) Partial cylindrical hole	No Breaker	
T		One Side	
B	(70°~90°) Partial cylindrical hole	No Breaker	
U	(40°~60°) Partial cylindrical hole	Both Sides	
N	–	No Breaker	
R	–	One Side	

15	05	08	S	R	-	GM
⑤	⑥	⑦	⑧	⑨	-	⑩

Length of the Cutting Edge

O	
R	
S	
T	
Z	

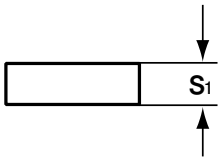
Corner Radius Symbol

Symbol	Corner Radius (mm)
02	R0.2
04	R0.4
08	R0.8
12	R1.2
16	R1.6
24	R2.4

Cutting Direction

Symbol	Cutting Direction
R	Right Hand
L	Left Hand
N	Neutral

Thickness of Insert



Symbol	Thickness (mm)
02	2.38
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35

Type of Cutting Edge

Symbol	Appearance
F	 Sharp Edge
E	 Round Honing
T	 Chamfer Honing
S	 Combination Honing

Type of Chip Breaker

Symbol	Name
GL	GL Breaker
GM	GM Breaker
GR	GR Breaker
HR	HR Breaker
NM	NM Breaker
SM	SM Breaker
DM	DM Breaker
DR	DR Breaker
DN	DN Breaker

PHC	12	R	150	SA	125	-	3	S
①	②	③	④	⑤	⑥		⑦	⑧

① Abbreviation

Example:
PHC =
Phoenix High Feed Cutter

② Insert Size

Example:
12 = 12 mm

③ Cutting Direction

R = Right Hand

L = Left Hand

④ Cutter Diameter

Example:
150 = 1.50"
080 = 80 mm

⑤ Mounting Type

A	Bore Type (Inch)
M	Bore Type (Metric)
SA	Straight Shank (Inch)
FA	Weldon Shank (Inch)
SS	Straight Shank (Metric)
MT	Morse Taper Shank
ASF	Screw Fit Type (Inch)
SF	Screw Fit Type (Metric)
FS	Flat Shank

⑥ Mounting Diameter

Example:
125 = 1.25"
32 = 32 mm

⑦ Number of Flutes

Example:
3 = 3-Flute

⑧ Shank Type

S	Short
L	Long
LL	Extra Long

List 52700 - PHOENIX® PAS: Bore
List 78020 - PHOENIX® PAS: Bore

Work Material		Tensile Strength – Hardness	Insert Size SNKU15… Face Milling		
			Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Depth of Cut Aa (in)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	590 (330 - 820)	0.007 (0.006 - 0.014)	0.120
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (330 - 820)	0.007 (0.006 - 0.014)	0.120
	Die Steels (H13, D2)	~280 HB	495 (260 - 655)	0.006 (0.004 - 0.012)	0.120
M	Stainless Steels (304, 420)	~250 HB	395 (260 - 590)	0.005 (0.003 - 0.010)	0.120
K	Cast Iron (No. 35 B)	~300 N/mm²	590 (330 - 1150)	0.008 (0.006 - 0.014)	0.160
	Ductile Cast Iron (60-40-18)	~600 N/mm²	590 (330 - 885)	0.008 (0.004 - 0.012)	0.120
S	**Heat Resistant Alloys (Inconel 718)**	–	115 (85 - 200)	0.004 (0.002 - 0.006)	0.040
	Titanium Alloy (Ti-6Al-4V)	–	130 (100 - 400)	0.005 (0.003 - 0.008)	0.060
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	330 (195 - 495)	0.005 (0.003 - 0.008)	0.060
	Die Cast Steels (A2, S7)	43 - 48 HRC	260 (130 - 395)	0.004 (0.002 - 0.006)	0.020
	Hardened Steels (D2)	50 - 55 HRC	195 (130 - 295)	0.003 (0.002 - 0.006)	0.020

List 52800 - PHOENIX® PAO: Bore
List 78120 - PHOENIX® PAO: Bore

Work Material		Tensile Strength – Hardness	Insert Size OZKU06… / XAHT06… Face Milling		
			Milling Speed Vc (SFM)	Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	590 (330 - 820)	0.010 (0.008 - 0.020)	0.080
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (330 - 820)	0.010 (0.008 - 0.020)	0.080
	Die Steels (H13, D2)	~280 HB	495 (260 - 655)	0.010 (0.006 - 0.016)	0.080
M	Stainless Steels (304, 420)	~250 HB	395 (260 - 590)	0.008 (0.006 - 0.016)	0.080
K	Cast Iron (No. 35 B)	~300 N/mm²	655 (330 - 1150)	0.012 (0.008 - 0.020)	0.080
	Ductile Cast Iron (60-40-18)	~600 N/mm²	590 (330 - 885)	0.011 (0.006 - 0.016)	0.080
S	Heat Resistant Alloys (718 Inconel)	-	115 (85 - 200)	0.005 (0.002 - 0.008)	0.040
	Titanium Alloy (Ti-6Al-4V)	-	130 (100 - 400)	0.006 (0.004 - 0.010)	0.060
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	330 (195 - 495)	0.006 (0.004 - 0.010)	0.060
	Die Cast Steels (A2, S7)	43 - 48 HRC	260 (130 - 395)	0.005 (0.002 - 0.008)	0.020
	Hardened Steels (D2)	50 - 55 HRC	195 (130 - 295)	0.004 (0.002 - 0.008)	0.020

List 52900 - PHOENIX® PSF: SA/FA
List 78030 - PHOENIX® PSF: SS
List 52901 - PHOENIX® PSF: Bore
List 78130 - PHOENIX® PSF: Bore

Work Material		Tensile Strength – Hardness	Insert Size SD_T09… Face Milling • Side Milling		
			Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Depth of Cut Aa (in)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	590 (330 - 820)	0.005 (0.002 - 0.008)	0.120
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (330 - 820)	0.005 (0.002 - 0.008)	0.120
	Die Steels (H13, D2)	~280 HB	495 (260 - 655)	0.004 (0.002 - 0.007)	0.120
M	Stainless Steels(Dry) (304SS, 420SS)	~250 HB	495 (260 - 655)	0.004 (0.002 - 0.007)	0.080
	Stainless Steels(Wet) (304SS, 420SS)	~250 HB	260 (195 - 395)	0.004 (0.002 - 0.007)	0.080
K	Cast Iron (FC250)	~350 N/mm²	590 (330 - 1150)	0.005 (0.002 - 0.008)	0.120
	Ductile Cast Iron (60-40-18)	~800 N/mm²	590 (330 - 885)	0.005 (0.002 - 0.008)	0.120
N	Aluminum Alloys (6061, 7075)	~13% Si	985 (655 - 4920)	0.006 (0.004 - 0.010)	0.120
S	Heat Resistant Alloys (Inconel 718)	-	115 (85 - 195)	0.004 (0.002 - 0.006)	0.060
	Titanium Alloy (Ti-6Al-4V)	-	130 (100 - 395)	0.004 (0.002 - 0.007)	0.060
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	295 (130 - 495)	0.004 (0.003 - 0.008)	0.060
	Die Cast Steels (A2, S7)	43 - 48 HRC	230 (130 - 395)	0.003 (0.002 - 0.006)	0.020
	Hardened Steels (D2)	50 - 55 HRC	165 (130 - 295)	0.002 (0.002 - 0.004)	0.020

List 53200 - PHOENIX® PSFL: SA/FA
List 78037 - PHOENIX® PSFL: SS
List 53201 - PHOENIX® PSFL: Bore
List 78137 - PHOENIX® PSFL: Bore

Work Material		Tensile Strength – Hardness	Insert Size SD_T09… Face Milling • Side Milling		Insert Size SD_T12… Face Milling • Side Milling	
			Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	525 (330 - 655)	0.010 (0.008 - 0.016)	525 (330 - 655)	0.012 (0.008 - 0.016)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	495 (330 - 655)	0.008 (0.006 - 0.012)	495 (330 - 655)	0.010 (0.006 - 0.012)
	Die Steels (H13, D2)	~280 HB	425 (265 - 590)	0.008 (0.006 - 0.012)	425 (265 - 590)	0.010 (0.006 - 0.012)
M	Stainless Steels(Dry) (304SS, 420SS)	~250 HB	495 (330 - 655)	0.005 (0.004 - 0.012)	495 (330 - 655)	0.006 (0.004 - 0.012)
	Stainless Steels(Wet) (304SS, 420SS)	~250 HB	265 (200 - 395)	0.005 (0.004 - 0.012)	265 (200 - 395)	0.006 (0.004 - 0.012)
K	Cast Iron (FC250)	~350 N/mm²	525 (330 - 985)	0.008 (0.006 - 0.014)	525 (330 - 985)	0.010 (0.008 - 0.016)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	525 (330 - 820)	0.008 (0.006 - 0.012)	525 (330 - 820)	0.008 (0.006 - 0.014)
N	Aluminum Alloys (6061, 7075)	~13% Si	985 (655 - 3280)	0.010 (0.004 - 0.016)	985 (655 - 3280)	0.012 (0.004 - 0.016)
S	Heat Resistant Alloys (Inconel 718)	-	115 (85 - 195)	0.006 (0.003 - 0.012)	115 (85 - 195)	0.007 (0.004 - 0.012)
	Titanium Alloy (Ti-6Al-4V)	-	130 (100 - 395)	0.006 (0.003 - 0.012)	130 (100 - 395)	0.007 (0.004 - 0.012)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	330 (130 - 490)	0.006 (0.003 - 0.012)	330 (130 - 490)	0.007 (0.004 - 0.012)
	Die Cast Steels (A2, S7)	43 - 48 HRC	200 (130 - 395)	0.005 (0.002 - 0.008)	200 (130 - 395)	0.006 (0.002 - 0.012)
	Hardened Steels (D2)	50 - 55 HRC	165 (130 - 295)	0.004 (0.002 - 0.006)	165 (130 - 295)	0.004 (0.002 - 0.006)

Cutting Conditions Adjustment Ratio

Depth of Cut Aa	Width of Cut Ar Max	Milling Speed Ratio	Feed Rate Ratio
< 0.2D	1D	0.8	0.5
0.25-0.3D	0.7D	0.8	0.6
0.4-0.5D	0.5D	0.9	0.7
0.6-0.7D	0.3D	0.9	0.8
0.8-1.0D	0.2D	1.0	0.9
1.1-1.5D	0.1D	1.0	1.0

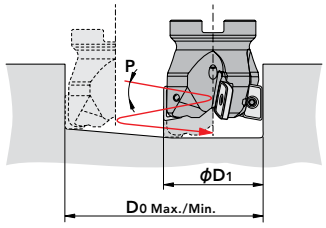
Ex: For Ø1.250" PSFL with SDMT09 inserts, Aa = 1.150", side milling in 1050 carbon steel:
Vc = 495 SFM x 1.0 = 495 SFM
fz = 0.008 in/t x 0.9 = 0.007 in/t
Ar = 0.2 x 1.250" = 0.250" Max

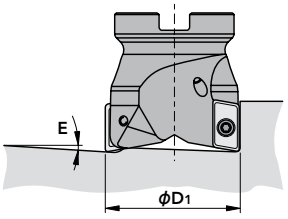
List 78013 - PHOENIX® PSE: SA/FA
List 78011 - PHOENIX® PSE: SS
List 78012 - PHOENIX® PSE: Bore
List 78010 - PHOENIX® PSE: Bore
List 52601 - PHOENIX® PSE: ASF
List 78016 - PHOENIX® PSE: SF

Work Material		Tensile Strength – Hardness	Insert Size ZDKT07… Side Milling Aa: 0.236" • Ar: 0.15D		Insert Size ZDKT07… Face Milling Aa: 0.031" • Ar: 1.0D		Insert Size ZD_T11… Side Milling Aa: 0.394" • Ar: 0.2D		Insert Size ZD_T11… Face Milling Aa: 0.118" • Ar: 1.0D		Insert Size ZDKT15… Side Milling Aa: 0.551" • Ar: 0.2D		Insert Size ZDKT15… Face Milling Aa: 0.197" • Ar: 1.0D	
			Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	590 (330 - 820)	0.004 (.001-.005)	590 (330 - 820)	0.003 (.001-.004)	590 (330 - 820)	0.010 (.008 - .020)	590 (330 - 820)	0.005 (.002 - .008)	590 (330 - 820)	0.012 (.008 - .024)	590 (330 - 820)	0.006 (.002 - .010)
P	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (330 - 820)	0.003 (.001-.004)	590 (330 - 820)	0.003 (.001-.004)	590 (330 - 820)	0.008 (.006 - .016)	590 (330 - 820)	0.004 (.002 - .008)	590 (330 - 820)	0.010 (.006 - .020)	590 (330 - 820)	0.005 (.002 - .008)
P	Die Steels (H13, D2)	~280 HB	460 (260 - 590)	0.003 (.001-.004)	460 (260 - 590)	0.003 (.001-.004)	495 (260 - 655)	0.008 (.006 - .016)	495 (260 - 655)	0.004 (.002 - .007)	495 (260 - 655)	0.010 (.006 - .020)	495 (260 - 655)	0.005 (.002 - .008)
M	Stainless Steels(Dry) (304SS, 420SS)	~250 HB	460 (260 - 590)	0.002 (.001-.003)	460 (260 - 590)	0.002 (.001-.004)	495 (260 - 655)	0.007 (.006 - .016)	495 (260 - 655)	0.004 (.004 - .007)	495 (260 - 655)	0.008 (.006 - .018)	495 (260 - 655)	0.005 (.004 - .008)
M	Stainless Steels(Wet) (304SS, 420SS)	~250 HB	260 (195 - 330)	0.002 (.001-.003)	260 (195 - 330)	0.002 (.001-.004)	260 (195 - 395)	0.007 (.006 - .016)	260 (195 - 395)	0.004 (.004 - .007)	260 (195 - 395)	0.008 (.006 - .018)	260 (195 - 395)	0.005 (.004 - .008)
K	Cast Iron (FC250)	~350 N/mm²	590 (330 - 985)	0.004 (.001-.005)	590 (330 - 985)	0.004 (.001-.005)	590 (330 - 985)	0.010 (.006 - .020)	590 (330 - 985)	0.005 (.002 - .008)	590 (330 - 985)	0.012 (.008 - .024)	590 (330 - 985)	0.006 (.002 - .010)
K	Ductile Cast Iron (60-40-18)	~800 N/mm²	590 (330 - 820)	0.003 (.001-.004)	590 (330 - 820)	0.002 (.001-.003)	590 (330 - 820)	0.006 (.004 - .016)	590 (330 - 820)	0.005 (.002 - .008)	590 (330 - 820)	0.008 (.006 - .020)	590 (330 - 820)	0.006 (.002 - .010)
N	Aluminum Alloys (6061, 7075)	~13% Si	985 (655 - 4920)	0.006 (.001-.012)	985 (655 - 4920)	0.005 (.001-.008)	985 (655 - 4920)	0.012 (.008-.020)	985 (655 - 4920)	0.006 (.004 - .010)	985 (655 - 4920)	0.014 (.008 - .024)	985 (655 - 4920)	0.007 (.004 - .012)
S	Heat Resistant Alloys (Inconel 718)	-	115 (85 - 195)	0.003 (.001-.004)	115 (85 - 195)	0.002 (.001-.003)	115 (85 - 195)	0.006 (.004 - .012)	115 (85 - 195)	0.004 (.002 - .006)	115 (85 - 195)	0.008 (.004 - .012)	115 (85 - 195)	0.004 (.002 - .006)
S	Titanium Alloy (Ti-6Al-4V)	-	150 (115 - 230)	0.003 (.001-.004)	150 (115 - 230)	0.003 (.001-.004)	130 (100 - 395)	0.007 (.004 - .014)	130 (100 - 395)	0.004 (.004 - .010)	130 (100 - 395)	0.009 (.004 - .014)	130 (100 - 395)	0.004 (.004 - .010)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	330 (130 - 495)	0.003 (.001-.005)	330 (130 - 495)	0.002 (.001-.003)	330 (130 - 495)	0.007 (.004 - .012)	330 (130 - 495)	0.004 (.003 - .008)	330 (130 - 495)	0.008 (.004 - .014)	330 (130 - 495)	0.005 (.003 - .010)
H	Die Cast Steels (A2, S7)	43 - 48 HRC	260 (130 - 330)	0.002 (.001-.003)	260 (130 - 330)	0.002 (.001-.003)	260 (130 - 395)	0.005 (.003 - .008)	260 (130 - 395)	0.003 (.002 - .006)	260 (130 - 395)	0.006 (.003 - .010)	260 (130 - 395)	0.004 (.002 - .008)
H	Hardened Steels (D2)	50 - 55 HRC	195 (130 - 230)	0.002 (.001-.003)	195 (130 - 230)	0.002 (.001-.003)	195 (130 - 295)	0.004 (.002 - .008)	195 (130 - 295)	0.002 (.002 - .004)	195 (130 - 295)	0.005 (.002 - .008)	195 (130 - 295)	0.003 (.002 - .005)

Maximum Ramping Angle (E) & Helical Angle (P)

Insert Size	ZDKT07…				ZD_T11…				ZDKT15…			
Dia. (inch)	Ramping Angle	Helical Milling (inch)		Helical Angle	Ramping Angle	Helical Milling (inch)		Helical Angle	Ramping Angle	Helical Milling (inch)		Helical Angle
D1	E	D_0 Min.	D_0 Max.	P	E	D_0 Min.	D_0 Max.	P	E	D_0 Min.	D_0 Max.	P
0.375	6.0°	0.514	0.711	4.5°	-	-	-	-	-	-	-	-
0.500	4.5°	0.724	0.961	2.2°	-	-	-	-	-	-	-	-
0.625	2.8°	0.974	1.211	1.1°	10.8°	0.935	1.187	9.5°	-	-	-	-
0.750	2.1°	1.224	1.461	0.8°	9.8°	1.185	1.437	7.0°	-	-	-	-
1.000	1.6°	1.724	1.961	0.5°	7.4°	1.685	1.927	4.4°	9.5°	1.488	1.921	7.4°
1.250	-	-	-	-	4.8°	2.158	2.437	3.2°	6.8°	1.988	2.421	5.0°
1.500	-	-	-	-	2.9°	2.685	2.937	2.2°	5.1°	2.488	2.921	3.2°
2.000	-	-	-	-	2.1°	3.685	3.937	1.6°	2.4°	3.488	3.921	2.4°
2.500	-	-	-	-	1.8°	4.685	4.937	1.4°	2.3°	4.488	4.921	1.4°
3.000	-	-	-	-	1.4°	5.685	5.937	1.0°	2.0°	5.488	5.921	1.3°
4.000	-	-	-	-	-	-	-	-	1.4°	7.488	7.921	1.0°
5.000	-	-	-	-	-	-	-	-	0.8°	9.488	9.921	0.8°
6.000	-	-	-	-	-	-	-	-	0.7°	11.488	11.921	0.6°





List 53000 - PHOENIX® PSEL: SA/FA
List 78029 - PHOENIX® PSEL: SS
List 53001 - PHOENIX® PSEL: Bore
List 78028 - PHOENIX® PSEL: Bore

Work Material		Tensile Strength – Hardness	Insert Size			
			ZD_T11…		ZDKT15…	
			Side Milling Aa: 1.1-1.5D • Ar: 0.1D Max		Side Milling Aa: 1.1-1.5D • Ar: 0.1D Max	
			Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	525 (330 - 655)	0.010 (0.008 - 0.016)	525 (330 - 655)	0.012 (0.008 - 0.016)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	495 (330 - 655)	0.008 (0.006 - 0.012)	495 (330 - 655)	0.010 (0.006 - 0.012)
	Die Steels (H13, D2)	~280 HB	425 (260 - 590)	0.008 (0.006 - 0.012)	425 (260 - 590)	0.010 (0.006 - 0.012)
M	Stainless Steels(Dry) (304SS, 420SS)	~250 HB	495 (330 - 655)	0.005 (0.004 - 0.012)	495 (330 - 655)	0.006 (0.004 - 0.012)
	Stainless Steels(Wet) (304SS, 420SS)	~250 HB	260 (195 - 395)	0.005 (0.004 - 0.012)	260 (195 - 395)	0.006 (0.004 - 0.012)
K	Cast Iron (FC250)	~350 N/mm²	525 (330 - 985)	0.008 (0.008 - 0.014)	525 (330 - 985)	0.010 (0.008 - 0.014)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	525 (330 - 820)	0.006 (0.008 - 0.012)	525 (330 - 820)	0.008 (0.008 - 0.012)
N	Aluminum Alloys (6061, 7075)	~13% Si	985 (655 - 3280)	0.010 (0.004 - 0.016)	985 (655 - 3280)	0.012 (0.004 - 0.016)
S	Heat Resistant Alloys (Inconel 718)	-	115 (85 - 195)	0.006 (0.004 - 0.012)	115 (85 - 195)	0.007 (0.004 - 0.012)
	Titanium Alloy (Ti-6Al-4V)	-	130 (100 - 395)	0.006 (0.004 - 0.012)	130 (100 - 395)	0.007 (0.004 - 0.012)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	330 (130 - 495)	0.006 (0.004 - 0.012)	330 (130 - 495)	0.007 (0.004 - 0.012)
	Die Cast Steels (A2, S7)	43 - 48 HRC	195 (130 - 395)	0.005 (0.002 - 0.008)	195 (130 - 395)	0.006 (0.002 - 0.008)

Cutting Conditions Adjustment Ratio

Depth of Cut Aa	Width of Cut Ar Max	Milling Speed Ratio	Feed Rate Ratio
< 0.2D	1D	0.8	0.5
0.25-0.3D	0.7D	0.8	0.6
0.4-0.5D	0.5D	0.9	0.7
0.6-0.7D	0.3D	0.9	0.8
0.8-1.0D	0.2D	1.0	0.9
1.1-1.5D	0.1D	1.0	1.0

Ex: For Ø1.250" PSEL with ZDKT11 inserts, Aa = 1.150", side milling in 1050 carbon steel:
Vc = 492 SFM x 1.0 = 492 SFM
fz = 0.008 in/t x 0.9 = 0.007 in/t
Ar = 0.2 x 1.250" = 0.250" Max

List 53100 - PHOENIX® PSTW: Bore
List 78131 - PHOENIX® PSTW: Bore

Work Material		Tensile Strength – Hardness	Insert Size TNKU12… Face Milling		
			Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Depth of Cut Aa (in)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	590 (330 - 820)	0.006 (.002 - .010)	0.120
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (330 - 820)	0.006 (.002 - .010)	0.120
	Die Steels (H13, D2)	~280 HB	495 (260 - 655)	0.005 (.002 - .008)	0.120
M	Stainless Steels(Dry) (304SS, 420SS)	~250 HB	495 (260 - 655)	0.004 (.002 - .007)	0.080
	Stainless Steels(Wet) (304SS, 420SS)	~250 HB	260 (195 - 395)	0.004 (.002 - .007)	0.080
K	Cast Iron (FC250)	~350 N/mm²	650 (330 - 1150)	0.008 (.004 - .012)	0.120
	Ductile Cast Iron (60-40-18)	~800 N/mm²	590 (330 - 885)	0.006 (.002 - .010)	0.120
N	Aluminum Alloys (6061, 7075)	~13% Si	985 (655 - 4920)	0.006 (.004 - .012)	0.120
S	Heat Resistant Alloys (Inconel 718)	-	115 (85 - 195)	0.003 (.002 - .006)	0.040
	Titanium Alloy (Ti-6Al-4V)	-	130 (100 - 395)	0.003 (.002 - .006)	0.060
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	330 (165 - 495)	0.004 (.003 - .008)	0.060
	Die Cast Steels (A2, S7)	43 - 48 HrC	265 (130 - 395)	0.003 (.002 - .006)	0.040
	Hardened Steels (D2)	50 - 55 HrC	195 (130 - 295)	0.002 (.002 - .004)	0.020

List 53400 - PHOENIX® PMD: SA
List 78234 - PHOENIX® PMD: SS
List 52606 - PHOENIX® PMD: ASF
List 78334 - PHOENIX® PMD: SF

Side Milling & Slotting

Work Material		Tensile Strength - Hardness	Side Milling Aa: 0.393" • Ar: 0.2D		Face Milling Aa: 0.118" • Ar: 1.0D	
			Cutting Speed Vc (SFM)	Feed per Tooth fz (in/t)	Cutting Speed Vc (SFM)	Feed per Tooth fz (in/t)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	590 (330 - 820)	0.010 (0.008 - 0.020)	590 (330 - 820)	0.005 (0.002 - 0.008)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (330 - 820)	0.008 (0.006 - 0.016)	590 (330 - 820)	0.004 (0.002 - 0.008)
	Die Steels (D2, H13)	~280 HB	495 (260 - 655)	0.008 (0.006 - 0.016)	495 (260 - 655)	0.004 (0.002 - 0.007)
M	Stainless Steels (Dry) (304, 420)	~250 HB	495 (260 - 655)	0.007 (0.006 - 0.016)	495 (260 - 655)	0.004 (0.002 - 0.007)
	Stainless Steels (Wet) (304, 420)	~250 HB	260 (195 - 395)	0.007 (0.006 - 0.016)	260 (195 - 395)	0.004 (0.002 - 0.007)
K	Cast Iron (FC250)	~350 N/mm²	590 (330 - 985)	0.010 (0.006 - 0.020)	590 (330 - 985)	0.005 (0.002 - 0.008)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	590 (330 - 820)	0.006 (0.004 - 0.016)	590 (330 - 820)	0.005 (0.002 - 0.008)
N	Aluminum Alloys (6061, 7075)	~13% Si	985 (655 - 4920)	0.012 (0.008 - 0.020)	985 (655 - 4920)	0.006 (0.004 - 0.010)
S	Heat Resistant Alloys (Inconel 718)	-	115 (85 - 195)	0.006 (0.004 - 0.012)	115 (85 - 195)	0.004 (0.002 - 0.006)
	Titanium Alloy (Ti-6Al-4V)	-	130 (100 - 395)	0.007 (0.004 - 0.014)	130 (100 - 395)	0.004 (0.003 - 0.010)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	330 (130 - 495)	0.007 (0.004 - 0.012)	295 (130 - 495)	0.004 (0.003 - 0.008)
	Die Cast Steels (A2, S7)	43 - 48 HrC	260 (130 - 395)	0.005 (0.003 - 0.008)	230 (130 - 395)	0.003 (0.002 - 0.006)
	Hardened Steels (D2)	50 - 55 HrC	195 (130 - 295)	0.004 (0.002 - 0.008)	165 (130 - 295)	0.002 (0.002 - 0.004)

1. Above recommended Cutting Speed is for short shank type; for long shank type, use 80% of the Cutting Speed shown in the above table.

List 53400 - PHOENIX® PMD: SA (Continued)
List 78234 - PHOENIX® PMD: SS (Continued)
List 52606 - PHOENIX® PMD: ASF (Continued)
List 78334 - PHOENIX® PMD: SF (Continued)

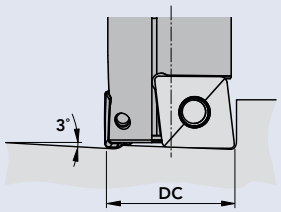
Counterboring & Plunging

Work Material		Tensile Strength - Hardness	Cutting Speed Vc (SFM)	Feed Rate f (in/rev)		
				Ø0.750	Ø1.000	Ø1.250
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	525 (330 - 655)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	495 (330 - 655)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
	Die Steels (D2, H13)	~280 HB	395 (265 - 590)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
M	Stainless Steels (304, 420)	~250 HB	425 (265 - 590)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
K	Cast Iron (FC250)	~350 N/mm²	525 (330 - 855)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	525 (330 - 720)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
N	Aluminum Alloys (6061, 7075)	~13% Si	655 (330 - 2625)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
S	Heat Resistant Alloys (Inconel 718)	-	165 (100 - 200)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
	Titanium Alloy (Ti-6Al-4V)	-	195 (100 - 330)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HrC	330 (195 - 395)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
	Die Cast Steels (A2, S7)	43 - 48 HrC	265 (130 - 330)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)
	Hardened Steels (D2)	50 - 55 HrC	195 (130 - 265)	0.0027 (0.002 - 0.003)	0.003 (0.002 - 0.004)	0.004 (0.003 - 0.005)

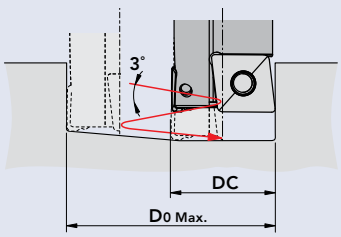
1. Above recommended Cutting Speed is for short shank type; for long shank type, use 80% of the Cutting Speed shown in the above table.

Maximum Processing Angle During Ramping and Helical Drilling Operations <3°

Ramping



Helical Drilling



Diameter (Inch)	Maximum Helical Milling Diameter (Inch)
Dc	D_0 Max
0.750	1.381
1.000	1.881
1.250	2.381

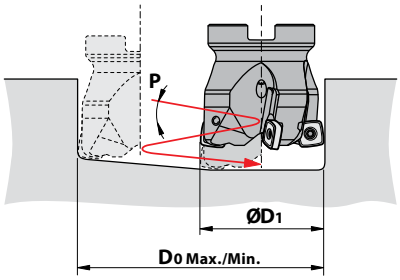
Diameter (mm)	Maximum Helical Milling Diameter (mm)
Dc	D_0 Max
20	37
25	47
32	61

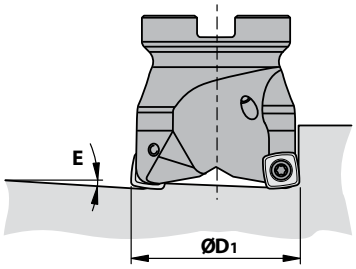
List 78009 - PHOENIX® PHC: SA/FA
List 78007 - PHOENIX® PHC: SS
List 78008 - PHOENIX® PHC: Bore
List 78006 - PHOENIX® PHC: Bore
List 52603 - PHOENIX® PHC: ASF
List 78015 - PHOENIX® PHC: SF

Work Material		Tensile Strength – Hardness	Milling Speed Vc (SFM)	Insert Size												
				SPMT07...				SDMT09...				SXMT12...				
				Face Milling				Face Milling				Face Milling				
				Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)			Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)			Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)			
					L/D=2	L/D=3	L/D=4		L/D=2	L/D=3	L/D=4		L/D=2	L/D=3	L/D=4	
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	590 (195 - 820)	0.028 (0.012 - 0.060)	0.032	0.024	0.016	0.032 (0.012 - 0.071)	0.040	0.032	0.020	0.050 (0.020 - 0.126)	0.047	0.047	0.040	
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (195 - 820)	0.028 (0.012 - 0.051)	0.032	0.024	0.016	0.032 (0.012 - 0.060)	0.040	0.032	0.020	0.050 (0.020 - 0.118)	0.047	0.047	0.040	
	Die Steels (H13, D2)	~280 HB	590 (195 - 820)	0.028 (0.012 - 0.051)	0.024	0.020	0.012	0.032 (0.012 - 0.060)	0.032	0.024	0.016	0.050 (0.020 - 0.118)	0.047	0.047	0.040	
M	Stainless Steels (Dry) (304, 420)	~250 HB	525 (265 - 655)	0.016 (0.012 - 0.047)	0.024	0.020	0.012	0.020 (0.012 - 0.060)	0.032	0.024	0.016	0.040 (0.020 - 0.098)	0.047	0.040	0.040	
	Stainless Steels (Wet) (304, 420)	~250 HB	395 (200 - 590)	0.016 (0.012 - 0.047)	0.024	0.020	0.012	0.020 (0.012 - 0.060)	0.032	0.024	0.016	0.040 (0.020 - 0.098)	0.047	0.040	0.040	
K	Cast Iron (FC250)	~350 N/mm^2	655 (330 - 985)	0.032 (0.016 - 0.060)	0.032	0.024	0.016	0.040 (0.020 - 0.071)	0.040	0.032	0.020	0.060 (0.020 - 0.138)	0.060	0.060	0.040	
	Ductile Cast Iron (60-40-18)	~800 N/mm^2	590 (330 - 820)	0.028 (0.012 - 0.051)	0.032	0.024	0.016	0.035 (0.020 - 0.060)	0.040	0.032	0.020	0.053 (0.020 - 0.118)	0.047	0.047	0.035	
S	Heat Resistant Alloys (Inconel 718)	-	100 (85 - 195)	0.012 (0.008 - 0.028)	0.016	0.016	0.012	0.016 (0.008 - 0.032)	0.020	0.020	0.016	0.020 (0.008 - 0.040)	0.040	0.040	0.032	
	Titanium Alloy (Ti-6Al-4V)	-	260 (165 - 395)	0.016 (0.012 - 0.032)	0.016	0.016	0.012	0.020 (0.012 - 0.040)	0.020	0.020	0.012	0.028 (0.012 - 0.047)	0.032	0.032	0.016	
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	395 (130 - 495)	0.016 (0.008 - 0.032)	0.016	0.016	0.012	0.020 (0.008 - 0.040)	0.020	0.020	0.012	0.032 (0.012 - 0.060)	0.040	0.040	0.020	
	Die Cast Steels (A2, S7)	43 - 48 HRC	295 (130 - 395)	0.012 (0.008 - 0.024)	0.016	0.016	0.012	0.016 (0.008 - 0.032)	0.020	0.020	0.016	0.028 (0.012 - 0.047)	0.028	0.028	0.024	
	Hardened Steels (D2)	50 - 55 HRC	195 (130 - 295)	0.008 (0.008 - 0.020)	0.012	0.012	0.008	0.012 (0.008 - 0.028)	0.012	0.012	0.008	0.020 (0.012 - 0.032)	0.020	0.020	0.016	

Maximum Ramping Angle (E) & Helical Angle (P)

Insert Size	SPMT07…				SDMT09...				SXMT12…			
Diameter (inch)	Ramping Angle	Helical Milling (inch)		Helical Angle	Ramping Angle	Helical Milling (inch)		Helical Angle	Ramping Angle	Helical Milling (inch)		Helical Angle
D1	E	D0 Min	D0 Max	P	E	D0 Min	D0 Max	P	E	D0 Min	D0 Max	P
0.625	5.9°	0.857	1.211	4.5°	-	-	-	-	-	-	-	-
0.750	3.2°	1.107	1.461	2.3°	-	-	-	-	-	-	-	-
1.000	2.0°	1.607	1.961	1.2°	3.5°	1.409	1.921	3.0°	-	-	-	-
1.250	1.3°	2.107	2.461	0.9°	1.9°	1.909	2.421	1.7°	7.2°	1.713	2.421	6.1°
1.500	-	-	-	-	1.2°	2.409	2.921	1.0°	2.9°	2.213	2.921	2.5°
2.000	-	-	-	-	0.8°	3.409	3.921	0.7°	1.4°	3.213	3.921	1.2°
2.500	-	-	-	-	0.7°	4.409	4.921	0.7°	1.1°	4.213	4.921	0.9°
3.000	-	-	-	-	0.45°	5.409	5.921	0.4°	1.0°	5.213	5.921	0.8°
4.000	-	-	-	-	-	-	-	-	0.7°	7.213	7.921	0.6°
5.000	-	-	-	-	-	-	-	-	0.5°	9.213	9.921	0.35°
6.000	-	-	-	-	-	-	-	-	0.4°	11.213	11.921	0.3°

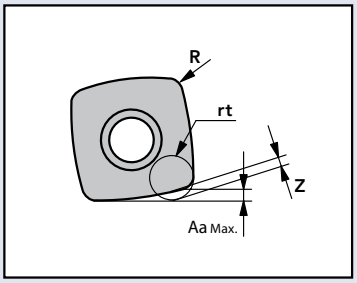




Flute shape definitions for the purpose of creating a program

Insert Size	R (mm)	Aa Max (mm)	rt (mm)	z (mm)
SPMT07...	0.5	0.8	1.2	0.35
SDMT09...	0.8	1	2	0.7
SXMT12...	1	2	3	1.15

For machining purposes, create machining programs for the respective simulated R radius cutters.

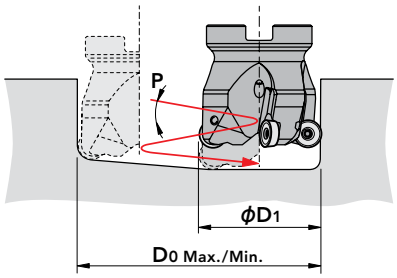


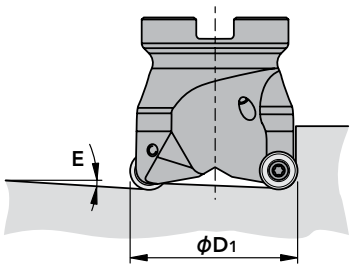
List 78005 - PHOENIX® PRC: SA
List 78003 - PHOENIX® PRC: SS
List 78004 - PHOENIX® PRC: Bore
List 78002 - PHOENIX® PRC: Bore
List 52602 - PHOENIX® PRC: ASF
List 78017 - PHOENIX® PRC: SF

Work Material		Tensile Strength – Hardness	Milling Speed Vc (SFM)	Insert Size					
				RPH_10…		RPH_12…		RPH_16…	
				Face Milling		Face Milling		Face Milling	
				Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)	Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)	Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)
P	Mild Steels, Carbon Steels (1010, 1018)	~180HB	655 (330-985)	0.010 (0.004 - 0.014)	0.078	0.012 (0.004 - 0.016)	0.093	0.014 (0.004 - 0.020)	0.125
	Carbon Steels, Alloy Steels (1050, 4140)	~280HB	590 (330-820)	0.008 (0.004 - 0.012)	0.078	0.010 (0.004 - 0.014)	0.093	0.012 (0.004 - 0.018)	0.125
	Die Steels (H13, D2)	~280HB	495 (260-655)	0.008 (0.004 - 0.012)	0.078	0.010 (0.004 - 0.014)	0.093	0.012 (0.004 - 0.018)	0.125
M	Stainless Steels (Dry) (304SS, 420SS)	~250HB	525 (265 - 655)	0.010 (0.004 - 0.014)	0.078	0.012 (0.004 - 0.016)	0.093	0.014 (0.004 - 0.020)	0.125
	Stainless Steels (Wet) (304SS, 420SS)	~250HB	395 (200 - 590))	0.010 (0.004 - 0.014)	0.078	0.012 (0.004 - 0.016)	0.093	0.014 (0.004 - 0.020)	0.125
K	Cast Iron (FC250)	~350N/mm²	720 (330-1150)	0.010 (0.002 - 0.016)	0.078	0.012 (0.004 - 0.020)	0.093	0.014 (0.004 - 0.023)	0.125
	Ductile Cast Iron (60-40-18)	~800N/mm²	495 (330-720)	0.008 (0.004 - 0.012)	0.078	0.010 (0.004 - 0.014)	0.093	0.012 (0.004 - 0.018)	0.125
N	Aluminum Alloys (6061, 7075)	~13%Si	1970 (985-4920)	0.016 (0.008 - 0.031)	0.078	0.023 (0.008 - 0.039)	0.093	0.031 (0.012 - 0.059)	0.125
S	Heat Resistant Alloys (Inconel 718)	-	130 (85-195)	0.006 (0.002 - 0.010)	0.078	0.010 (0.002 - 0.012)	0.093	0.010 (0.002 - 0.016)	0.125
	Titanium Alloy (Ti-6Al-4V)	-	260 (165-395)	0.008 (0.004 - 0.012)	0.078	0.010 (0.004 - 0.014)	0.093	0.012 (0.004 - 0.018)	0.125
H	Pre-hardened Steel (P20, Stavax)	40-43 HRC	395 (130-495)	0.006 (0.002 - 0.010)	0.059	0.010 (0.002 - 0.012)	0.059	0.010 (0.002 - 0.016)	0.059
	Die Cast Steels (A2, S7)	43-48HRC	260 (130-395)	0.006 (0.002 - 0.010)	0.039	0.010 (0.002 - 0.012)	0.039	0.010 (0.002 - 0.016)	0.039
	Hardened Steels (D2)	50-55HRC	195 (100-295)	0.006 (0.002 - 0.010)	0.020	0.010 (0.002 - 0.012)	0.020	0.010 (0.002 - 0.016)	0.020

Maximum Ramping Angle (E) & Helical Angle (P)

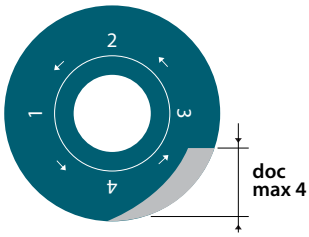
Insert Size	RPH_10...				RPH_12...				RPH_16...			
Diameter (inch)	Ramping Angle	Helical Milling (inch)		Helical Angle	Ramping Angle	Helical Milling (inch)		Helical Angle	Ramping Angle	Helical Milling (inch)		Helical Angle
D1	E	D0 Min	D0 Max	P	E	D0 Min	D0 Max	P	E	D0 Min	D0 Max	P
1.000	2.0°	1.488	1.606	1.8°	-	-	-	-	-	-	-	-
1.250	3.0°	1.988	2.106	1.5°	4.0°	1.752	2.028	1.7°	-	-	-	-
1.500	3.3°	2.488	2.606	1.1°	2.8°	2.252	2.528	1.4°	3.0°	2.016	2.370	2.0°
2.000	2.3°	3.488	3.606	0.9°	2.5°	3.252	3.528	1.1°	4.0°	3.016	3.370	1.5°
2.500	2.2°	4.488	4.606	0.7°	1.8°	4.252	4.528	0.9°	2.8°	4.016	4.370	1.1°
3.000	-	-	-	-	1.3°	5.252	5.528	0.7°	2.0°	5.016	5.370	0.9°
4.000	-	-	-	-	0.9°	7.252	7.528	0.5°	1.5°	7.016	7.370	0.7°
5.000	-	-	-	-	1.0°	9.252	9.528	0.4°	1.1°	9.016	9.370	0.45°
6.000	-	-	-	-	-	-	-	-	1.0°	11.016	11.370	0.4°

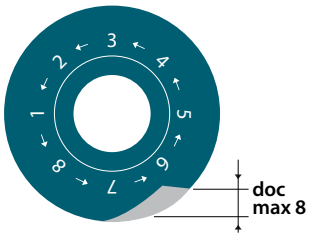




Maximum Depth of Cut (Aa)

Insert Size	Maximum Depth of Cut (Aa)	
	4 Indexes Per Insert	8 Indexes Per Insert
	(in)	(in)
RPH_10...	0.177	0.055
RPH_12...	0.217	0.067
RPH_16...	0.295	0.091



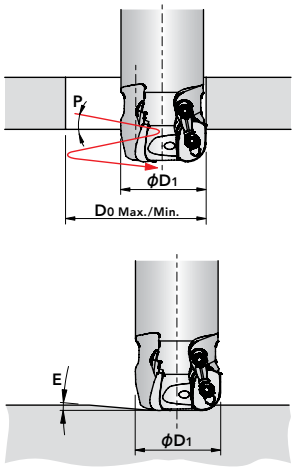


List 6420 - PHOENIX® PDR: SS
List 6450 - PHOENIX® PDR: Bore

Work Material		Tensile Strength – Hardness	Milling Speed Vc (SFM)	Insert Size ADMT20... Face Milling Feed Per Tooth fz (in/t)	Face Milling Depth of Cut aa (in) OAL=120	Face Milling Depth of Cut aa (in) OAL=170	Face Milling Feed Per Tooth fz (in/t)	Face Milling Depth of Cut aa (in) OAL=100	Face Milling Depth of Cut aa (in) OAL=200	Face Milling Depth of Cut aa (in) OAL=300	Face Milling Depth of Cut aa (in) OAL=400
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	590 (295 - 720)	0.027 (0.012 - 0.040)	0.118	0.079	0.024 (0.012 - 0.040)	0.118	0.118	0.079	0.079
P	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (295 - 720)	0.027 (0.012 - 0.040)	0.118	0.079	0.024 (0.012 - 0.040)	0.118	0.118	0.079	0.079
P	Die Steels (H13, D2)	~280 HB	495 (295 - 590)	0.024 (0.012 - 0.040)	0.118	0.079	0.020 (0.012 - 0.040)	0.118	0.079	0.079	0.079
K	Cast Iron (FC250)	~350 N/mm²	590 (330 - 820)	0.031 (0.012 - 0.059)	0.118	0.118	0.027 (0.012 - 0.059)	0.118	0.118	0.079	0.079
K	Ductile Cast Iron (60-40-18)	~800 N/mm²	495 (330 - 820)	0.027 (0.012 - 0.047)	0.118	0.118	0.024 (0.012 - 0.047)	0.118	0.118	0.079	0.079

Maximum Ramping Angle (E) & Helical Angle (P)

Insert Size	ADMT20...				
Diameter (mm)	Ramping Angle	Helical Milling (mm)		Helical Angle	Plunging (mm)
D1	E	D0 Min	D0 Max	P	Z
40	5°	50	78	1.4°	3
50	3°	70	98	1.1°	3
63	2°	96	124	0.9°	3
80	1°	130	158	0.7°	3
100	0.5°	170	198	0.5°	3
125	0.5°	220	248	0.4°	3



List 78036 - PHOENIX® PFAL: Bore

Semi-Finishing

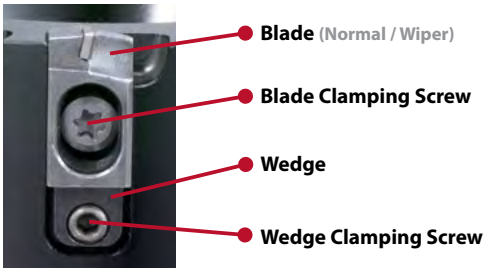
Work Material		Tensile Strength – Hardness	Insert Size			
			FR12…			
			Face Milling			
			Milling Speed Vc (SFM)		Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)
			CAT30	CAT40, CAT50 HSK-63		
N	Aluminum Alloys (7075, 5052, 2017, ADC12)	~12% Si	3300 (2600-6500)	6500 (3300-16400)	0.003 (0.002-0.004)	0.060 (0.040-0.080)
	Aluminum Alloys (AC9A, AC9B)	~13% Si	2000 (1300-2600)	2000 (1300-2600)	0.0025 (0.002-0.003)	0.060 (0.040-0.080)

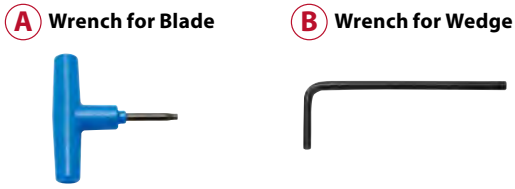
Finishing

Work Material		Tensile Strength – Hardness	Insert Size			
			FR12…			
			Face Milling			
			Milling Speed Vc (SFM)		Feed Per Tooth fz (in/t)	Depth of Cut Aa (in)
			CAT30	CAT40, CAT50 HSK-63		
N	Aluminum Alloys (7075, 5052, 2017, ADC12)	~12% Si	3300 (2600-6500)	6500 (3300-16400)	0.003 (0.002-0.004)	0.020 (0.012-0.040)
	Aluminum Alloys (AC9A, AC9B)	~13% Si	2000 (1300-2600)	2000 (1300-2600)	0.0025 (0.002-0.003)	0.020 (0.012-0.040)

Adjusting Cutting Edge Height

Names of Components:





1. Confirm Wedge Position

Check and ensure that all wedges are in the correct position. Make adjustments when necessary.



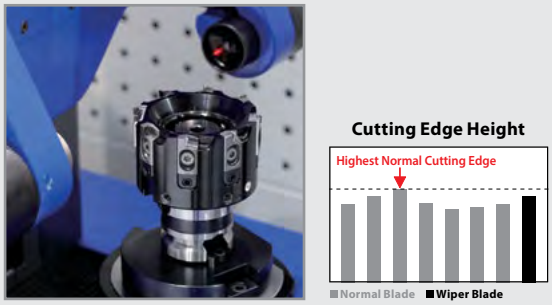
2. Mounting of Blades

Mount one wiper blade (FR1204-W) to the wiper blade position indicator and the normal blades (FR1204 or FR1206) to the remaining positions. Using the T-Wrench (A), tighten the clamp screw completely to 10 Nm.



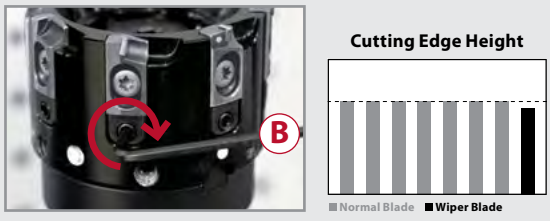
3. Measurement of Cutting Edge Height

Measure all of the cutting edge heights and determine the highest normal cutting edge.



4. Adjustment of Normal Blades

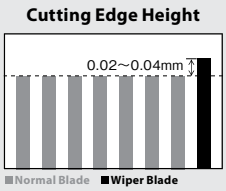
Adjust all other normal cutting edges to match the highest normal cutting edge height. The offset should be within 0.005mm. To lift the wedges, use the L-Wrench (B) to turn the wedge screw clockwise.



5. Adjustment of Wiper Blade

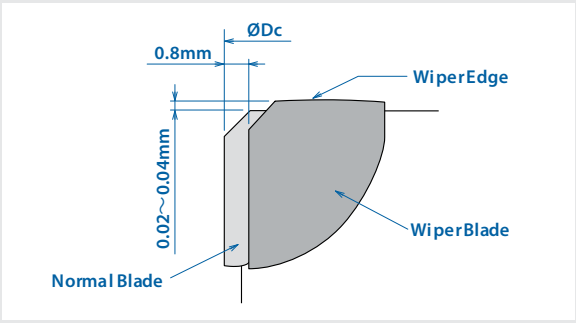
Use the L-Wrench (B) to adjust the wiper blade so that it is 0.02 - 0.04mm higher than the other normal blades.





Cutting Edge Position of the Wiper Blade

The wiper blade is automatically set to be 0.8mm closer to the interior than the normal blade. Based on this design, only the bottom of the wiper edge is used during processing, thus enabling a high quality surface finish even in high depth (Ap) milling.



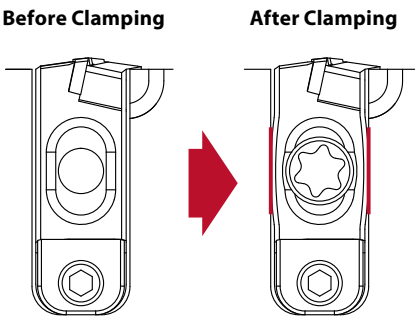
Cautions During Use

- **Blades can be adjusted by lifting upward only.**
- **Maximum adjustment is 0.6mm.**
- **When the maximum adjustment limit is reached, remove the blade and start over from step (1).**
- **When measuring the edge height using a contact tool presetter with a touch probe, please be cautious to not damage the PCD edge.**

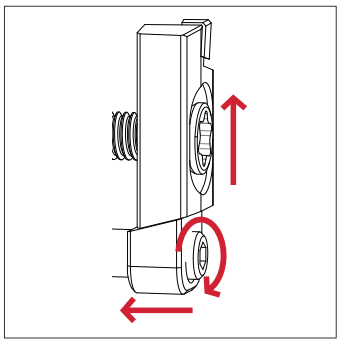
No need for Temporary Tightening

Temporary tightening is not required. Cutting edge height can be adjusted after complete tightening of the clamping screw, making the setup process quick and effortless.





The tightening of the clamping screw pushes sides of the blade outward, locking it tightly in place with the cutter body



After tightening the clamping screw, the blade is locked into position secured by the wedge taper. The wedge assures a fix and unmovable blade position during machining.

List 52100 - PHOENIX® PFB: SA
List 78014 - PHOENIX® PFB: SS
List 52604 - PHOENIX® PFB: ASF
List 78114 - PHOENIX® PFB: SF

Work Material		Tensile Strength – Hardness	Milling Speed Vc (SFM)	Depth of Cut Aa (in)	Feed Per Tooth fz (in/t)			
					Ø0.236-0.312 (6-8mm)	Ø0.375-0.500 (10-12mm)	Ø0.625-0.750 (16-20mm)	Ø1.000-1.250 (25-32mm)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	985 (655-1310)	0.02Dc	0.0040	0.0047	0.0055	0.0071
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	985 (655-1310)	0.02Dc	0.0028	0.0040	0.0047	0.0055
	Die Steels (H13, D2)	~280 HB	820 (495-1150)	0.02Dc	0.0028	0.0040	0.0047	0.0055
M	Stainless Steels (304SS, 420SS)	~250 HB	820 (495-1150)	0.02Dc	0.0028	0.0047	0.0055	0.0067
K	Cast Iron (FC250)	~350 N/mm²	1310 (985-1640)	0.02Dc	0.0047	0.0055	0.0071	0.0086
	Ductile Cast Iron (60-40-18)	~600 N/mm²	985 (655-1310)	0.02Dc	0.0040	0.0047	0.0055	0.0071
N	Aluminum Alloys (6061, 7075)	~13% Si	1640 (1310-1970)	0.03Dc	0.0047	0.0055	0.0071	0.0086
	Copper Alloys (C1100)	-	985 (655-1310)	0.03Dc	0.0043	0.0051	0.0067	0.0079
	Graphite	-	1640 (1310-1970)	0.03Dc	0.0055	0.0067	0.0083	0.0098
	CFRP	-	1310 (985-1640)	0.03Dc	0.0043	0.0051	0.0067	0.0079
S	Heat Resistant Alloys (Inconel 718)	-	165 (65-260)	0.015Dc	0.0016	0.0020	0.0024	0.0024
	Titanium Alloy (Ti-6Al-4V)	-	295 (130-395)	0.02Dc	0.0024	0.0031	0.0043	0.0051
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	655 (330-985)	0.015Dc	0.0024	0.0028	0.0031	0.0040
	Die Cast Steels (A2, S7)	43 - 48 HRC	590 (295-655)	0.015Dc	0.0020	0.0024	0.0028	0.0028
	Hardened Steels (D2)	50 - 55 HRC	490 (330-820)	0.01Dc	0.0020	0.0024	0.0028	0.0028

PFB-BR & PFB-LZ Insert Cutting Conditions

Work Material		Tensile Strength – Hardness	Milling Speed Vc (SFM)	Depth of Cut		Feed Per Tooth fz (in/t)		
				Pitch (mm)	Depth of Cut (in)	Ø10-12mm	Ø16-20mm	Ø25-32mm
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	985 (655 - 2625)	Based on Cusp Height (see chart on next page)	0.0078	0.0047	0.0055	0.0071
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	985 (655 - 2625)		0.0078	0.0039	0.0047	0.0055
	Die Steels (H13, D2)	~280 HB	820 (490 - 1970)		0.0078	0.0039	0.0047	0.0055
M	Stainless Steels (304SS, 420SS)	~250 HB	820 (490 - 2130)		0.0078	0.0047	0.0055	0.0067
K	Cast Iron (FC250)	~350 N/mm²	1310 (985 - 2625)		0.0078	0.0055	0.0071	0.0087
	Ductile Cast Iron (60-40-18)	~600 N/mm²	985 (655 - 2625)		0.0078	0.0047	0.0055	0.0071
S	Heat Resistant Alloys (Inconel 718)	-	165 (80 - 260)		0.0059	0.0019	0.0024	0.0024
	Titanium Alloy (Ti-6Al-4V)	-	295 (130 - 395)		0.0078	0.0031	0.0044	0.0051
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	655 (330 - 1150)		0.0059	0.0027	0.0031	0.0039
	Die Cast Steels (A2, S7)	43 - 48 HRC	590 (295 - 1150)		0.0059	0.0024	0.0027	0.0027
	Hardened Steels (D2)	50 - 55 HRC	495 (330 - 985)		0.0039	0.0024	0.0027	0.0027

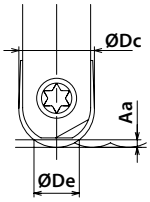
Effective Cutting Diameter

Depth of Cut Aa		Effective Cutting Diameter (ØDe)																	
		ØDc		ØDc		ØDc		ØDc		ØDc		ØDc		ØDc		ØDc		ØDc	
(inch)	(mm)	0.250"	6mm	0.275"	7mm	0.315"	8 mm	0.375"	10 mm	0.500"	12 mm	0.625"	16 mm	0.750"	20 mm	1.000"	25 mm	1.181"	30 mm	1.250"	32mm
0.004	0.1	0.063	1.5	0.063	1.6	0.071	1.8	0.077	2.0	0.089	2.2	0.100	2.5	0.109	2.8	0.126	3.2	0.137	3.5	0.142	3.6
0.008	0.2	0.088	2.2	0.091	2.3	0.099	2.5	0.108	2.8	0.125	3.1	0.141	3.6	0.154	4.0	0.178	4.5	0.194	4.9	0.197	5.0
0.012	0.3	0.107	2.6	0.110	2.8	0.121	3.0	0.132	3.4	0.153	3.7	0.172	4.3	0.188	4.9	0.218	5.4	0.237	6.0	0.244	6.2
0.016	0.4	0.122	3.0	0.130	3.3	0.138	3.5	0.152	3.9	0.176	4.3	0.197	5.0	0.217	5.6	0.251	6.3	0.273	6.9	0.280	7.1
0.020	0.5	0.136	3.3	0.142	3.6	0.154	3.9	0.169	4.4	0.196	4.8	0.220	5.6	0.242	6.2	0.280	7.0	0.305	7.7	0.311	7.9
0.031	0.8	0.165	4.1	0.177	4.5	0.188	4.8	0.207	5.4	0.241	6.0	0.271	7.0	0.299	7.8	0.347	8.8	0.378	9.7	0.394	10.0
0.039	1.0	-	-	-	-	-	-	0.229	6.0	0.268	6.6	0.302	7.7	0.333	8.7	0.387	9.8	0.422	10.8	0.437	11.1
0.059	1.5	-	-	-	-	-	-	0.273	7.1	0.323	7.9	0.365	9.3	0.404	10.5	0.471	11.9	0.515	13.1	0.531	13.5
0.079	2.0	-	-	-	-	-	-	-	-	0.365	8.9	0.415	10.6	0.460	12.0	0.539	13.6	0.590	15.0	0.610	15.5
0.098	2.5	-	-	-	-	-	-	-	-	-	-	0.455	11.6	0.506	13.2	0.595	15.0	0.652	16.6	0.677	17.2
0.118	3.0	-	-	-	-	-	-	-	-	-	-	-	-	0.546	14.3	0.645	16.2	0.708	18.0	0.736	18.7
0.138	3.5	-	-	-	-	-	-	-	-	-	-	-	-	0.581	15.2	0.690	17.3	0.759	19.3	0.787	20.0
0.157	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.728	18.3	0.802	20.4	0.835	21.2
0.117	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.706	21.4	0.874	22.2
0.197	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.881	22.3	0.913	23.2

Note: Effective cutting diameter is based on cutting depth (Aa)

How to determine effective cutting diameter:

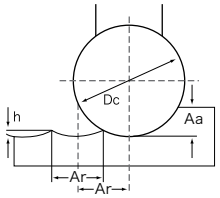
Ex: Dc = 0.500"
Aa = 0.020"
De = 2√0.020(0.500-0.020)
De = 0.196"



$$De=2\sqrt{a_a(D_c-a_a)}$$

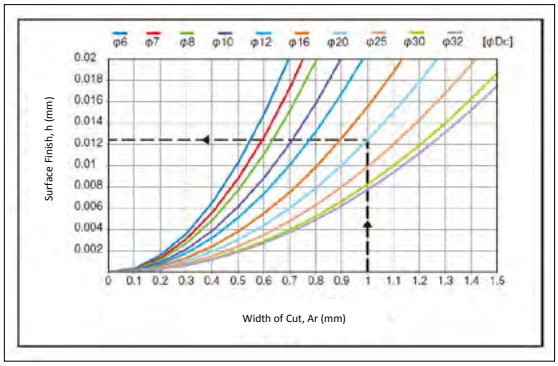
Recommended Width of Cut & Surface Roughness

Tool Dia ØDc		Width of Cut Ar		Surface Finish h	
(inch)	(mm)	(inch)	(mm)	(inch)	(mm)
0.250	6	0.0157	0.4	0.00027	0.007
0.275	7	0.0177	0.45	0.00027	0.007
0.315	8	0.0197	0.5	0.00031	0.008
0.375	10	0.0236	0.6	0.00037	0.009
0.500	12	0.0275	0.7	0.00038	0.010
0.625	16	0.0315	0.8	0.00040	0.010
0.750	20	0.0394	1.0	0.00052	0.012
1.000	25	0.0472	1.2	0.00055	0.014
1.181	30	0.0512	1.3	0.00055	0.014
1.250	32	0.0551	1.4	0.00059	0.015



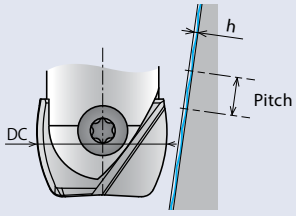
$$h=0.5\ (Dc-\sqrt{Dc^2-Ar^2})$$

Dc=20mm
Ar=1mm
->h=0.0125mm

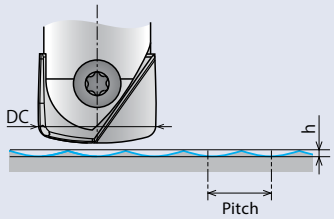


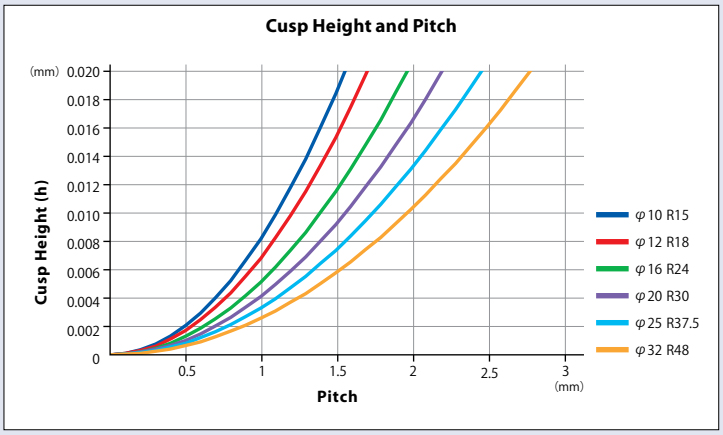
Theoretical Cusp Height

PFB-BR
Barrel Type Tool



PFB-LZ
Lens Type Tool





$$h=0.5\times\left(2\times RE2-\sqrt{(2\times RE2)^2-P^2}\right)$$

h: Cusp Height P:Pitch RE2: Peripheral Edge R

List 52200 - PHOENIX® PFR: SA
List 78320 - PHOENIX® PFR: SS
List 52605 - PHOENIX® PFR: ASF
List 78220 - PHOENIX® PFR: SF

Standard Milling

Work Material		Tensile Strength – Hardness	Milling Speed Vc (SFM)			Depth of Cut Aa (in)	Feed Per Tooth fz (in/t)			
			L/D = 2.5	L/D = 5	L/D = 8		Ø0.236-0.275 [6-7mm]	Ø0.312-0.375 [8-10mm]	Ø0.500-0.625 [12-16mm]	Ø0.750-1.250 [20-32mm]
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	655 (490-820)	80%	60%	0.05Dc	0.0047	0.0079	0.0087	0.0098
P	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	590 (495-820)			0.05Dc	0.0059	0.0071	0.0087	0.0098
P	Die Steels (H13, D2)	~280 HB	495 (395-655)			0.05Dc	0.0040	0.0059	0.0071	0.0079
M	Stainless Steels (304SS, 420SS)	~250 HB	495 (330-655)			0.03Dc	0.0031	0.0047	0.0059	0.0071
K	Cast Iron (FC250)	~350 N/mm²	655 (495-820)			0.05Dc	0.0059	0.0079	0.0098	0.0118
K	Ductile Cast Iron (60-40-18)	~600 N/mm²	495 (330-655)			0.05Dc	0.0047	0.0059	0.0079	0.0098
N	Aluminum Alloys (6061, 7075)	~13% Si	985 (655-1310)			0.05Dc	0.0079	0.0098	0.0118	0.0138
N	Graphite	-	825 (500-1150)			0.10Dc	0.0098	0.0157	0.0197	0.0197
N	CFRP	-	650 (500-825)			0.50Dc	0.0020	0.0040	0.0059	0.0079
S	Heat Resistant Alloys (Inconel 718)	-	100 (65-130)			0.02Dc	0.0016	0.0020	0.0031	0.0047
S	Titanium Alloy (Ti-6Al-4V)	-	165 (130-195)			0.02Dc	0.0020	0.0031	0.0040	0.0059
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	395 (330-495)			0.03Dc	0.0031	0.0040	0.0047	0.0071
H	Die Cast Steels (A2, S7)	43 - 48 HRC	260 (165-330)			0.025Dc	0.0020	0.0031	0.0040	0.0059
H	Hardened Steels (D2)	50 - 55 HRC	195 (130-260)			0.02Dc	0.0016	0.0020	0.0031	0.0040

High-Speed Light Milling

Work Material		Tensile Strength – Hardness	Milling Speed Vc (SFM)			Depth of Cut Aa (in)	Feed Per Tooth fz (in/t)			
			Steel Shank	Carbide Shank Short	Carbide Shank Long		Ø0.236-0.312 [6-8mm]	Ø0.375-0.500 [10-12mm]	Ø0.625-0.750 [16-20mm]	Ø1.000-1.250 [25-32mm]
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	1475	1575	1180	0.02Dc	0.0040	0.0047	0.0055	0.0071
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	1475	1575	1180	0.02Dc	0.0027	0.0040	0.0047	0.0055
	Die Steels (H13, D2)	~280 HB	1230	1310	985	0.02Dc	0.0027	0.0040	0.0047	0.0055
M	Stainless Steels (304SS, 420SS)	~250 HB	1230	1310	985	0.02Dc	0.0027	0.0047	0.0055	0.0067
K	Cast Iron (FC250)	~350 N/mm²	1970	2100	1575	0.02Dc	0.0047	0.0055	0.0071	0.0087
	Ductile Cast Iron (60-40-18)	~600 N/mm²	1475	1575	1180	0.02Dc	0.0040	0.0047	0.0055	0.0071
N	Aluminum Alloys (6061, 7075)	~13% Si	2460	2625	1970	0.03Dc	0.0047	0.0055	0.0071	0.0087
S	Heat Resistant Alloys (Inconel 718)	-	230	260	195	0.015Dc	0.0016	0.0020	0.0024	0.0051
	Titanium Alloy (Ti-6Al-4V)	-	395	470	360	0.02Dc	0.0024	0.0031	0.0043	0.0040
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	985	1050	790	0.015Dc	0.0024	0.0027	0.0031	0.0040
	Die Cast Steels (A2, S7)	43 - 48 HRC	885	940	720	0.015Dc	0.0020	0.0024	0.0027	0.0027
	Hardened Steels (D2)	50 - 55 HRC	720	790	590	0.01Dc	0.0020	0.0024	0.0027	0.0027

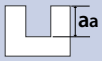
List 78PXSE: PXSE Exchangeable Heads
List 78PXSE-O: PXSE-O Exchangeable Heads

Side Milling

Hardness			Up to 30 HRC		30-45 HRC		45-55 HRC			
Work Material		Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Stainless Steels Hardened Steels		Hardened Steels Titanium Alloys		Heat Resistant Alloys Inconel
Depth of Cut 		Aa=0.5Dc • Ar=0.15Dc			Aa=0.5Dc • Ar=0.1Dc		Aa=0.5Dc • Ar=0.05Dc			
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	4000	38.00	3350	31.83	2175	20.70	2175	17.38	840	5.38
-	10	3810	36.22	3190	30.31	2070	19.70	2070	16.54	800	5.12
-	12	3180	29.92	2650	25.20	1700	15.75	1700	13.78	650	3.94
1/2	-	3010	28.29	2450	23.28	1590	14.95	1590	12.72	620	3.78
5/8	-	2410	22.65	1955	18.57	1270	11.94	1270	10.16	495	3.07
-	16	2390	22.44	1950	18.50	1250	11.81	1250	9.84	500	3.15
3/4	-	2000	18.80	1630	15.49	1060	10.39	1060	8.48	410	2.62
-	20	1910	18.11	1550	14.57	1000	9.84	1000	7.87	400	2.56
-	25	1530	14.57	1240	11.81	800	7.87	800	6.30	320	1.97
1	-	1500	14.10	1225	11.64	790	7.74	790	6.25	310	1.89

1. Cutting conditions shown above are for side milling with L/D ≤ 3.5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 3.5xD.

Slotting

Hardness			Up to 30 HRC		30-45 HRC		45-55 HRC			
Work Material		Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Stainless Steels Hardened Steels		Hardened Steels Titanium Alloys		Heat Resistant Alloys Inconel
Depth of Cut 		Aa≤0.35Dc			Aa≤0.3Dc		Aa≤0.2Dc			Aa≤0.1Dc
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	3185	25.23	3185	25.23	1680	13.23	1680	10.75	840	5.38
-	10	3030	24.00	3030	24.00	1600	12.60	1600	10.24	800	5.12
-	12	2500	19.69	1550	11.81	1300	9.84	1300	9.84	650	3.94
1/2	-	2350	18.49	1450	11.02	1240	9.42	1240	9.42	620	3.78
5/8	-	1875	14.76	1160	9.98	1010	7.88	1010	7.88	495	3.07
-	16	1850	13.78	1150	9.84	1000	7.87	1000	7.87	500	3.15
3/4	-	1565	12.32	990	8.22	790	6.64	790	6.64	410	2.62
-	20	1500	11.81	950	7.87	750	6.30	750	6.30	400	2.56
-	25	1200	9.45	760	6.30	600	5.12	600	5.12	320	1.97
1	-	1170	9.21	745	6.18	590	5.02	590	5.02	310	1.89

1. Cutting conditions shown above are for slotting with L/D ≤ 3.5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 3.5xD.

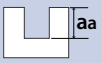
List 78PXVC: PXVC Exchangeable Heads

Side Milling

Hardness				Up to 30 HRC		30-45 HRC		45-55 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Stainless Steels Hardened Steels		Hardened Steels Titanium Alloys	
Depth of Cut 		Aa=0.5Dc • Ar=0.2Dc				Aa=0.5Dc • Ar=0.1Dc		Aa=0.5Dc • Ar=0.05Dc	
Mill Dia. (in)	(mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	5020	47.50	4010	38.00	3350	31.80	2680	25.65
-	10	4780	45.28	3820	36.22	3190	30.31	2550	24.41
-	12	3980	37.80	3190	30.31	2660	25.20	2130	20.47
1/2	-	3780	35.83	3020	28.63	2520	23.90	2010	19.30
-	14	3420	32.68	2730	25.98	2280	21.65	1820	17.32
5/8	-	3025	28.67	2410	22.85	2015	19.10	1610	15.46
-	16	2990	28.35	2390	22.83	1990	18.90	1600	15.35
-	18	2660	25.20	2130	20.47	1770	16.93	1420	13.78
3/4	-	2520	23.90	2010	19.05	1680	15.93	1340	12.86
-	20	2390	22.83	1910	18.11	1600	15.35	1280	12.20
-	22	2180	20.87	1740	16.54	1450	13.78	1160	11.00
-	25	1910	18.11	1530	14.57	1280	12.20	1020	9.84
1	-	1890	17.92	1510	14.31	1260	11.95	1000	9.60
1 1/4 (5F)	-	1515	15.10	1210	9.53	1010	9.94	805	6.34
1 1/4 (8F)	-	1515	19.09	1210	15.48	1010	12.73	805	10.30
-	32 (5F)	1500	14.96	1200	9.45	1000	9.84	800	6.30
-	32 (8F)	1500	18.90	1200	15.35	1000	12.60	800	10.24

1. Cutting conditions shown above are for side milling with L/D ≤ 5xD
2. For side milling with 5xD < L/D ≤ 6xD, reduce Speed and Feed by 10%
3. For side milling with 6xD < L/D ≤ 7xD, reduce Speed & Feed by 20%
4. For side milling with PXMC Extra-Short Collet, increase Speed by 30-40% and Feed by 40-80%
5. For side milling with PXMC Short Collet, increase Speed by 10-20% and Feed by 20-30%

Slotting

Hardness				Up to 30 HRC		30-45 HRC		45-55 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Stainless Steels Hardened Steels		Hardened Steels Titanium Alloys	
Depth of Cut 		Aa≤0.5Dc		Aa≤0.4Dc		Aa≤0.3Dc			
Mill Dia. (in)	(mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	5020	39.70	4010	31.82	3340	26.47	2510	19.85
-	10	4780	37.80	3820	30.31	3180	25.20	2390	18.90
-	12	3980	31.50	3180	25.20	2650	20.87	1990	15.75
1/2	-	3760	29.61	3010	23.70	2505	19.72	1870	14.72
-	14	3410	26.77	2730	21.65	2270	17.72	1710	13.38
5/8	-	3010	23.70	2410	18.98	2005	15.79	1500	11.81
-	16	2980	23.62	2390	18.90	1990	15.75	1490	11.81
-	18	2650	20.87	2120	16.53	1770	13.78	1330	10.63
3/4	-	2505	19.72	2010	15.83	1670	13.15	1250	9.84
-	20	2390	18.90	1910	14.96	1590	12.60	1190	9.45
-	22	2170	16.93	1740	13.78	1450	11.42	1090	8.66
-	25	1910	14.96	1530	12.20	1270	9.84	950	7.48
1	-	1880	14.80	1505	11.85	1250	9.70	935	7.36

1. Cutting conditions shown above are for slotting with L/D ≤ 5xD.
2. For slotting with 5xD < L/D ≤ 6xD, reduce Speed and Feed by 20%.
3. For slotting with 6xD < L/D ≤ 7xD, reduce Speed & Feed by 35%.
4. For slotting with PXMC Extra-Short Collet, increase Speed by 10-20% and Feed by 10-50%.
5. For slotting with PXMC Short Collet, increase Feed by 15-30%.
6. Slotting with Ø1 1/4" or Ø32mm PXVC is not recommended due to the large number of flutes.

List 78PXSM: PXSM Exchangeable Heads

Side Milling

Hardness			Up to 30 HRC		30-45 HRC		45-55 HRC			
Work Material		Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Stainless Steels Hardened Steels		Hardened Steels Titanium Alloys		Heat Resistant Alloys Inconel	
Depth of Cut 		Aa≤0.5Dc • Ar≤0.05Dc				Aa≤0.5Dc • Ar≤0.02Dc		Aa≤0.3Dc • Ar≤0.02Dc			
Mill Dia. (in)	(mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	6020	91.36	5020	59.55	4010	47.53	3350	39.70	2000	17.32
-	10	5730	81.50	4780	56.70	3820	45.28	3190	37.80	1910	16.54
-	12	4750	68.90	3950	45.28	3150	37.40	2650	31.50	1550	13.78
1/2	-	4485	65.03	3725	42.84	2980	35.16	2500	29.75	1450	12.91
5/8 (6F)	-	3590	52.06	2970	34.16	2385	28.38	1955	23.66	1160	10.32
5/8 (8F)	-	3590	69.65	2970	45.44	2385	37.92	1955	31.67	1160	13.92
-	16 (6F)	3550	51.57	2950	33.86	2350	27.95	1950	23.62	1150	10.24
-	16 (8F)	3550	68.90	2950	45.28	2350	37.40	1950	31.50	1150	13.78
3/4	-	2990	71.76	2475	47.52	1985	39.10	1630	33.09	995	14.43
-	20	2850	68.90	2350	45.28	1900	37.40	1550	31.50	950	13.78
-	25	2280	55.12	1880	36.22	1520	29.92	1240	25.20	760	11.02
1	-	2240	54.21	1855	35.80	1490	29.35	1220	24.77	745	10.80

1. Cutting conditions shown above are for side milling with L/D ≤ 3.5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 3.5xD.

List 78PXSH: PXSH Exchangeable Heads

Side Milling (L/D≤4)

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Hardened Steels Prehardened Steels		Hardened Steel		Hardened Steel		Hardened Steel		Hardened Steel	
Depth of Cut 		Aa=1.0D Ar=0.05D (1mm max)		Aa=1.0D Ar=0.03D (1mm max)		Aa=1.0D Ar=0.02D (0.5mm max)					
Mill Dia. (in)	(mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	3180	90.2	2390	67.7	1860	37.0	1590	27.2	1330	20.1
1/2	-	3010	85.4	2260	64.0	1760	35.0	1500	26.7	1260	19.0
5/8	-	2410	90.9	1800	68.1	1400	36.9	1200	27.4	1010	20.3
-	16	2390	90.2	1790	67.7	1390	36.6	1190	27.2	1000	20.1
3/4	-	2000	94.4	1500	71.0	1170	38.6	1010	28.6	840	21.1
-	20	1910	90.2	1430	67.7	1110	36.6	960	27.2	800	20.1
-	25	1530	96.5	1150	72.4	890	39.4	760	28.7	640	20.1
1	-	1510	95.2	1130	71.1	880	38.9	750	28.3	630	19.8

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Please adjust the cutting condition when the overhang length is longer.
4. Please consider the overhang length as the total length of replaceable head and overhang length of shank holder.
5. Use an air blow or a suitable cutting fluid with high smoke retardant properties.

Side Milling (4<L/D≤5)

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Hardened Steels Prehardened Steels		Hardened Steel		Hardened Steel		Hardened Steel		Hardened Steel	
Depth of Cut 		Aa=1.0D Ar=0.03D (1mm max)		Aa=1.0D Ar=0.02D (1mm max)		Aa=0.7D Ar=0.02D (0.5mm max)					
Mill Dia. (in)	(mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	2260	64.2	1730	49.2	1330	18.9	1190	13.4	930	7.9
1/2	-	2140	60.8	1640	46.6	1260	17.9	1130	12.7	880	7.5
5/8	-	1700	64.2	1300	49.2	1010	19.1	910	13.9	710	8.0
-	16	1690	63.8	1290	48.8	1000	18.9	900	13.8	700	7.9
3/4	-	1420	67.1	1090	51.6	840	19.5	760	14.6	590	8.3
-	20	1350	63.8	1040	49.2	800	18.9	720	13.8	560	7.9
-	25	1080	68.1	830	52.4	640	28.3	570	21.6	450	14.2
1	-	1060	66.8	820	51.8	630	23.4	560	21.2	440	13.9

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Please adjust the cutting condition when the overhang length is longer.
4. Please consider the overhang length as the total length of replaceable head and overhang length of shank holder.
5. Use an air blow or a suitable cutting fluid with high smoke retardant properties.

List 78PXSH: PXSH Exchangeable Heads

High Speed Side Milling (L/D≤4)

Hardness		Up to 45 HRC		45-55 HRC		55-62 HRC		62-66 HRC		66-70 HRC	
Work Material		Hardened Steels Prehardened Steels		Hardened Steel		Hardened Steel		Hardened Steel		Hardened Steel	
Depth of Cut 		Aa=1.0D Ar=0.05D (1mm max)		Aa=1.0D Ar=0.03D (1mm max)		Aa=0.7D Ar=0.015D (0.5mm max)		Aa=0.7D Ar=0.01D (0.5mm max)			
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	4510	102.4	3980	90.1	2790	44.5	2390	33.8	1860	23.6
1/2	-	4260	96.7	3760	85.1	2640	42.1	2260	31.9	1760	22.3
5/8	-	3410	103.3	3020	91	2110	44.9	1800	33.9	1400	23.8
-	16	3380	102.4	2990	90.1	2090	44.5	1790	33.8	1390	23.6
3/4	-	2850	107.7	2510	94.6	1750	46.6	1500	35.4	1170	24.9
-	20	2710	102.4	2390	90.1	1670	44.5	1430	33.8	1110	23.6
-	25	2170	109.4	1910	96.1	1340	47.6	1150	36.2	890	25.2
1	-	2140	107.9	1880	94.6	1320	46.9	1130	35.6	880	24.9

1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.
3. Please adjust the cutting condition when the overhang length is longer.
4. Please consider the overhang length as the total length of replaceable head and overhang length of shank holder.
5. Use an air blow or a suitable cutting fluid with high smoke retardant properties.

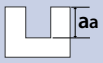
List 78PXNL: PXNL Exchangeable Heads
List 78PXNL-O: PXNL-O Exchangeable Heads
List 78PXNH: PXNH Exchangeable Heads
List 78PXNH-O: PXNH-O Exchangeable Heads

Side Milling

Work Material		Cast Iron		Carbon Steels		Alloy Steels		Hardened Steels Pre-hardened Steels		Stainless Steels	
Depth of Cut 		Aa=0.5Dc • Ar=0.3Dc				Aa=0.5Dc • Ar=0.2Dc					
Mill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
(in)	(mm)	(RPM)	(in/min)	(RPM)	(in/min)	(RPM)	(in/min)	(RPM)	(in/min)	(RPM)	(in/min)
3/8	-	3000	29.74	4010	34.71	3340	21.50	3000	14.45	2680	11.56
-	10	2860	28.35	3820	33.07	3180	20.47	2860	13.78	2550	11.00
-	12	2390	23.62	3180	27.56	2650	17.32	2390	11.42	2120	9.06
1/2	-	2255	22.32	3000	26.10	2500	16.25	2255	10.82	2000	8.60
5/8	-	1800	24.48	2400	28.56	2000	17.80	1800	11.88	1600	9.44
-	16	1790	24.41	2390	28.35	1990	17.72	1790	11.81	1590	9.45
3/4	-	1500	27.30	2000	31.40	1670	19.87	1500	12.75	1335	10.28
-	20	1430	25.98	1910	29.92	1590	18.90	1430	12.20	1270	9.84
-	25	890	17.72	1270	22.05	1020	13.38	890	8.66	760	6.69
1	-	875	17.41	1250	21.75	1000	13.10	875	8.49	745	6.56

1. Cutting conditions shown above are for side milling with L/D ≤ 3.5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 3.5xD.
3. For side milling with PXMC Extra-Short Collet, increase Speed by 20-80% and Feed by 20-100%.
4. For side milling with PXMC Short Collet, increase Speed by 30-50% and Feed by 10-80%.

Slotting

Work Material		Cast Iron		Carbon Steels		Alloy Steels		Hardened Steels Pre-hardened Steels		Stainless Steels	
Depth of Cut 		Aa=0.5Dc									
Mill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
(in)	(mm)	(RPM)	(in/min)	(RPM)	(in/min)	(RPM)	(in/min)	(RPM)	(in/min)	(RPM)	(in/min)
3/8	-	2345	14.90	3340	18.61	2680	11.17	2345	7.05	2000	5.36
-	10	2230	14.17	3180	17.72	2550	10.63	2230	6.70	1910	5.12
-	12	1860	11.81	2650	14.57	2120	8.66	1860	5.51	1590	4.33
1/2	-	1750	11.03	2505	13.78	2000	8.20	1750	5.08	1500	4.05
5/8	-	1400	12.74	2005	15.84	1600	9.44	1400	5.88	1200	4.80
-	16	1390	12.60	1990	15.75	1590	9.45	1390	5.91	1190	4.72
3/4	-	1165	14.91	1670	18.54	1335	11.21	1165	6.99	1000	5.40
-	20	1110	14.17	1590	17.72	1270	10.63	1110	6.69	950	5.12
-	25	760	11.02	1150	14.57	890	8.27	760	5.12	640	3.94
1	-	745	10.80	1130	14.35	875	8.14	745	4.99	630	3.84

1. Cutting conditions shown above are for slotting with L/D ≤ 3.5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 3.5xD.
4. For sloting with PXMC Extra-Short Collet, increase Speed by 20-80% and Feed by 50-250%.
5. For slotting with PXMC Short Collet, increase Speed by 20-50% and Feed by 30-200%.

List 78PXRE: PXRE Exchangeable Heads

Contouring

Hardness		–		Up to 30 HRC		30-45 HRC		45-55 HRC		55-60 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Hardened Steels		Hardened Steels	
Depth of Cut 		Aa=0.1r • Ar=0.3Dc									
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	6695	529.65	5045	322.77	4100	248.33	3465	169.49	2940	111.61
-	10	6370	503.94	4800	307.10	3900	236.22	3300	161.42	2800	106.30
-	12	5800	417.32	4000	255.91	3200	192.91	2700	129.92	2300	86.61
1/2	-	5475	393.65	3780	241.92	3020	182.11	2535	121.93	2170	81.59
5/8	-	4035	472.50	3025	305.53	2415	233.77	2030	155.90	1735	108.44
-	16	4000	468.50	3000	303.15	2400	232.28	2000	153.54	1700	106.30
3/4	-	3360	394.80	2520	268.63	2010	204.02	1690	137.23	1445	89.45
-	20	3200	375.98	2400	255.91	1900	192.91	1600	129.92	1400	86.61
-	25	2560	294.40	1920	192.00	1535	145.80	1280	102.40	1100	68.75
1	-	2520	289.80	1890	189.00	1510	143.45	1260	100.80	1090	67.50

1. Cutting conditions shown above are for contouring with L/D ≤ 3.5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 3.5xD.

List 78PXDR: PXDR-P Exchangeable Heads

Contouring

Hardness		–		Up to 30 HRC		30-45 HRC		45-55 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron		Alloy Steels Tool Steels		Stainless Steels Hardened Steels		Hardened Steels	
Depth of Cut 		Aa=0.05r • Ar=0.25Dc						Aa=0.03r • Ar=0.25Dc	
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	5010	148.00	5010	118.26	5010	88.90	5010	59.13
-	10	4770	140.95	4770	112.60	4770	84.65	4770	56.30
-	12	3980	117.32	3980	94.10	3980	70.47	3980	46.85
1/2	-	3780	111.60	3780	89.30	3780	66.97	3780	44.65
5/8	-	3025	89.32	3025	74.45	3025	53.59	3025	35.73
-	16	2980	88.19	2980	70.47	2980	52.75	2980	35.43
3/4	-	2520	74.40	2520	59.53	2520	44.65	2520	29.76
-	20	2390	70.47	2390	56.30	2390	42.12	2390	28.35
-	25	1920	56.64	1920	45.12	1920	33.98	1920	22.46
1	-	1890	55.75	1890	44.41	1890	33.45	1890	22.11

1. Cutting conditions shown above are for contouring with L/D ≤ 5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 5xD.

List 78PXDR: PXDR-N Exchangeable Heads

Contouring

Hardness		Up to 30 HRC		30-45 HRC		45-55 HRC		55-60 HRC	
Work Material		Alloy Steels Tool Steels		Stainless Steels Hardened Steels		Hardened Steels		Hardened Steels	
Depth of Cut 		Aa=0.03r • Ar=0.25Dc						Aa=0.02r • Ar=0.2Dc	
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	5010	148.00	4010	94.64	3340	47.56	3340	39.28
-	10	4770	140.95	3820	90.16	3180	45.28	3180	37.40
-	12	3980	117.32	3180	75.20	2650	37.40	2650	31.50
1/2	-	3780	111.60	3020	71.34	2520	34.72	2520	29.76
5/8	-	3025	89.32	2415	57.05	2015	28.56	2015	23.80
-	16	2980	88.19	2390	56.30	1990	28.35	1990	23.62
3/4	-	2520	74.40	2010	47.48	1680	23.15	1680	19.84
-	20	2390	70.47	1910	45.27	1590	22.44	1590	18.90
-	25	1920	56.64	1535	36.07	1275	17.85	1275	15.05
1	-	1890	55.75	1500	35.25	1250	17.50	1250	14.75

1. Cutting conditions shown above are for contouring with L/D ≤ 5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 5xD.

List 78PXHF-AM: PXHF-AM Exchangeable Heads

Facing (L/D ≤ 4)

Hardness	< 45 HRC	< 62 HRC	< 70 HRC	–	–	–	–
Work Material	Hardened Steel Prehardened Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cobalt-Chrome Alloy Stellite	Titanium Alloy	Nickel-based Alloy Inconel 718
Cutting Speed	360 - 425 SFM	295 - 360 SFM	215 - 280 SFM	410 - 475 SFM	360 - 425 SFM	295 - 360 SFM	100 - 165 SFM
Depth of Cut 	Aa=0.04Dc Max • Ar=0.5Dc Max						

Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	3180	207.87	2650	172.83	1990	62.20	3580	233.86	3180	207.48	2650	172.83	1060	30.31
1/2	-	3020	207.87	2520	172.83	1870	62.20	3400	233.86	3020	207.48	2520	172.83	990	30.31
5/8	-	2415	207.87	2015	172.83	1500	62.20	2720	233.86	2415	207.48	2015	172.83	800	30.31
-	16	2390	207.87	1990	172.83	1490	62.20	2690	233.86	2390	207.48	1990	172.83	800	30.31
3/4	-	2010	207.87	1680	172.83	1250	62.20	2265	233.86	2010	207.48	1680	172.83	660	30.31
-	20	1910	207.87	1590	172.83	1190	62.20	2150	233.86	1910	207.48	1590	172.83	640	30.31
1	-	1510	207.87	1260	172.83	935	62.20	1700	233.86	1510	207.48	1260	172.83	500	30.31

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2.Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4.Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the cutting condition when the overhang length is longer.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromiumalloy, titanium alloy, and Ni-based alloy.
9.Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.
11. If Ar is greater than 0.5Dc, there may be a cusp in the machined surface.

Facing (4 < L/D ≤ 5)

Hardness	< 45 HRC	< 62 HRC	< 70 HRC	–	–	–	–
Work Material	Hardened Steel Prehardened Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cobalt-Chrome Alloy Stellite	Titanium Alloy	Nickel-based Alloy Inconel 718
Cutting Speed	330 - 395 SFM	265 - 330 SFM	195 - 265 SFM	380 - 450 SFM	330 - 400 SFM	265 - 330 SFM	80 - 150 SFM
Depth of Cut 	Aa=0.03Dc Max • Ar=0.5Dc Max						

Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	2920	148.80	2390	73.23	1860	47.64	3320	169.30	2920	148.80	2390	122.05	930	21.26
1/2	-	2750	148.80	2250	73.23	1560	47.64	3130	169.30	2750	148.80	2250	122.05	880	21.26
5/8	-	2200	148.80	1800	73.23	1400	47.64	2500	169.30	2200	148.80	1800	122.05	700	21.26
-	16	2190	148.80	1790	73.23	1390	47.64	2490	169.30	2190	148.80	1790	122.05	700	21.26
3/4	-	1830	148.80	1500	73.23	1170	47.64	2090	169.30	1830	148.80	1500	122.05	590	21.26
-	20	1750	148.80	1430	73.23	1110	47.64	1990	169.30	1750	148.80	1430	122.05	560	21.26
1	-	1380	148.80	1130	73.23	880	47.64	1570	169.30	1380	148.80	1130	122.05	440	21.26

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2.Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4.Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the cutting condition when the overhang length is longer.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromiumalloy, titanium alloy, and Ni-based alloy.
9.Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.
11. If Ar is greater than 0.5Dc, there may be a cusp in the machined surface.

Facing (5 < L/D ≤ 6)

Hardness	< 45 HRC		< 62 HRC		< 70 HRC		–		–		–		–	
Work Material	Hardened Steel Prehardened Steel		Hardened Steel		Hardened Steel		Stainless Steel		Cobalt-Chrome Alloy Stellite		Titanium Alloy		Nickel-based Alloy Inconel 718	
Cutting Speed	295 - 360 SFM		230 - 295 SFM		165 - 230 SFM		330 - 395 SFM		295 - 360 SFM		230 - 295 SFM		65 - 130 SFM	
Depth of Cut 	Aa=0.02Dc Max • Ar=0.5Dc Max													
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	2650	105.12	2120	83.46	1590	31.50	2920	115.75	2650	105.12	2120	84.25	800	13.78
1/2	-	2520	105.12	2000	83.46	1500	31.50	2750	115.75	2520	105.12	2000	84.25	760	13.78
5/8	-	2010	105.12	1600	83.46	1200	31.50	2200	115.75	2010	105.12	1600	84.25	610	13.78
-	16	1990	105.12	1590	83.46	1190	31.50	2190	115.75	1990	105.12	1590	84.25	600	13.78
3/4	-	1680	105.12	1330	83.46	1000	31.50	1830	115.75	1680	105.12	1330	84.25	510	13.78
-	20	1590	105.12	1270	83.46	960	31.50	1750	115.75	1590	105.12	1270	84.25	480	13.78
1	-	1260	105.12	1000	83.46	750	31.50	1380	115.75	1260	105.12	1000	84.25	380	13.78

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2.Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4.Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the cutting condition when the overhang length is longer.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromiumalloy, titanium alloy, and Ni-based alloy.
9.Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.
11. If Ar is greater than 0.5Dc, there may be a cusp in the machined surface.

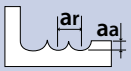
Side Milling

Hardness	< 45 HRC		< 62 HRC		< 70 HRC		–		–		–		–	
Work Material	Hardened Steel Prehardened Steel		Hardened Steel		Hardened Steel		Stainless Steel		Cobalt-Chrome Alloy Stellite		Titanium Alloy		Nickel-based Alloy Inconel 718	
Cutting Speed	260 - 330 SFM		165 - 230 SFM		165 - 230 SFM		330 - 395 SFM		295 - 360 SFM		100 - 165 SFM			
Depth of Cut 	Aa=0.5Dc Max • Ar=0.05Dc Max		Aa=0.5Dc Max • Ar=0.02Dc Max				Aa=0.5Dc Max • Ar=0.05Dc Max				Aa=0.5Dc Max • Ar=0.02Dc Max			
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	2390	47.25	1590	22.83	1060	9.06	2650	52.75	2390	47.25	1590	22.83	800	9.06
1/2	-	2250	47.25	1490	22.83	990	9.06	2520	52.75	2250	47.25	1490	22.83	760	9.06
5/8	-	1800	47.25	1190	22.83	790	9.06	2010	52.75	1800	47.25	1190	22.83	610	9.06
-	16	1790	47.25	1190	22.83	800	9.06	1990	52.75	1790	47.25	1190	22.83	600	9.06
3/4	-	1500	47.25	990	22.83	660	9.06	1680	52.75	1500	47.25	990	22.83	510	9.06
-	20	1430	47.25	960	22.83	640	9.06	1590	52.75	1430	47.25	960	22.83	480	9.06
1	-	1120	47.25	740	22.83	500	9.06	1260	52.75	1120	47.25	740	22.83	380	9.06

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2.Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4.Please reduce the feed rate when the depth of cut is greater than specified.
5. The above table is a guide when the amount of protrusion of the tool is 4D or less. If the amount of protrusion is large, chattering is likely to occur. Please adjust the rotation speed, feed speed, and depth of cut.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromiumalloy, titanium alloy, and Ni-based alloy.
9.Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.

List 78PXBE: PXBE-P & PXBE-P-O Exchangeable Heads

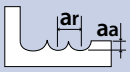
Contouring

Hardness			Up to 30 HRC		30-45 HRC		45-55 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron	Alloy Steels Tool Steels		Stainless Steels Hardened Steels		Hardened Steels Titanium Alloys	
Depth of Cut 		≤Ø0.500: Aa=0.07Dc • Ar=0.15Dc ≥Ø0.625: Aa=0.10Dc • Ar=0.15Dc					≤Ø0.500: Aa=0.05Dc • Ar=0.1Dc ≥Ø0.625: Aa=0.03Dc • Ar=0.1Dc	
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	5010	88.90	4010	71.10	3340	59.13	3340	39.28
-	10	4770	84.65	3820	67.72	3180	56.30	3180	37.40
-	12	3980	70.47	3180	56.30	2650	46.85	2650	31.50
1/2	-	3780	66.97	3020	53.50	2520	44.65	2520	29.76
5/8	-	3025	53.60	2415	42.78	2015	35.70	2015	23.80
-	16	2980	52.75	2390	42.12	1990	35.43	1990	23.62
3/4	-	2520	44.65	2010	35.61	1680	29.76	1680	19.84
-	20	2390	42.12	1910	33.86	1590	28.35	1590	18.90
-	25	1920	33.98	1535	27.17	1275	22.57	1275	15.05
1	-	1890	33.45	1500	26.55	1250	22.12	1250	14.75

1. Cutting conditions shown above are for contouring with L/D ≤ 5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 5xD.

List 78PXBE: PXBE-N Exchangeable Heads
List 78PXBE-O: PXBE-N-O Exchangeable Heads

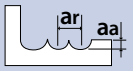
Contouring

Hardness			Up to 30 HRC		30-45 HRC		45-55 HRC		55-60 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron	Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Hardened Steels		Hardened Steels	
Depth of Cut 		≤Ø0.500: Aa=0.07Dc • Ar=0.15Dc ≥Ø0.625: Aa=0.05Dc • Ar=0.15Dc					≤Ø0.500: Aa=0.05Dc • Ar=0.1Dc ≥Ø0.625: Aa=0.03Dc • Ar=0.1Dc		Aa=0.03Dc • Ar=0.05Dc	
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	8360	148.00	8360	148.00	6695	94.76	5010	59.13	3340	19.85
-	10	7960	140.95	7960	140.95	6370	90.16	4770	56.30	3180	18.90
-	12	6600	116.14	6600	116.14	5300	74.80	3950	45.27	2600	15.75
1/2	-	6235	109.74	6235	109.74	4970	70.08	3715	42.72	2230	13.38
5/8	-	4990	89.32	4990	89.32	3975	57.24	2970	35.64	1925	11.94
-	16	4950	88.58	4950	88.58	3950	57.09	2950	35.43	1900	11.81
3/4	-	4155	72.30	4155	72.30	3310	47.66	2475	31.19	1680	10.25
-	20	3950	68.90	3950	68.90	3150	45.27	2350	29.53	1600	9.84
-	25	3160	55.30	3160	55.30	2520	36.29	1880	23.50	1280	7.68
1	-	3110	54.42	3110	54.42	2485	35.78	1850	23.12	1260	7.56

1. Cutting conditions shown above are for contouring with L/D ≤ 3.5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 3.5xD.

List 78PXBM: PXBM Exchangeable Heads

Contouring

Hardness			Up to 30 HRC		30-45 HRC		45-55 HRC		55-60 HRC	
Work Material		Mild Steels Carbon Steels Cast Iron	Alloy Steels Tool Steels		Hardened Steels Pre-hardened Steels		Hardened Steels		Hardened Steels	
Depth of Cut 		Aa=0.02Dc • Ar=0.05Dc								
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
3/8	-	8360	197.24	8360	197.24	6695	126.40	5010	78.98	3340	26.47
-	10	7960	187.80	7960	187.80	6360	120.08	4770	75.20	3180	25.20
-	12	6600	153.54	6600	153.54	5300	98.42	3950	59.05	2600	21.65
1/2	-	6235	145.28	6235	145.28	4970	92.44	3715	55.35	2230	18.51
5/8	-	4990	178.64	4990	178.64	3975	114.88	2970	71.28	1925	23.87
-	16	4950	177.16	4950	177.16	3950	114.17	2950	70.87	1900	23.62
3/4	-	4155	145.01	4155	145.01	3310	95.00	2475	62.12	1680	20.66
-	20	3950	137.79	3950	137.79	3150	90.55	2350	59.05	1600	19.68
-	25	3160	110.60	3160	110.60	2520	71.82	1880	47.00	1280	15.75
1	-	3110	108.85	3110	108.85	2485	70.82	1850	46.25	1260	15.50

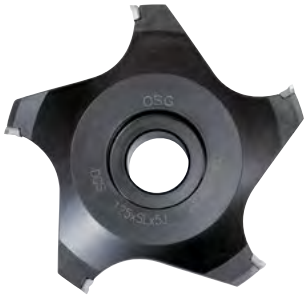
1. Cutting conditions shown above are for contouring with L/D ≤ 3.5xD.
2. Adjust/reduce the cutting conditions when the overhang length is longer than 3.5xD.

List 6440 - EXOCARB® Disc Cutter®: S

Roughing

Work Material	Cutting Speed (RPM)	Feed Rate (Inch/Tooth)
Carbon Steel 1018, 1050	325 - 1,050	0.0021 - 0.0060
Stainless Steel 300, 400	300 - 865	0.0018 - 0.0042
Cast Iron	450 - 5,100	0.0027 - 0.0098
Ductile Cast Iron	375 - 4,100	0.0027 - 0.0098
Aluminum A5052, A7075	3,280 - 10,000	0.0027 - 0.0098
Aluminum Alloy Casting ~ 13% Si	3,280 - 10,000	0.0027 - 0.0098
Aluminum Alloy Casting 13% Si ~	300 - 2,500	0.0027 - 0.0098
Copper	800 - 6,800	0.0027 - 0.0098

DISC CUTTER S

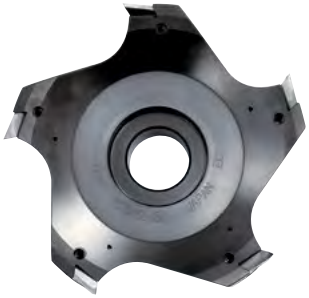


List 6441 - EXOCARB® Disc Cutter®: PRO

Finishing

Work Material	Cutting Speed (RPM)	Feed Rate (Inch/Tooth)
Aluminum A5052, A7075	3,280 - 13,120	0.0027 - 0.0059
Aluminum Alloy Casting ~ 13% Si	3,280 - 13,120	0.0027 - 0.0059
Aluminum Alloy Casting 13% Si ~	300 - 2,500	0.0027 - 0.0059
Copper	800 - 6,800	0.0027 - 0.0059

DISC CUTTER PRO



End Mill
Reconditioning

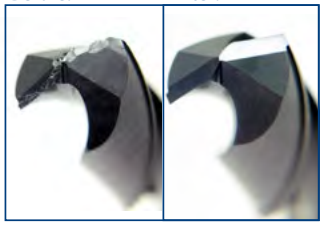


OSG Tool Reconditioning

OSG's Bensenville facility is the special cutting tool and regrinding authority based in the Chicago area. Through accurate and expedient regrinds of high-end cutting tools, OSG helps customers extend tool life and save money by restoring their used cutting tools to their original condition. In addition to regrinding, the Bensenville facility also manufactures custom drills, reamers, and other special cutting tools, performs product modifications and provides premium coating services.



Before: After:



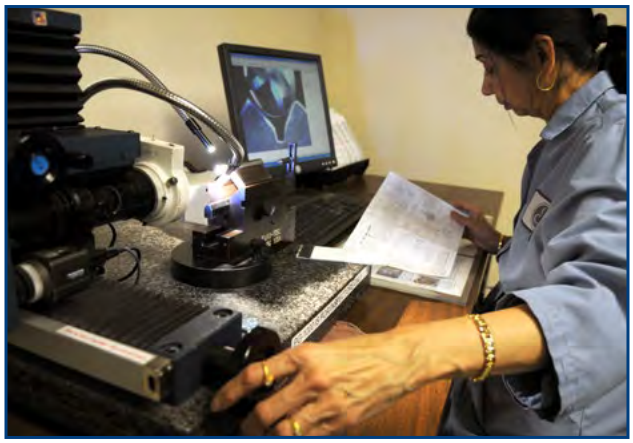
As part of the OSG Corporation (headquartered in Japan), the regrind facility is the only OSG authorized regrinding source in America. The regrinding program uses the same OSG manufacturing drawings, adheres to OSG's strict quality control standards and uses the same equipment for OSG manufacturing and inspection procedures. As one of the world's leading cutting tool manufacturers, OSG offers a global network of support to our customers.

Tool Reconditioning Lowers Costs

The primary benefit of tool reconditioning is clear: the reduction in overall tooling costs. As part of normal production, tool wear, chipping and breakage occurs often affecting tool performance and increasing manufacturing costs. By reconditioning high performance drills, end mills and taps, OSG helps manufacturers realize substantial cost savings through extended tool life without jeopardizing production quality or performance. Because OSG's reconditioned tools are manufactured to the same high level of quality and held to the same exacting standards that new tools are, customers of OSG's tool reconditioning services can expect the same high performance and quality they are accustomed with OSG's new tools even after regrinding multiple times.

Engineering & Sales Support

OSG reconditions OSG tools using the same prints as the original tools made in our plants around the world. By using original part drawings, tools are accurately reconditioned to the original specifications, so customers are assured that reconditioned tools realize the same high level of performance. Manufacturers can also work directly with OSG design engineers to customize tools for enhanced performance or to meet specific requirements.



OSG's national sales team provides tooling expertise in the field for onsite evaluations and recommendations for manufacturers to implement a customized reconditioning program. The goal is to help manufacturers reduce tool costs and inventory, optimize performance and enhance overall profits.

Contact your OSG representative or distributor to review your tool reconditioning program.



CNC Training

OSG CNC technicians are extensively trained on proper setup methodologies and reconditioning processes by an on-staff CNC trainer. Through their development, the CNC technician training program moves operators through three levels where they are diligently monitored and certified/reevaluated annually to maintain consistency and quality in our tools. Technicians are also trained and certified/reevaluated annually by Quality Assurance to perform inspections to print on first piece and in process tools.

Inspector Training

In order to guarantee that our tools are reconditioned to the highest standards, inspectors also undergo annual training and certifications which involve standardized procedures. These are the same methods that are used in the OSG manufacturing facilities in Japan and around the world. Inspectors are trained to inspect and measure tools completely to the original tool prints.

Throughout the reconditioning process, the tools are also continuously inspected until 100% visual inspection ensures that no chipped or defective tools are received by the customer. The high tech inspection equipment used at the reconditioning facility is the same equipment used at all OSG locations. This includes in-house developed tool analyzers and state-of-the-art equipment with up to 300x magnification capabilities. The key to inspecting high performance, accurate reconditioned tools is assuring that they are held to the same inspection standards through the use of the same inspection methods as new OSG tools.

The Bensenville plant is subject to OSG's stringent JQA regrinding standards and is certified regularly by OSG Japan.

Equipment and Facility

In 2015, OSG opened a reconditioning facility which is equipped with state-of-the-art production and inspection equipment. The facility uses high precision 5-Axis CNC grinders throughout the reconditioning process for improved repeatability and precision.

OSG's weekly equipment Preventive Maintenance (PM) program ensures consistency and accuracy throughout the reconditioning process. Through this PM program, OSG's tool reconditioning performance will be consistent year after year.

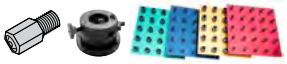






HOLDERS



List	Item		Features	Product Page
SynchroMaster				
9950	SynchroMaster Tap Holders		BT, CAT, HSK & Straight Shank Micro Float Tap Holders for synchronous tapping — Inch, Metric	1565-1566
9953	SynchroMaster Collets		ER Sealed Collets, for coolant-through the tap & coolant-through the collet — Inch, Metric	1567
9955	SynchroMaster Accessories			1568
HY-PRO® SHRINK				
9900	HY-PRO® SHRINK HR-B Handy Unit		General Purpose Shrink Fit Hot-Air Unit	1569
9901	HY-PRO® SHRINK Accessories		Accessories for HR-B Handy Unit	1570-1571
9902	HY-PRO® SHRINK Mono Holders		HSK-E Monoblock Holders, for standard & coolant-through the tool operations — Metric	1572-1573
9903	HY-PRO® SHRINK Base Holders		CAT, BT, and HSK 2-Piece Base Holders, for standard & coolant-through the tool operations — Inch, Metric	1574
9904	HY-PRO® SHRINK Nozzle Holders		CAT, BT, and HSK 2-Piece Nozzle-Type Holders, for coolant-through the holder operations — Inch, Metric	1575
9905	HY-PRO® SHRINK Regular Extensions		Regular Type Shrink Extensions, for standard & coolant-through the tool operations — Inch, Metric	1576
9906	HY-PRO® SHRINK Flush Extensions		Flush Type Shrink Extensions, for coolant-through the collet operations — Inch, Metric	1577
9907	HY-PRO® SHRINK Slim Extensions		Slim Type Shrink Extensions, for long reach & coolant-through the tool operations — Inch, Metric	1578-1579
9908	HY-PRO® SHRINK Straight Regular Extensions		Straight Regular Type Shrink Extensions, for standard milling / end mill chucks — Inch, Metric	1580
9909	HY-PRO® SHRINK Straight Slim Extensions		Straight Slim Type Shrink Extensions, for standard milling / end mill chucks — Inch, Metric	1581-1582
9910	HY-PRO® SHRINK Straight Carbide Extensions		Carbide Straight Type Shrink Extensions, for increased rigidity & reach — Metric	1583
9911	HY-PRO® SHRINK Straight Slim Carbide Extensions		Carbide Straight Slim Type Shrink Extensions, for increased rigidity & reach — Metric	1583

List 9950

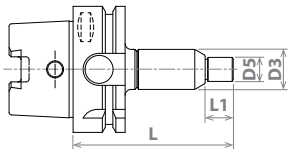
NEW SIZES | PACKED 1 PIECE

SynchroMaster Tap Holders

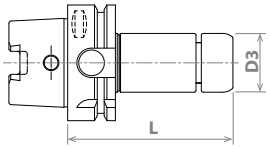




Type 1



Type 2



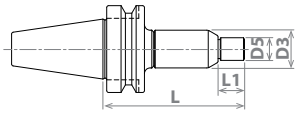
HSK Holders

EDP Number		Designation	Type	Body Diameter D3 (mm)	Collet Nut Diameter D5 (mm)	Overall Length L (mm)	Neck Length L1 (mm)	Collet Type
76903	●	HSK63A-SMH8-80	1	20.0	12.0	80.0	14.0	ER8GHC
79912	●	HSK40A-SMH16-85	2	32.0	-	85.0	-	ER16GH, ER16GHC
79913	●	HSK63A-SMH16-90	2	32.0	-	90.0	-	ER16GH, ER16GHC
79969	●	HSK63A-SMH32-108	2	50.0	-	108.0	-	ER32GH

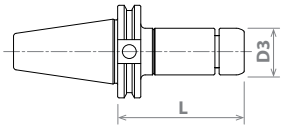
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Collet and spanner are sold seperately. Please use a machine with synchronous feed capability.
The HSK40A is without manual clamping hole.

HDR

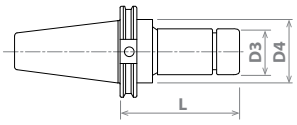
Type 1



Type 2



Type 3



CAT Holders

EDP Number		Designation	Type	Body Diameter D3 (mm)	Body Diameter D4 (mm)	Collet Nut Diameter D5 (mm)	Overall Length L (mm)	Neck Length L1 (mm)	Collet Type
99500003	●	CAT40-SMH8-80	1	20.0	-	12.0	80.0	14.0	ER8GHC
79926	●	CAT40-SMH16-90	2	32.0	-	-	90.0	-	ER16GH, ER16GHC
99500001	●	CAT40-SMH32-120	2	50.0	-	-	120.0	-	ER32GH
99500002	●	CAT50-SMH32-120	3	50.0	69.9	-	120.0	-	ER32GH

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Collet and spanner are sold seperately. Please use a machine with synchronous feed capability.

HDR

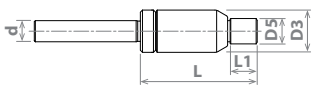
CONTINUED

List 9950 (Continued)

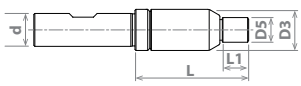
NEW SIZES
PACKED 1 PIECE

SynchroMaster Tap Holders

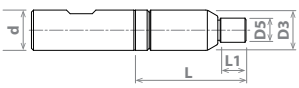
Type 1



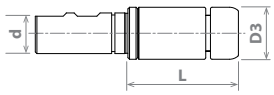
Type 2



Type 3



Type 4



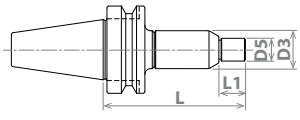
Straight Shank Holders

EDP Number		Designation	Type	Body Diameter D3 (mm)	Collet Nut Diameter D5 (mm)	Overall Length L (mm)	Neck Length L1 (mm)	Shank Diameter d (mm)	Collet Type
99500004	●	ST10D-SMH8-55	1	20.0	12.0	55.0	14.0	10.0	ER8GHC
99500005	●	ST16D-SMH8-55	2	20.0	12.0	55.0	14.0	16.0	ER8GHC
76904	●	ST20D-SMH8-55	3	20.0	12.0	55.0	14.0	20.0	ER8GHC
79924	●	ST20D-SMH16-68	4	32.0	-	68.0	-	20.0	ER16GH, ER16GHC
79925	●	ST25D-SMH16-68	4	32.0	-	68.0	-	25.0	ER16GH, ER16GHC

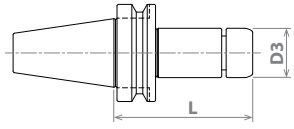
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Collet and spanner are sold seperately. Please use a machine with synchronous feed capability.

HDR

Type 1



Type 2



BT Holders

EDP Number		Designation	Type	Body Diameter D3 (mm)	Collet Nut Diameter D5 (mm)	Overall Length L (mm)	Neck Length L1 (mm)	Collet Type
76900	▲	BT30-SMH8-75	1	20.0	12.0	75.0	14.0	ER8GHC
76901	▲	BT40-SMH8-80	1	20.0	12.0	80.0	14.0	ER8GHC
79910	●	BT30-SMH16-90	2	32.0	-	90.0	-	ER16GH, ER16GHC
79911	●	BT40-SMH16-90	2	32.0	-	90.0	-	ER16GH, ER16GHC
79967	●	BT40-SMH32-120	2	50.0	-	120.0	-	ER32GH

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
Collet and spanner are sold seperately. Please use a machine with synchronous feed capability.

HDR

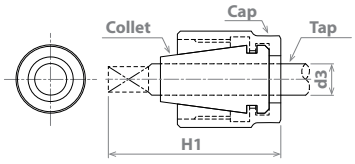
List 9953

NEW SIZES | PACKED 1 PIECE

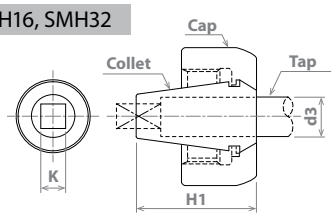
SynchroMaster Collet



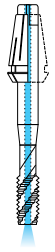
SMH8



SMH16, SMH32



For ANSI Shank

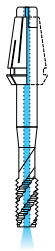
EDP Number		Designation	Bore Diameter d3 (Inch)	Square Width K (Inch)	Max Insertion Length H1 (mm)	Tap Size mm	Tap Size Inch	Holder Type	Recommended Tightening Torque	Coolant Type	
99530014	●	ER8GHC-3.6	0.141	-	23.0	~M3	~No.6	SMH8	5-7 Nm	Collet-Through or Flood Coolant	
99530015	●	ER16GHC-0.141	0.141	0.110	13.8	~M3	~No.6	SMH16	30-35 Nm		
99530011	●	ER16GHC-0.168	0.168	0.131	15.0	M4	No.8	SMH16	30-35 Nm		
99530012	●	ER16GHC-0.194	0.194	0.152	18.0	M5	No.10	SMH16	30-35 Nm		
99530013	●	ER16GHC-0.220	0.220	0.165	18.0	-	No.12	SMH16	30-35 Nm		
79960	●	ER16GH-0.255	0.255	0.191	15.0	M6	1/4	SMH16	30-35 Nm	Center-Through or Flood Coolant	
79961	●	ER16GH-0.318	0.318	0.238	18.0	M8	5/16	SMH16	30-35 Nm		
99530001	●	ER32GH-0.255	0.255	0.191	22.0	M6	1/4	SMH32	100-105 Nm		
99530002	●	ER32GH-0.318	0.318	0.238	22.0	M8	5/16	SMH32	100-105 Nm		
99530003	●	ER32GH-0.381	0.381	0.286	25.0	M10	3/8	SMH32	100-105 Nm		
99530004	●	ER32GH-0.323	0.323	0.242	22.0	-	7/16	SMH32	100-105 Nm		
99530005	●	ER32GH-0.367	0.367	0.275	22.0	M12	1/2	SMH32	100-105 Nm		
99530006	●	ER32GH-0.429	0.429	0.322	25.0	M14	9/16	SMH32	100-105 Nm		
99530007	●	ER32GH-0.480	0.480	0.360	25.0	M16	5/8	SMH32	100-105 Nm		
99530008	●	ER32GH-0.542	0.542	0.406	25.0	M18	-	SMH32	100-105 Nm		
99530009	●	ER32GH-0.590	0.590	0.442	25.0	-	3/4	SMH32	100-105 Nm		
99530010	●	ER32GH-0.652	0.652	0.489	25.0	M20	-	SMH32	100-105 Nm		

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

For center-through coolant system, please insert tool all the way to the back of the collet. Coolant leakage may occur if the tool insertion length is too short. Select the appropriate collet after confirming the dimensions of the tap to be used. Confirm the tightening torque with a torque spanner or similar tool.

HDR

For JIS Shank

EDP Number		Designation	Bore Diameter d3 (mm)	Square Width K (mm)	Max Insertion Length H1 (mm)	Tap Size mm	Tap Size Inch	Holder Type	Recommended Tightening Torque	Coolant Type	
79917	●	ER16GH-6-4.5	6.0	4.5	18.0	M6	-	SMH16	30-35 Nm	Center-Through or Flood Coolant	
79918	●	ER16GH-6.2-5	6.2	5.0	18.0	M8	-	SMH16	30-35 Nm		
79919	●	ER16GH-7-5.5	7.0	5.5	18.0	M10	-	SMH16	45-50 Nm		
79920	●	ER16GH-8-6	8.0	6.0	22.0	PT1/16, PT1/8	-	SMH16	45-50 Nm		
79921	●	ER16GH-8.5-6.5	8.5	5.5	22.0	M12	-	SMH16	45-50 Nm		

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

For center-through coolant system, please insert tool all the way to the back of the collet. Coolant leakage may occur if the tool insertion length is too short. Select the appropriate collet after confirming the dimensions of the tap to be used. Confirm the tightening torque with a torque spanner or similar tool.

HDR

List 9955

SynchroMaster Accessories

NEW SIZES | PACKED 1 PIECE

Appearance	EDP Number		Designation	Holder Type
 Spanner Wrench	76910	●	S-8E	SMH8
	79923	●	FKT-32L	SMH16
	79993	●	FKT-50L	SMH32
 Collet Nut	76909	●	ERP-8T	SMH8
	79922	●	ERP-16T	SMH16
	79992	●	ERP-32T	SMH32

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HDR

List 9900

HR-B Handy Unit

PACKED
1 PIECE



Features & Benefits

- **Small Foot Print** Fits on a table top
- **Light Weight** Portable
- **120V AC Current** Works with any standard wall outlet
- **Cost Effective**

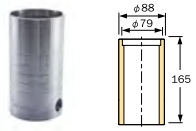
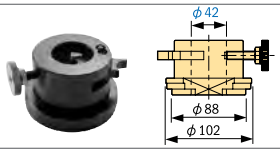
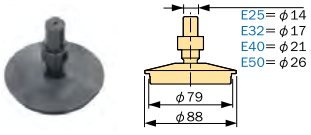
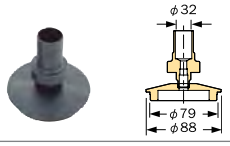
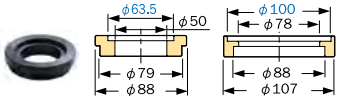
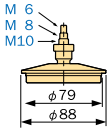
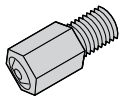
EDP Number		Dimensions (LxWxH)	Weight	Voltage Required	Power Rating	Heating Cycle Time	Shrink Fit Capabilities	Included Accessories
		mm	Pounds	Volts	Watts	Seconds		
68802B	●	362 x 105 x 570	16.5lbs	120V	1200W	120	All OSG HY-PRO® Shrink Holders	Heat Resistant Gloves Timer Tool Tweezers

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

Do not allow contact between hot air from the system and the body as there is a possibility of burns.
Do not use this system near flammable gases and substances.
Do not apply water to the system.
Recommended cool-down time is five minutes.

List 9901

HR-B Hand Unit Accessories

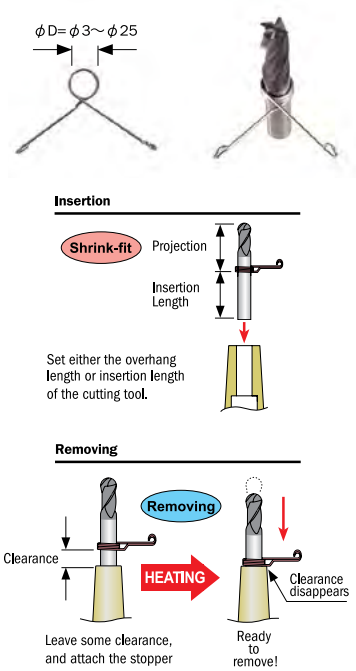
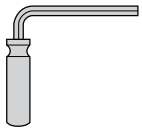
Appearance	EDP Number		Designation	Designation	Notes
	9910232	●	BASE BAA-01	BAA-01	To hold the appropriate adapter for positioning a shrink fit holder or extension during assembly and disassembly.
	9910222	●	ADJUSTABLE BASE ADAPTER BAS-02	BAS-02	To position 10-40mm straight type shrink extensions during assembly and disassembly. Can be used in conjunction with the BAA-01 base.
	9910224	●	ADAPTER ADH-HSK25	ADH-HSK25	Used with HSK25 series tool holders. It fits into the top of the BAA-01 Base and accepts the tool holder.
	9910225	●	ADAPTER ADH-HSK32	ADH-HSK32	Used with HSK32 series tool holders. It fits into the top of the BAA-01 Base and accepts the tool holder.
	9910226	●	ADAPTER ADH-HSK40E	ADH-HSK40	Used with HSK40 series tool holders. It fits into the top of the BAA-01 Base and accepts the tool holder.
	9910227	●	ADAPTER ADH-HSK50	ADH-HSK50	Used with HSK50 series tool holders. It fits into the top of the BAA-01 Base and accepts the tool holder.
	9910228	●	ADAPTER ADH-BT30	ADH-BT30	Used with BT30 series tool holders. It fits into the top of the BAA-01 Base and accepts the tool holder.
	9910229	●	ADAPTER ADH-40	ADH-40	Used with BT40 and CAT40 series tool holders. It fits into the top of the BAA-01 Base and accepts the tool holder.
	9910230	●	ADAPTER ADH-50	ADH-50	Used with BT50 and CAT50 series tool holders. It fits into the top of the BAA-01 Base and accepts the tool holder.
	9910220	●	BASE ADAPTER ADH-SLK	ADH-SLK	Used with regular, flush and slim type shrink extensions. It fits into the top of the BAA-01 Base.
	9910205	●	F-TYPE NOZZLE NOZ-M4-12 (12PCS)	NOZ-M4-12	Optional Nozzles for CAT, BT and HSK Flush Type Holders

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

List 9901 (Continued)

HR-B Hand Unit Accessories

Appearance	EDP Number		Designation	Designation	Notes
	8910172	●	COIL SPRING DEPTH STOP 3MM (10PCS)	HSA-3	3mm shanks, 10 pcs.
	8910174	●	COIL SPRING DEPTH STOP 4MM (10PCS)	HSA-4	4mm shanks, 10 pcs.
	9910213	●	COIL SPRING DEPTH STOP 5MM (10PCS)	HSA-5	5mm shanks, 10 pcs.
	8910176	●	COIL SPRING DEPTH STOP 6MM (10PCS)	HSA-6	6mm shanks, 10 pcs.
	9910215	●	COIL SPRING DEPTH STOP 7MM (10PCS)	HSA-7	7mm shanks, 10 pcs.
	8910178	●	COIL SPRING DEPTH STOP 8MM (10PCS)	HSA-8	8mm shanks, 10 pcs.
	9910217	●	COIL SPRING DEPTH STOP 9MM (10PCS)	HSA-9	9mm shanks, 10 pcs.
	8910180	●	COIL SPRING DEPTH STOP 10MM (10PCS)	HSA-10	10mm shanks, 10 pcs.
	9910219	●	COIL SPRING DEPTH STOP 11MM (10PCS)	HSA-11	11mm shanks, 10 pcs.
	8910182	●	COIL SPRING DEPTH STOP 12MM (10PCS)	HSA-12	12mm shanks, 10 pcs.
	8910183	●	COIL SPRING DEPTH STOP SET 3-12MM (10PCS)	HST-F	Set 3-12mm, 10 pcs.
	9910170	●	COIL SPRING DEPTH STOP 1/8 (10PCS)	HSA-1/8	1/8″ shanks, 10 pcs.
	9910173	●	COIL SPRING DEPTH STOP 3/16 (10PCS)	HSA-3/16	3/16″ shanks, 10 pcs.
	9910176	●	COIL SPRING DEPTH STOP 1/4 (10PCS)	HSA-1/4	1/4″ shanks, 10 pcs.
	9910177	●	COIL SPRING DEPTH STOP 5/16 (10PCS)	HSA-5/16	5/16″ shanks, 10 pcs.
	9910179	●	COIL SPRING DEPTH STOP 3/8 (10PCS)	HSA-3/8	3/8″ shanks, 10 pcs.
	9910182	●	COIL SPRING DEPTH STOP 1/2 (10PCS)	HSA-1/2	1/2″ shanks, 10 pcs.
	9910201	●	EXTENSION STAND - RED	SDKT-RE (Red)	Vertical stand holds up to 25 extensions.
	9910202	●	EXTENSION STAND - BLUE	SDKT-BL (Blue)	Vertical stand holds up to 25 extensions.
	9910203	●	EXTENSION STAND - GREEN	SDKT-GR (Green)	Vertical stand holds up to 25 extensions.
	9910204	●	EXTENSION STAND - GOLD	SDKT-GD (Gold)	Vertical stand holds up to 25 extensions.
	8910020	●	HOLDER WRENCH W-135	W-135	Used for the assembly and disassembly of the HY-PRO® Shrink two piece tooling system extensions and base holders.

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

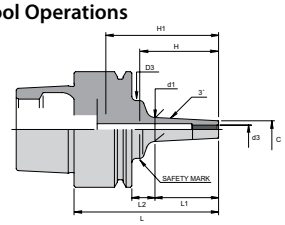
HTE

List 9902

PACKED
1 PIECE

HY-PRO® Shrink Mono Holders, For Standard & Coolant-Through the Tool Operations





HSK-E25 Mono Series

EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Body Diameter	Overall Length	Clamping Length	Max Insertion Length
				d3 (mm)	C (mm)	L1 (mm)	L2 (mm)	d1 (mm)	D3 (mm)	L (mm)	H (mm)	H1 (mm)
9911101	●	E25-SLRA3-35	HSK-E25 Regular	3.0	7.5	17.0	8.0	9.3	18.0	35.0	9.0	29.0
9911102	●	E25-SLRA4-35	HSK-E25 Regular	4.0	10.0	17.0	8.0	11.8	18.0	35.0	12.0	29.0
9911103	●	E25-SLRA6-35	HSK-E25 Regular	6.0	12.0	17.0	8.0	13.8	18.0	35.0	18.0	26.0
9911104	●	E25-SLSA3-35	HSK-E25 Slim	3.0	6.0	17.0	8.0	7.8	18.0	35.0	9.0	29.0
9911105	●	E25-SLSA3-50	HSK-E25 Slim	3.0	6.0	32.0	8.0	9.4	18.0	50.0	9.0	44.0
9911106	●	E25-SLSA3.175-35	HSK-E25 Slim	3.175	6.175	17.0	8.0	8.0	18.0	35.0	9.0	29.0
9911107	●	E25-SLSA3.175-50	HSK-E25 Slim	3.175	6.175	32.0	8.0	9.6	18.0	50.0	9.0	44.0
9911108	●	E25-SLSA4-35	HSK-E25 Slim	4.0	7.0	17.0	8.0	8.8	18.0	35.0	12.0	29.0
9911109	●	E25-SLSA4-50	HSK-E25 Slim	4.0	7.0	32.0	8.0	10.4	18.0	50.0	12.0	44.0
9911110	●	E25-SLSA5-35	HSK-E25 Slim	5.0	8.0	17.0	8.0	9.8	18.0	35.0	15.0	26.0
9911111	●	E25-SLSA6-35	HSK-E25 Slim	6.0	9.0	17.0	8.0	10.8	18.0	35.0	18.0	26.0
9911112	●	E25-SLSA6-50	HSK-E25 Slim	6.0	9.0	32.0	8.0	12.4	18.0	50.0	18.0	39.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HSK-E32 Mono Series

EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Body Diameter	Overall Length	Clamping Length	Max Insertion Length
				d3 (mm)	C (mm)	L1 (mm)	L2 (mm)	d1 (mm)	D3 (mm)	L (mm)	H (mm)	H1 (mm)
9911001	●	E32-SLRA3-50	HSK-E32 Regular	3.0	7.5	22.0	8.0	9.9	20.0	50.0	9.0	42.0
9911017	●	E32-SLRA3-70	HSK-E32 Regular	3.0	7.5	42.0	8.0	11.9	20.0	70.0	9.0	62.0
9911002	●	E32-SLRA4-50	HSK-E32 Regular	4.0	10.0	22.0	8.0	12.4	20.0	50.0	12.0	35.0
9911018	●	E32-SLRA4-70	HSK-E32 Regular	4.0	10.0	42.0	8.0	14.4	20.0	70.0	12.0	54.0
9911003	●	E32-SLRA6-50	HSK-E32 Regular	6.0	12.0	22.0	8.0	14.4	26.0	50.0	18.0	39.0
9911019	●	E32-SLRA6-70	HSK-E32 Regular	6.0	12.0	42.0	8.0	16.4	26.0	70.0	18.0	54.0
9911004	●	E32-SLRA8-50	HSK-E32 Regular	8.0	14.0	22.0	8.0	16.4	26.0	50.0	24.0	39.0
9911005	●	E32-SLRA10-55	HSK-E32 Regular	10.0	16.0	22.0	13.0	18.4	26.0	55.0	30.0	44.0
9911006	●	E32-SLRA12-55	HSK-E32 Regular	12.0	20.0	22.0	13.0	22.4	26.0	55.0	30.0	44.0
9911008	●	E32-SLSA3-50	HSK-E32 Slim	3.0	6.0	22.0	8.0	8.4	20.0	50.0	9.0	42.0
9911009	●	E32-SLSA3-70	HSK-E32 Slim	3.0	6.0	42.0	8.0	10.5	20.0	70.0	9.0	62.0
9911010	●	E32-SLSA3.175-50	HSK-E32 Slim	3.175	6.175	22.0	8.0	8.5	20.0	50.0	9.0	42.0
9911011	●	E32-SLSA3.175-70	HSK-E32 Slim	3.175	6.175	42.0	8.0	10.6	20.0	70.0	9.0	62.0
9911012	●	E32-SLSA4-50	HSK-E32 Slim	4.0	7.0	22.0	8.0	9.4	20.0	50.0	12.0	34.0
9911013	●	E32-SLSA4-70	HSK-E32 Slim	4.0	7.0	42.0	8.0	11.5	20.0	70.0	12.0	54.0
9911014	●	E32-SLSA5-50	HSK-E32 Slim	5.0	8.0	22.0	8.0	10.4	20.0	50.0	15.0	34.0
9911015	●	E32-SLSA5-70	HSK-E32 Slim	5.0	8.0	42.0	8.0	12.5	20.0	70.0	15.0	54.0
9911016	●	E32-SLSA6-70	HSK-E32 Slim	6.0	9.0	42.0	8.0	13.5	20.0	70.0	18.0	54.0

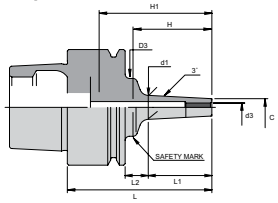
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

List 9902 (Continued)

PACKED
1 PIECE

HY-PRO® Shrink Mono Holders, For Standard & Coolant-Through the Tool Operations





HSK-E32 Mono Series

EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Body Diameter	Overall Length	Clamping Length	Max Insertion Length
				d3 (mm)	C (mm)	L1 (mm)	L2 (mm)	d1 (mm)	D3 (mm)	L (mm)	H (mm)	H1 (mm)
9911040	●	E40-SLRA3-50	HSK-E40 Regular	3.0	7.5	22.0	8.0	9.8	20.0	50.0	9.0	42.0
9911041	●	E40-SLRA3-70	HSK-E40 Regular	3.0	7.5	42.0	8.0	11.9	20.0	70.0	9.0	62.0
9911042	●	E40-SLRA4-50	HSK-E40 Regular	4.0	10.0	22.0	8.0	12.3	20.0	50.0	12.0	42.0
9911043	●	E40-SLRA4-70	HSK-E40 Regular	4.0	10.0	42.0	8.0	14.4	20.0	70.0	12.0	62.0
9911020	●	E40-SLRA6-50	HSK-E40 Regular	6.0	12.0	22.0	8.0	14.4	26.0	50.0	18.0	39.0
9911044	●	E40-SLRA6-70	HSK-E40 Regular	6.0	12.0	42.0	8.0	16.4	26.0	70.0	18.0	54.0
9911021	●	E40-SLRA8-50	HSK-E40 Regular	8.0	14.0	22.0	8.0	16.4	26.0	50.0	24.0	39.0
9911045	●	E40-SLRA8-85	HSK-E40 Regular	8.0	14.0	42.0	23.0	18.4	25.0	85.0	24.0	69.0
9911022	●	E40-SLRA10-55	HSK-E40 Regular	10.0	16.0	22.0	13.0	18.4	26.0	55.0	30.0	44.0
9911046	●	E40-SLRA10-85	HSK-E40 Regular	10.0	16.0	42.0	23.0	20.4	25.0	85.0	30.0	64.0
9911023	●	E40-SLRA12-55	HSK-E40 Regular	12.0	20.0	22.0	13.0	22.4	30.0	55.0	30.0	44.0
9911047	●	E40-SLRA12-85	HSK-E40 Regular	12.0	20.0	42.0	23.0	24.4	32.0	85.0	30.0	74.0
9911026	●	E40-SLSA3-50	HSK-E40 Slim	3.0	6.0	22.0	8.0	8.4	20.0	50.0	9.0	42.0
9911027	●	E40-SLSA3-70	HSK-E40 Slim	3.0	6.0	42.0	8.0	10.5	20.0	70.0	9.0	62.0
9911028	●	E40-SLSA3.175-50	HSK-E40 Slim	3.175	6.175	22.0	8.0	8.5	20.0	50.0	9.0	42.0
9911029	●	E40-SLSA3.176-70	HSK-E40 Slim	3.175	6.175	42.0	8.0	10.6	20.0	70.0	9.0	62.0
9911030	●	E40-SLSA4-50	HSK-E40 Slim	4.0	7.0	22.0	8.0	9.4	20.0	50.0	12.0	42.0
9911031	●	E40-SLSA4-70	HSK-E40 Slim	4.0	7.0	42.0	8.0	11.5	20.0	70.0	12.0	62.0
9911032	●	E40-SLSA5-50	HSK-E40 Slim	5.0	8.0	22.0	8.0	10.4	20.0	50.0	15.0	34.0
9911033	●	E40-SLSA5-70	HSK-E40 Slim	5.0	8.0	42.0	8.0	12.5	20.0	70.0	15.0	54.0
9911034	●	E40-SLSA6-50	HSK-E40 Slim	6.0	9.0	22.0	8.0	11.4	20.0	50.0	18.0	39.0
9911035	●	E40-SLSA6-70	HSK-E40 Slim	6.0	9.0	42.0	8.0	13.5	20.0	70.0	18.0	54.0
9911036	●	E40-SLSA8-60	HSK-E40 Slim	8.0	11.0	22.0	18.0	13.4	26.0	60.0	24.0	49.0
9911037	●	E40-SLSA8-80	HSK-E40 Slim	8.0	11.0	42.0	18.0	15.5	26.0	80.0	24.0	64.0
9911038	●	E40-SLSA10-60	HSK-E40 Slim	10.0	13.0	22.0	18.0	15.4	26.0	60.0	30.0	49.0
9911039	●	E40-SLSA10-80	HSK-E40 Slim	10.0	13.0	42.0	18.0	17.5	26.0	80.0	30.0	64.0

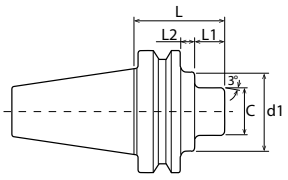
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

List 9903

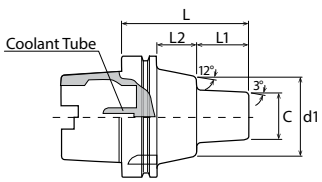
PACKED
1 PIECE

HY-PRO® Shrink Base Holders, For Standard & Coolant-Through the Tool Operations









CAT Holders

EDP Number		Designation	Body Type	Overall Length L (Inch)	Neck Length L1 (Inch)	Nose Diameter C (Inch)	Neck Diameter d1 (Inch)
9910002	●	CT40-SLK12-45	CAT40	1.770	1.020	1.610	1.750
9910004	●	CT50-SLK12-75	CAT50	2.950	1.570	1.500	2.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

BT Holders

EDP Number		Designation	Body Type	Overall Length L (mm)	Neck Length L1 (mm)	Neck Length L2 (mm)	Nose Diameter C (mm)	Neck Diameter d1 (mm)
8910000	●	BT30-SLK12-35 - 45 Deg.	BT30	35.0	13.0	-	38.0	-
8910001	●	BT30-SLK12-35 - 60 Deg.	BT30	35.0	13.0	-	38.0	-
8910002	●	BT40-SLK12-45	BT40	45.0	18.0	-	38.0	-
8910003	●	BT40-SLK12-75	BT40	75.0	48.0	-	38.0	-
8910004	●	BT50-SLK12-75	BT50	75.0	25.0	12.0	38.0	65.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

HSK Holders

EDP Number		Designation	Body Type	Overall Length L (mm)	Neck Length L1 (mm)	Neck Length L2 (mm)	Nose Diameter C (mm)	Neck Diameter d1 (mm)
9910005	●	HSK-E50-SLK12-75	HSK-E50	75.0	49.0	-	38.0	-
8910005	●	HSK-A63-SLK12-75	HSK-A63	75.0	49.0	-	38.0	-
8910006	●	HSK-A63-SLK12-135	HSK-A63	135.0	109.0	-	38.0	-
9910006	●	HSK-F63M-SLK12-75	HSK-F63M	75.0	49.0	-	38.0	-
8910007	●	HSK-A100-SLK12-105	HSK-A100	105.0	43.0	33.0	38.0	65.0

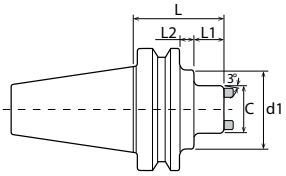
● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

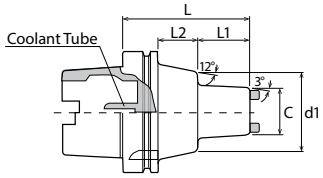
HTE

List 9904

PACKED
1 PIECE

HY-PRO® Shrink Nozzle Holders, For Coolant-Through the Holder Operations

CAT Holders

EDP Number		Designation	Body Type	Overall Length L (Inch)	Neck Length L1 (Inch)	Nose Diameter C (Inch)	Neck Diameter d1 (Inch)
9910008	●	CT40-SLK12-45F	CAT40	1.770	1.020	1.610	1.750
9910011	●	CT50-SLK12-75F	CAT50	2.950	1.570	1.610	2.750

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
For Coolant-Through the Tool operations, replace the nozzle with a coolant stop screw.

HTE

BT Holders

EDP Number		Designation	Body Type	Overall Length L (mm)	Neck Length L1 (mm)	Neck Length L2 (mm)	Nose Diameter C (mm)	Neck Diameter d1 (mm)
8910008	●	BT40-SLK12-45F	BT40	45.0	18.0	-	41.0	-
8910009	●	BT40-SLK12-75F	BT40	75.0	48.0	-	41.0	-
8910010	●	BT40-SLK12-135F	BT40	135.0	108.0	-	41.0	-
8910011	●	BT50-SLK12-75F	BT50	75.0	25.0	12.0	41.0	65.0
8910012	●	BT50-SLK12-105F	BT50	105.0	55.0	12.0	41.0	65.0
8910013	●	BT50-SLK12-135F	BT50	135.0	85.0	12.0	41.0	65.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
For Coolant-Through the Tool operations, replace the nozzle with a coolant stop screw.

HTE

HSK Holders

EDP Number		Designation	Body Type	Overall Length L (mm)	Neck Length L1 (mm)	Neck Length L2 (mm)	Nose Diameter C (mm)	Neck Diameter d1 (mm)
8910014	●	HSK-A63-SLK12-75F	HSK-A63	75.0	49.0	-	41.0	-
8910015	●	HSK-A63-SLK12-135F	HSK-A63	135.0	109.0	-	41.0	-
8910016	●	HSK-A100-SLK12-105F	HSK-A100	105.0	43.0	33.0	41.0	65.0
8910017	●	HSK-A100-SLK12-135F	HSK-A100	135.0	73.0	33.0	41.0	65.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
For Coolant-Through the Tool operations, replace the nozzle with a coolant stop screw.

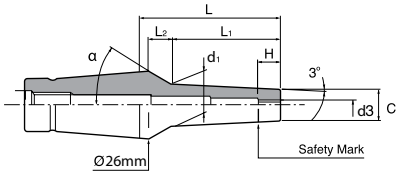
HTE

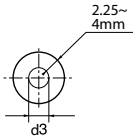
List 9905

PACKED
1 PIECE

HY-PRO® Shrink Regular Extensions, For Standard & Coolant-Through the Tool Operations







EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Overall Length	Taper Angle	Clamping Length	Max Insertion Length
				d3 (Inch)	C (Inch)	L1 (Inch)	L2 (Inch)	d1 (Inch)	L (Inch)	α (°)	H (Inch)	H1 (Inch)
9910031	●	CR12-1/8-55	Regular	0.125	0.360	1.650	0.370	0.530	2.170	33.5	0.390	3.350
9910034	●	CR12-3/16-55	Regular	0.188	0.420	1.650	0.370	0.600	2.170	29.6	0.590	3.350
9910037	●	CR12-1/4-55	Regular	0.250	0.490	1.650	0.370	0.660	2.170	25.9	0.710	3.350
9910040	●	CR12-5/16-55	Regular	0.313	0.550	1.650	0.370	0.720	2.170	22.1	0.980	3.350
9910043	●	CR12-3/8-55	Regular	0.375	0.610	1.650	0.370	0.780	2.170	18.0	1.180	2.360
9910048	●	CR12-7/16-55	Regular	0.438	0.670	1.650	0.370	0.850	2.170	12.9	1.180	2.360
9910046	●	CR12-1/2-55	Regular	0.500	0.810	1.990	-	-	2.170	-	1.180	2.360

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
The tool should be inserted deeper than the safety mark.
Do not exceed the Max Insertion Length.

HTE

EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Overall Length	Taper Angle	Clamping Length	Max Insertion Length
				d3 (mm)	C (mm)	L1 (mm)	L2 (mm)	d1 (mm)	L (mm)	α (°)	H (mm)	H1 (mm)
8910030	●	CR12-3-35	Regular	3.0	7.5	22.0	9.5	9.9	35.0	49.3	10.0	60.0
8910031	●	CR12-3-55	Regular	3.0	7.5	42.0	9.5	12.0	55.0	44.2	10.0	80.0
8910032	●	CR12-3-80	Regular	3.0	7.5	67.0	9.5	14.6	80.0	36.9	10.0	105.0
8910033	●	CR12-4-35	Regular	4.0	10.0	22.0	9.5	12.4	35.0	43.1	12.0	60.0
8910034	●	CR12-4-55	Regular	4.0	10.0	42.0	9.5	14.5	55.0	37.2	12.0	80.0
8910035	●	CR12-4-80	Regular	4.0	10.0	67.0	9.5	17.1	80.0	29.1	12.0	105.0
8910036	●	CR12-6-35	Regular	6.0	12.0	22.0	9.5	14.4	35.0	37.5	18.0	60.0
8910037	●	CR12-6-55	Regular	6.0	12.0	42.0	9.5	16.5	55.0	31.1	18.0	80.0
8910038	●	CR12-6-80	Regular	6.0	12.0	67.0	9.5	19.1	80.0	22.6	18.0	105.0
8910039	●	CR12-8-35	Regular	8.0	14.0	22.0	9.5	16.4	35.0	31.4	25.0	60.0
8910040	●	CR12-8-55	Regular	8.0	14.0	42.0	9.5	18.5	55.0	24.6	25.0	80.0
8910041	●	CR12-8-80	Regular	8.0	14.0	67.0	9.5	21.1	80.0	16.0	25.0	105.0
8910042	●	CR12-10-35	Regular	10.0	16.0	22.0	9.5	18.4	35.0	25.0	30.0	60.0
8910043	●	CR12-10-55	Regular	10.0	16.0	42.0	9.5	20.5	55.0	18.0	30.0	60.0
8910044	●	CR12-10-80	Regular	10.0	16.0	67.0	9.5	23.1	80.0	9.4	30.0	60.0
8910045	●	CR12-12-35	Regular	12.0	20.0	22.0	9.5	22.4	35.0	11.7	30.0	60.0
8910046	●	CR12-12-55	Regular	12.0	20.0	42.0	9.5	24.5	55.0	5.0	30.0	60.0
8910047	●	CR12-12-80	Regular	12.0	20.0	-	-	25.5	80.0	-	30.0	60.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
The tool should be inserted deeper than the safety mark.
Do not exceed the Max Insertion Length.

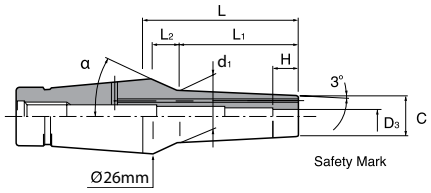
HTE

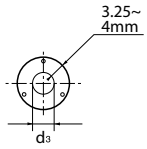
List 9906

PACKED
1 PIECE

HY-PRO® Shrink Flush Extensions, For Coolant-Through the Collet Operations







EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Overall Length	Taper Angle	Clamping Length	Max Insertion Length
				d3 (Inch)	C (Inch)	L1 (Inch)	L2 (Inch)	d1 (Inch)	L (Inch)	α (°)	H (Inch)	H1 (Inch)
9910051	●	CF12-1/8-55	Flush	0.125	0.380	1.650	0.370	0.550	2.170	32.4	0.390	3.350
9910054	●	CF12-3/16-55	Flush	0.188	0.500	1.650	0.370	0.680	2.170	24.7	0.590	3.350
9910057	●	CF12-1/4-55	Flush	0.250	0.560	1.650	0.370	0.740	2.170	20.7	0.710	3.350
9910060	●	CF12-5/16-55	Flush	0.313	0.630	1.650	0.370	0.800	2.170	16.6	0.980	3.350
9910063	●	CF12-3/8-55	Flush	0.375	0.690	1.650	0.370	0.860	2.170	12.2	1.180	2.360
9910068	●	CF12-7/16-55	Flush	0.438	0.750	1.650	0.370	0.930	2.170	6.9	1.180	2.360
9910066	●	CF12-1/2-55	Flush	0.500	0.810	1.990	-	-	2.170	-	1.180	2.360

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
The tool should be inserted deeper than the safety mark.
The collet cannot be customized.
Do not exceed the Max Insertion Length.

HTE

EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Overall Length	Taper Angle	Clamping Length	Max Insertion Length
				d3 (mm)	C (mm)	L1 (mm)	L2 (mm)	d1 (mm)	L (mm)	α (°)	H (mm)	H1 (mm)
8910050	●	CF12-3-35	Flush	3.0	9.5	22.0	9.5	11.9	35.0	44.4	10.0	60.0
8910051	●	CF12-3-55	Flush	3.0	9.5	42.0	9.5	14.0	55.0	38.7	10.0	80.0
8910052	●	CF12-3-80	Flush	3.0	9.5	67.0	9.5	16.6	80.0	30.7	10.0	105.0
8910053	●	CF12-4-35	Flush	4.0	12.0	22.0	9.5	14.4	35.0	37.5	12.0	60.0
8910054	●	CF12-4-55	Flush	4.0	12.0	42.0	9.5	16.5	55.0	31.1	12.0	80.0
8910055	●	CF12-4-80	Flush	4.0	12.0	67.0	9.5	19.1	80.0	22.6	12.0	105.0
8910056	●	CF12-6-35	Flush	6.0	14.0	22.0	9.5	16.4	35.0	31.4	18.0	60.0
8910057	●	CF12-6-55	Flush	6.0	14.0	42.0	9.5	18.5	55.0	24.6	18.0	80.0
8910058	●	CF12-6-80	Flush	6.0	14.0	67.0	9.5	21.1	80.0	16.0	18.0	105.0
8910059	●	CF12-8-35	Flush	8.0	16.0	22.0	9.5	18.4	35.0	25.0	25.0	60.0
8910060	●	CF12-8-55	Flush	8.0	16.0	42.0	9.5	20.5	55.0	18.0	25.0	80.0
8910061	●	CF12-8-80	Flush	8.0	16.0	67.0	9.5	23.1	80.0	9.4	25.0	105.0
8910062	●	CF12-10-35	Flush	10.0	18.0	22.0	9.5	20.4	35.0	18.3	30.0	60.0
8910063	●	CF12-10-55	Flush	10.0	18.0	42.0	9.5	22.5	55.0	11.4	30.0	60.0
8910064	●	CF12-10-80	Flush	10.0	18.0	-	-	-	80.0	-	30.0	60.0
8910065	●	CF12-12-35	Flush	12.0	20.0	22.0	9.5	22.4	35.0	11.7	30.0	60.0
8910066	●	CF12-12-55	Flush	12.0	20.0	42.0	9.5	24.5	55.0	5.0	30.0	60.0
8910067	●	CF12-12-80	Flush	12.0	20.0	-	-	-	80.0	-	30.0	60.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
The tool should be inserted deeper than the safety mark.
The collet cannot be customized.
Do not exceed the Max Insertion Length.

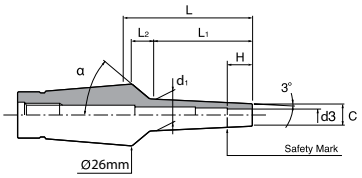
HTE

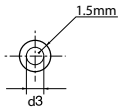
List 9907

PACKED
1 PIECE

HY-PRO® Shrink Slim Extensions, For Long Reach & Coolant-Through the Tool Operations







EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Overall Length	Taper Angle	Clamping Length	Max Insertion Length
				d3 (Inch)	C (Inch)	L1 (Inch)	L2 (Inch)	d1 (Inch)	L (Inch)	α (°)	H (Inch)	H1 (Inch)
9910076	●	CS12-1/8-80	Slim	0.125	0.240	2.640	0.370	0.520	3.150	34.0	0.390	4.330
9910077	●	CS12-1/8-110	Slim	0.125	0.240	3.820	0.370	0.640	4.330	27.2	0.390	5.510
9910084	●	CS12-3/16-80	Slim	0.188	0.310	2.640	0.370	0.580	3.150	30.7	0.590	4.330
9910085	●	CS12-3/16-110	Slim	0.188	0.310	3.820	0.370	0.710	4.330	22.7	0.590	5.510
9910088	●	CS12-1/4-80	Slim	0.250	0.370	2.640	0.370	0.640	3.150	27.2	0.710	4.330
9910089	●	CS12-1/4-110	Slim	0.250	0.370	3.820	0.370	0.770	4.330	18.7	0.710	5.510
9910096	●	CS12-5/16-80	Slim	0.313	0.430	2.640	0.370	0.710	3.150	22.7	0.980	4.330
9910097	●	CS12-5/16-110	Slim	0.313	0.430	3.820	0.370	0.830	4.330	14.4	0.980	5.510
9910104	●	CS12-3/8-80	Slim	0.375	0.490	2.640	0.370	0.770	3.150	18.7	1.180	2.360
9910105	●	CS12-3/8-110	Slim	0.375	0.490	3.820	0.370	0.890	4.330	10.0	0.980	2.360
9910108	●	CS12-7/16-80	Slim	0.438	0.560	2.640	0.370	0.830	3.150	5.4	1.180	2.360
9910109	●	CS12-7/16-110	Slim	0.438	0.560	4.180	-	0.990	4.330	-	1.180	2.360
9910112	●	CS12-1/2-80	Slim	0.500	0.620	2.640	0.370	0.890	3.150	10.0	1.180	2.360
9910113	●	CS12-1/2-110	Slim	0.500	0.620	3.680	0.500	1.000	4.330	-	1.180	2.360

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

The tool should be inserted deeper than the safety mark.
Do not exceed the Max Insertion Length.

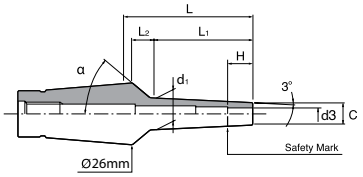
HTE

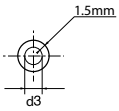
List 9907 (Continued)

PACKED
1 PIECE

HY-PRO® Shrink Slim Extensions, For Long Reach & Coolant-Through the Tool Operations







EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Neck Length		Neck Diameter	Overall Length	Taper Angle	Clamping Length	Max Insertion Length
				d3 (mm)	C (mm)	L1 (mm)	L2 (mm)	d1 (mm)	L (mm)	α (°)	H (mm)	H1 (mm)
8910070	●	CS12-3-35	Slim	3.0	22.0	9.5	35.0	10.0	6.0	8.4	52.7	60.0
8910071	●	CS12-3-55	Slim	3.0	42.0	9.5	55.0	10.0	6.0	10.5	47.9	80.0
8910072	●	CS12-3-80	Slim	3.0	6.0	67.0	9.5	13.1	80.0	41.2	10.0	105.0
8910073	●	CS12-3-110	Slim	3.0	6.0	97.0	9.5	16.2	110.0	31.8	10.0	135.0
8910074	●	CS12-3.175-35	Slim	3.2	6.2	22.0	9.5	8.5	35.0	52.6	10.0	60.0
8910075	●	CS12-3.175-55	Slim	3.2	6.2	42.0	9.5	10.6	55.0	47.9	10.0	80.0
8910076	●	CS12-3.175-80	Slim	3.2	6.2	67.0	9.5	13.2	80.0	41.2	10.0	105.0
8910077	●	CS12-3.175-110	Slim	3.2	6.2	97.0	9.5	16.4	110.0	31.8	10.0	135.0
8910078	●	CS12-4-35	Slim	4.0	7.0	22.0	9.5	9.4	35.0	50.4	12.0	60.0
8910079	●	CS12-4-55	Slim	4.0	7.0	42.0	9.5	11.5	55.0	45.5	12.0	80.0
8910080	●	CS12-4-80	Slim	4.0	7.0	67.0	9.5	14.1	80.0	38.3	12.0	105.0
8910081	●	CS12-4-110	Slim	4.0	7.0	97.0	9.5	17.2	110.0	28.7	12.0	135.0
8910082	●	CS12-5-35	Slim	5.0	8.0	22.0	9.5	10.4	35.0	48.1	15.0	60.0
8910083	●	CS12-5-55	Slim	5.0	8.0	42.0	9.5	12.5	55.0	42.8	15.0	80.0
8910084	●	CS12-5-80	Slim	5.0	8.0	67.0	9.5	15.1	80.0	35.4	15.0	105.0
8910085	●	CS12-5-110	Slim	5.0	8.0	97.0	9.5	18.2	110.0	25.4	15.0	135.0
8910086	●	CS12-6-35	Slim	6.0	9.0	22.0	9.5	11.4	35.0	45.7	18.0	60.0
8910087	●	CS12-6-55	Slim	6.0	9.0	42.0	9.5	13.5	55.0	40.1	18.0	80.0
8910088	●	CS12-6-80	Slim	6.0	9.0	67.0	9.5	16.1	80.0	32.3	18.0	105.0
8910089	●	CS12-6-110	Slim	6.0	9.0	97.0	9.5	19.2	110.0	22.1	18.0	135.0
8910090	●	CS12-7-35	Slim	7.0	10.0	22.0	9.5	12.4	35.0	43.1	20.0	60.0
8910091	●	CS12-7-55	Slim	7.0	10.0	42.0	9.5	14.5	55.0	37.2	20.0	80.0
8910092	●	CS12-7-80	Slim	7.0	10.0	67.0	9.5	17.1	80.0	29.1	20.0	105.0
8910093	●	CS12-7-110	Slim	7.0	10.0	97.0	9.5	20.2	110.0	18.8	20.0	135.0
8910094	●	CS12-8-35	Slim	8.0	11.0	22.0	9.5	13.4	35.0	40.4	25.0	60.0
8910095	●	CS12-8-55	Slim	8.0	11.0	42.0	9.5	15.5	55.0	34.2	25.0	80.0
8910096	●	CS12-8-80	Slim	8.0	11.0	67.0	9.5	18.1	80.0	25.9	25.0	105.0
8910097	●	CS12-8-110	Slim	8.0	11.0	97.0	9.5	21.2	110.0	15.5	25.0	135.0
8910098	●	CS12-9-35	Slim	9.0	12.0	22.0	9.5	14.4	35.0	37.5	30.0	60.0
8910099	●	CS12-9-55	Slim	9.0	12.0	42.0	9.5	16.5	55.0	31.1	30.0	60.0
8910100	●	CS12-9-80	Slim	9.0	12.0	67.0	9.5	19.1	80.0	22.6	30.0	60.0
8910101	●	CS12-9-110	Slim	9.0	12.0	97.0	9.5	22.2	110.0	12.2	30.0	60.0
8910102	●	CS12-10-35	Slim	10.0	13.0	22.0	9.5	15.4	35.0	34.5	30.0	60.0
8910103	●	CS12-10-55	Slim	10.0	13.0	42.0	9.5	17.5	55.0	27.9	30.0	60.0
8910104	●	CS12-10-80	Slim	10.0	13.0	67.0	9.5	20.1	80.0	19.3	30.0	60.0
8910105	●	CS12-10-110	Slim	10.0	13.0	97.0	9.5	23.2	110.0	8.9	30.0	60.0
8910106	●	CS12-11-35	Slim	11.0	14.0	22.0	9.5	16.4	35.0	31.4	30.0	60.0
8910107	●	CS12-11-55	Slim	11.0	14.0	42.0	9.5	18.5	55.0	24.6	30.0	60.0
8910108	●	CS12-11-80	Slim	11.0	14.0	67.0	9.5	21.1	80.0	16.0	30.0	60.0
8910109	●	CS12-11-110	Slim	11.0	14.0	97.0	9.5	24.2	110.0	5.7	30.0	60.0
8910110	●	CS12-12-35	Slim	12.0	15.0	22.0	9.5	17.4	35.0	28.2	30.0	60.0
8910111	●	CS12-12-55	Slim	12.0	15.0	42.0	9.5	19.5	55.0	21.3	30.0	60.0
8910112	●	CS12-12-80	Slim	12.0	15.0	67.0	9.5	22.1	80.0	12.7	30.0	60.0
8910113	●	CS12-12-110	Slim	12.0	-	-	-	15.0	110.0	-	30.0	60.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

This slim collet successfully avoids interference with the work material.
The tool should be inserted deeper than the safety mark.
Do not exceed the Max Insertion Length.

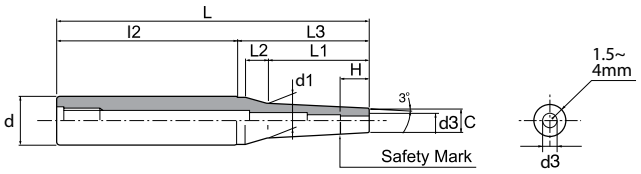
HTE

List 9908

PACKED
1 PIECE

HY-PRO® Shrink Straight Regular Extensions, For Standard Milling/End Mill Chucks





EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Shank Length	Neck Length			Neck Diameter	Overall Length	Shank Diameter	Clamping Length	Max Insertion Length
				d3 (Inch)	C (Inch)	l2 (Inch)	L1 (Inch)	L2 (Inch)	L3 (Inch)	d1 (Inch)	L (Inch)	d (Inch)	H (Inch)	H1 (Inch)
9910136	●	ST19.05-SLR1/4-110	Regular	0.250	0.490	2.950	0.870	0.374	1.380	0.580	4.330	0.750	0.710	3.660
9910142	●	ST19.05-SLR5/16-110	Regular	0.313	0.550	2.950	0.870	0.374	1.380	0.640	4.330	0.750	0.980	3.660
9910147	●	ST19.05-SLR3/8-110	Regular	0.375	0.610	2.950	-	-	1.380	-	4.330	0.750	1.180	2.360
9910139	●	ST25.4-SLR1/4-8	Regular	0.250	0.490	5.900	1.650	0.510	2.170	1.000	8.000	1.000	0.710	7.360
9910144	●	ST25.4-SLR5/16-8	Regular	0.313	0.550	5.900	1.650	0.510	2.170	1.000	8.000	1.000	0.980	7.360
9910149	●	ST25.4-SLR3/8-5	Regular	0.375	0.610	3.500	0.870	0.510	1.380	1.000	5.000	1.000	1.180	2.360
9910151	●	ST25.4-SLR3/8-7.5	Regular	0.375	0.610	5.300	1.650	0.510	2.170	1.000	7.500	1.000	1.180	2.360
9910156	●	ST25.4-SLR1/2-4.5	Regular	0.500	0.810	3.000	0.870	0.510	1.380	1.000	4.500	1.000	1.180	2.360
9910158	●	ST25.4-SLR1/2-7	Regular	0.500	0.810	4.700	1.430	0.740	2.170	1.000	7.000	1.000	1.180	2.360

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
The tool should be inserted deeper than the safety mark. Do not exceed the Max Insertion Length.

HTE

EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Shank Length	Neck Length		Neck Diameter	Overall Length	Shank Diameter	Clamping Length	Max Insertion Length
				d3 (mm)	C (mm)	l2 (mm)	L1 (mm)	L3 (mm)	d1 (mm)	L (mm)	d (mm)	H (mm)	H1 (mm)
8910401	●	ST16-SLRA3-140-M67	Regular	3.0	6.0	60.0	67.0	80.0	13.0	140.0	16.0	9.0	112.0
8910413	●	ST16-SLRA4-140-M60	Regular	4.0	10.0	80.0	60.0	60.0	-	140.0	16.0	12.0	112.0
8910424	●	ST20-SLRB6-120-M42	Regular	6.0	14.0	70.0	42.0	50.0	18.4	120.0	20.0	18.0	92.0
8910435	●	ST20-SLRB8-100-M30	Regular	8.0	18.0	70.0	30.0	30.0	-	100.0	20.0	24.0	72.0
8910406	●	ST25-SLRA3-245-M97	Regular	3.0	6.0	120.0	97.0	125.0	16.2	245.0	25.0	9.0	217.0
8910415	●	ST25-SLRA4-245-M97	Regular	4.0	7.0	120.0	97.0	125.0	17.2	245.0	25.0	12.0	287.0
8910428	●	ST25-SLRB6-240-M42	Regular	6.0	14.0	170.0	42.0	70.0	18.4	240.0	25.0	18.0	212.0
8910440	●	ST25-SLRB8-210-M90	Regular	8.0	18.0	120.0	90.0	90.0	-	210.0	25.0	24.0	182.0
8910449	●	ST25-SLRB10-120-M35	Regular	10.0	22.0	85.0	35.0	35.0	-	120.0	25.0	30.0	60.0
8910450	●	ST25-SLRB10-210-M90	Regular	10.0	22.0	120.0	90.0	90.0	-	210.0	25.0	30.0	60.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked
The tool should be inserted deeper than the safety mark. Do not exceed the Max Insertion Length.

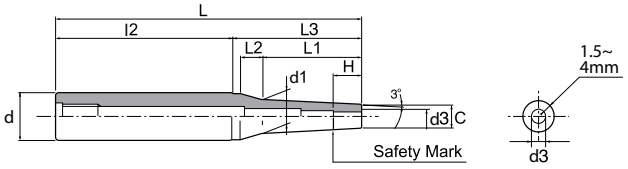
HTE

List 9909

PACKED
1 PIECE

HY-PRO® Shrink Straight Slim Extensions, For Standard Milling/End Mill Chucks





EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Shank Length	Neck Length			Neck Diameter	Overall Length	Shank Diameter	Clamping Length	Max Insertion Length
				d3 (Inch)	C (Inch)	l2 (Inch)	L1 (Inch)	L2 (Inch)	L3 (Inch)	d1 (Inch)	L (Inch)	d (Inch)	H (Inch)	H1 (Inch)
9910120	●	ST9.525-SLS1/8-80	Slim	0.125	0.240	1.750	-	-	1.400	-	3.150	0.375	0.390	2.720
9910123	●	ST9.525-SLS3/16-80	Slim	0.188	0.306	1.750	-	-	1.400	-	3.150	0.375	0.590	2.720
9910137	●	ST12.7-SLS1/4-80	Slim	0.250	0.368	1.750	-	-	1.400	-	3.150	0.500	0.710	2.720
9910121	●	ST15.875-SLS1/8-110	Slim	0.125	0.240	2.190	1.630	0.374	2.140	0.410	4.330	0.625	0.390	3.660
9910124	●	ST15.875-SLS3/16-110	Slim	0.188	0.306	2.190	1.630	0.374	2.140	0.480	4.330	0.625	0.590	3.660
9910122	●	ST19.05-SLS1/8-205	Slim	0.125	0.240	3.610	3.950	0.374	4.460	0.660	8.070	0.750	0.390	7.400
9910125	●	ST19.05-SLS3/16-205	Slim	0.188	0.306	3.610	-	-	4.460	-	8.070	0.750	0.590	7.400
9910138	●	ST19.05-SLS1/4-110	Slim	0.250	0.368	2.950	0.870	0.374	1.380	0.460	4.330	0.750	0.710	3.660
9910143	●	ST19.05-SLS5/16-110	Slim	0.313	0.430	2.950	0.870	0.374	1.380	0.520	4.330	0.750	0.980	3.660
9910148	●	ST19.05-SLS3/8-110	Slim	0.375	0.490	2.950	0.870	0.374	1.380	0.580	4.330	0.750	1.180	2.360
9910140	●	ST25.4-SLS1/4-9	Slim	0.250	0.370	4.700	3.820	0.510	4.330	1.000	9.000	1.000	0.710	8.340
9910145	●	ST25.4-SLS5/16-9	Slim	0.313	0.430	4.700	3.820	0.510	4.330	1.000	9.000	1.000	0.980	8.340
9910150	●	ST25.4-SLS3/8-155	Slim	0.375	0.490	3.600	1.990	0.374	2.500	0.700	6.100	1.000	1.180	2.360
9910152	●	ST25.4-SLS3/8-9	Slim	0.375	0.490	4.700	3.820	0.510	4.330	1.000	9.000	1.000	1.180	2.360
9910157	●	ST25.4-SLS1/2-155	Slim	0.500	0.620	4.100	1.490	0.374	2.000	0.770	6.100	1.000	1.180	2.360
9910159	●	ST25.4-SLS1/2-9	Slim	0.500	0.620	4.700	3.820	0.510	4.330	1.000	9.000	1.000	1.180	2.360

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

The tool should be inserted deeper than the safety mark. Do not exceed Max Insertion Length.

HTE

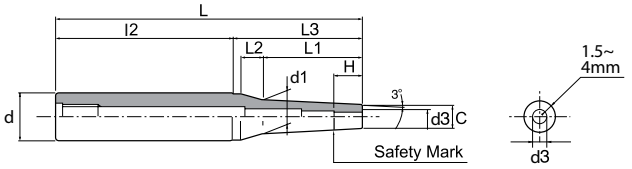
CONTINUED ›

List 9909 (Continued)

PACKED
1 PIECE

HY-PRO® Shrink Straight Slim Extensions, For Standard Milling/End Mill Chucks





EDP Number		Designation	Body Type	Bore Diameter	Nose Diameter	Shank Length	Neck Length		Neck Diameter	Overall Length	Shank Diameter	Clamping Length	Max Insertion Length
				d3 (mm)	C (mm)	l2 (mm)	L1 (mm)	L3 (mm)	d1 (mm)	L (mm)	d (mm)	H (mm)	H1 (mm)
8910120	●	ST10-SLSA3-80-M35	Slim	3.0	6.0	45.0	35.0	35.0	-	80.0	10.0	9.0	64.0
8910121	●	ST10-SLSA3.175-80-M35	Slim	3.2	6.0	45.0	35.0	35.0	-	80.0	10.0	9.7	64.0
8910122	●	ST10-SLSA4-80-M35	Slim	4.0	7.0	45.0	35.0	35.0	-	80.0	10.0	12.0	64.0
8910123	●	ST10-SLSA5-80-M35	Slim	5.0	8.0	45.0	35.0	35.0	-	80.0	10.0	15.0	70.0
8910124	●	ST12-SLSA6-80-M35	Slim	6.0	9.0	45.0	35.0	35.0	-	80.0	12.0	15.0	52.0
8910125	●	ST16-SLSA3-115-M42	Slim	3.0	6.0	60.0	42.0	55.0	10.4	115.0	16.0	9.0	87.0
8910126	●	ST16-SLSA4-115-M42	Slim	4.0	7.0	60.0	42.0	55.0	11.4	115.0	16.0	12.0	87.0
8910127	●	ST16-SLSA6-115-M42	Slim	6.0	9.0	60.0	42.0	55.0	13.4	115.0	16.0	18.0	87.0
8910129	●	ST20-SLSA3-200-M97	Slim	3.0	6.0	90.0	97.0	110.0	16.2	200.0	20.0	9.0	172.0
8910131	●	ST20-SLSA4-200-M97	Slim	4.0	7.0	90.0	97.0	110.0	17.2	200.0	20.0	12.0	172.0
8910132	●	ST20-SLSA5-200-M110	Slim	5.0	8.0	90.0	110.0	110.0	-	200.0	20.0	15.0	182.0
8910434	●	ST20-SLSB8-145-M70	Slim	8.0	13.0	75.0	70.0	70.0	19.5	145.0	20.0	24.0	117.0
8910138	●	ST25-SLS5-290	Slim	5.0	8.0	180.0	97.0	97.0	18.2	290.0	25.0	15.0	272.0
8910140	●	ST25-SLSA6-230-M97	Slim	6.0	9.0	120.0	97.0	110.0	19.2	230.0	25.0	18.0	202.0
8910426	●	ST25-SLSA6-305-M185	Slim	6.0	9.0	120.0	185.0	185.0	-	305.0	25.0	18.0	277.0
8910142	●	ST25-SLSA7-230-M97	Slim	7.0	10.0	120.0	97.0	110.0	20.2	230.0	25.0	20.0	212.0
8910143	●	ST25-SLS7-320	Slim	7.0	10.0	210.0	97.0	110.0	20.2	320.0	25.0	20.0	302.0
8910145	●	ST25-SLSA8-230-M97	Slim	8.0	11.0	120.0	97.0	110.0	21.2	230.0	25.0	24.0	202.0
8910436	●	ST25-SLSA8-280-M160	Slim	8.0	11.0	120.0	160.0	160.0	-	280.0	25.0	24.0	252.0
8910147	●	ST25-SLSA9-230-M97	Slim	9.0	12.0	120.0	97.0	110.0	22.2	230.0	25.0	30.0	60.0
8910148	●	ST25-SLS9-320	Slim	9.0	12.0	210.0	97.0	110.0	22.2	320.0	25.0	30.0	60.0
8910443	●	ST20-SLSA10-145-M70	Slim	10.0	13.0	75.0	70.0	70.0	-	145.0	20.0	30.0	60.0
8910445	●	ST25-SLSA10-255-M135	Slim	10.0	13.0	120.0	135.0	135.0	-	255.0	25.0	30.0	60.0
8910451	●	ST32-SLSA10-340-M210	Slim	10.0	13.0	130.0	210.0	210.0	-	340.0	32.0	30.0	312.0
8910154	●	ST25-SLSA11-230-M110	Slim	11.0	14.0	120.0	110.0	110.0	-	230.0	25.0	30.0	60.0
8910155	●	ST25-SLS11-320	Slim	11.0	14.0	210.0	110.0	110.0	-	320.0	25.0	30.0	60.0
8910456	●	ST20-SLSA12-120-M50	Slim	12.0	15.0	70.0	50.0	50.0	-	120.0	20.0	30.0	60.0
8910159	●	ST25-SLSA12-230-M110	Slim	12.0	15.0	120.0	110.0	110.0	-	230.0	25.0	30.0	60.0
8910460	●	ST32-SLSA12-315-M185	Slim	12.0	15.0	130.0	185.0	185.0	-	315.0	32.0	30.0	287.0
8910457	●	ST25-SLSB12-120-M42	Slim	12.0	19.0	42.0	42.0	50.0	23.4	120.0	25.0	30.0	60.0
8910458	●	ST25-SLSB12-150-M80	Slim	12.0	19.0	80.0	80.0	80.0	-	150.0	25.0	30.0	60.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

The tool should be inserted deeper than the safety mark. Do not exceed Max Insertion Length.

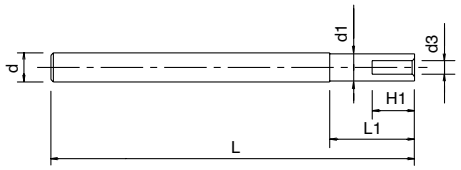
HTE

List 9910

PACKED
1 PIECE

HY-PRO® Shrink Straight Carbide Extensions, For Increased Rigidity and Reach





EDP Number		Designation	Body Type	Bore Diameter	Neck Length	Neck Diameter	Overall Length	Shank Diameter	Max Insertion Length
				d3 (mm)	L1 (mm)	d1 (mm)	L (mm)	d (mm)	H1 (mm)
8910244	●	ST10-6-200CS	Regular	6.0	40.0	9.9	200.0	10.0	22.0
8910245	●	ST12-6-200CS	Regular	6.0	42.0	11.9	200.0	12.0	22.0
8910240	●	ST16-10-250CS	Regular	10.0	60.0	15.9	250.0	16.0	33.0
8910241	●	ST20-12-250CS	Regular	12.0	70.0	19.9	250.0	20.0	38.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

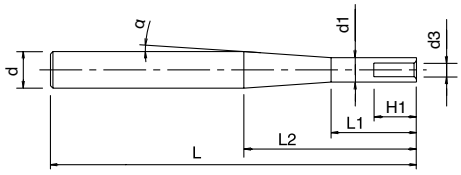
HTE

List 9911

PACKED
1 PIECE

HY-PRO® Shrink Straight Slim Carbide Extensions, For Increased Rigidity and Reach





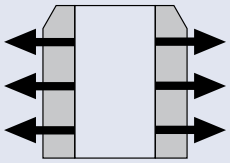
EDP Number		Designation	Body Type	Bore Diameter	Neck Length	Neck Length	Neck Diameter	Taper Angle	Overall Length	Shank Diameter	Max Insertion Length
				d3 (mm)	L1 (mm)	L2 (mm)	d1 (mm)	α (°)	L (mm)	d (mm)	H1 (mm)
8910246	●	PC16-6-9.9-250CS	Slim	6.0	40.0	124.0	9.9	2.0	250.0	16.0	22.0
8910247	●	PC16-6-11.9-250CS	Slim	6.0	42.0	80.0	11.9	3.0	250.0	16.0	22.0
8910242	●	PC20-10-300CS	Slim	10.0	60.0	98.0	15.9	3.0	300.0	20.0	33.0
8910243	●	PC25-12-300CS	Slim	12.0	70.0	118.0	19.9	3.0	300.0	25.0	38.0

● Stocked ○ Available Upon Request; MOQ May Apply ▲ Globally Stocked

HTE

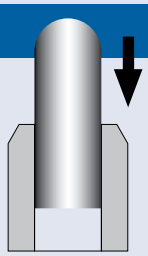
Tool Insertion

Heating



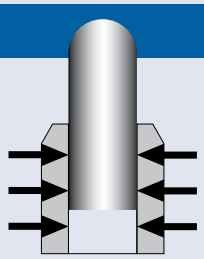
Heat the holder with hot air.

Attachment



Insert tool into the hole, which has been expanded by the heat.

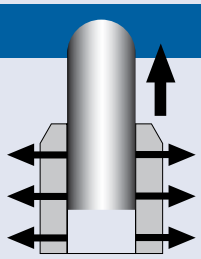
Fixing



The holder fixes the tool in place by cooling and clamping tightly.

Tool Removal

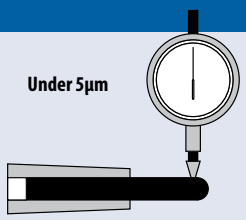
Detachment



The clamped tool can be removed by reheating.

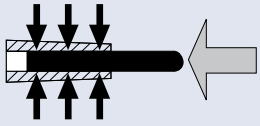
Features

Less Runout



HY-PRO Shrink Fit holders reduce runout and provide consistent precision. The holders are also light weight, have good balance, and are suitable for high-speed operations.

Holding Ability



Compared to other tool holders, such as collet types, HY-PRO Shrink Fit holders have stronger clamping ability and can securely hold tools during high load operations.

Holders

Basic
CAT40
CAT50
BT30
BT40
BT50
HSK-E50
HSK-A63
HSK-F63M
HSK-A100

Nozzle
CAT40
CAT50
BT40
BT50
HSK-A63
HSK-A100

Shrink Extensions

Slim
Ø3 - 12mm
Ø1/8 - 1/2"

Regular
Ø3 - 12mm
Ø1/8 - 1/2"

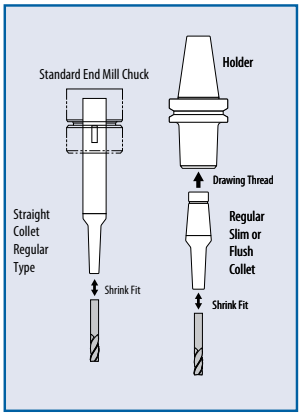
Flush
Ø3 - 12mm
Ø1/8 - 1/2"

Cutting Tools

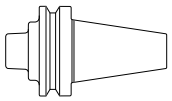
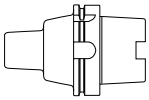
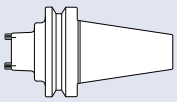
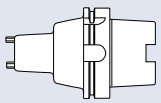
Carbide End Mills

Carbide Drills

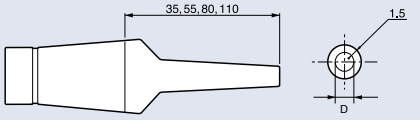
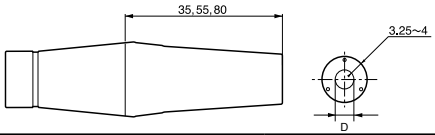
Other Carbide Tools



Holders

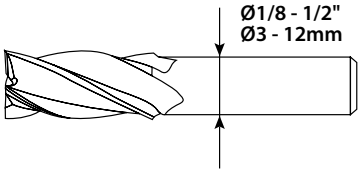
Type	Specifications	CAT, BT Holders	HSK Holders
Basic Holders	Holder for Shrink Extension	CAT40, CAT50 BT30, BT40, BT50 	E50 A63, A100 F63M 
Nozzle Holders	Holder for Shrink Extension (with optional coolant supply nozzle)	CAT40, CAT50 BT40, BT50 	A63, A100 

Extensions

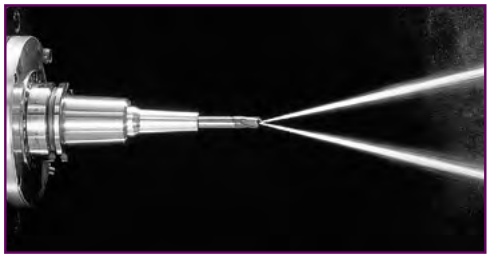
Type	Application	Dimension/Size
Regular Type	For General Operations and Coolant-Through Tool	 inch/metric
Slim Type	Use this type when a slim holder is needed to avoid interference between the tool and the work piece	 inch/metric
Flush Type	Use this type when you want coolant supplied from the end face of the extension	 inch/metric

For Small Shank Diameter use h6 Shanks

The HY-PRO Shrink System can be used for tools with a minimum shank diameter of 1/8" or 3mm. For tools with a shank diameter of Ø1/4-1/2" or Ø6-12mm, the system requires at least an h7 shank tolerance; for tools with a shank diameter of Ø1/8-3/16" or Ø3-5mm, use an h6 shank tolerance. A wide variety of tools are applicable.



Various Coolant Supply Devices





Through the Tool

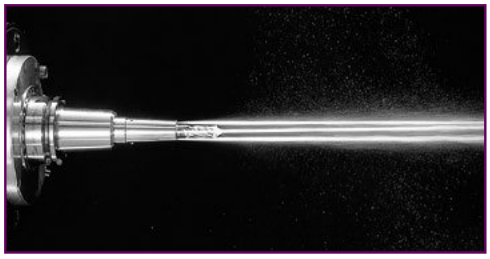
Suitable when using a tool with internal coolant to supply the point of the cutting edge. This is especially effective for drilling because the coolant is guaranteed to reach the cutting area.

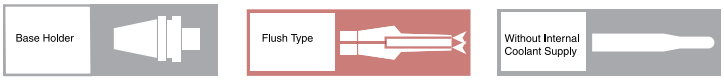




Through the Holder

Supplies coolant from the front face of the holder. This is used for tools without internal coolant supply and regular or slim type extensions.





Through the Collet

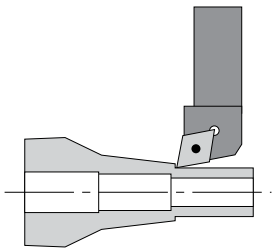
Supplies coolant from the front face of the shrink extensions. Although the diameter of the collet end face increases, coolant supply becomes even more effective.

Do-It-Yourself Extensions

If necessary, the shape of the shrink extension can be easily modified. This design provides the best holder shape for operations that have major interference with work materials.





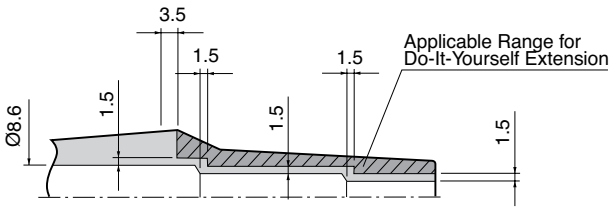


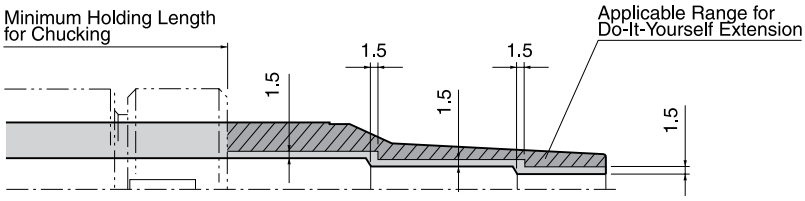
1. The shape of the flush collet cannot be adjusted.
2. Other adjustments should be based on the ranges described below. (Wall thickness should be at least 1.5mm)
3. DO NOT change the overall length.
4. For details, please refer to the instruction manual attached to the product package.

Recommended Cutting Conditions for Extension Modification

1. The cutting depth should be kept small.
2. Use water soluble coolant.
3. Use positive-rake inserts for stainless steel.

Cutting Speed (m/min)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Depth (min)
Roughing	30 - 50	0.1	0.2
Finishing	30 - 50	0.05	0.1





HY-PRO® Shrink - Proper Care Information

Please follow these guidelines to ensure your HY-PRO® Shrink extensions stay looking and performing like new for years to come:

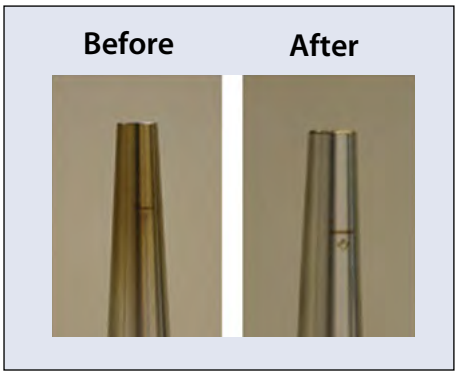
- When not in use, remove tool and clean/dry the inside & outside of holder as thoroughly as possible. Apply rust-proofing oil (WD-40® for example) to help inhibit oxidation. Excessive internal rusting will lead to hairline fractures in the steel.
- Be sure to use cutters with shank diameters that adhere to ISO tolerance requirements. Remember, HY-PRO® Shrink holders are made to accommodate the following:

Ø1/8-3/16" and Ø3-5mm → h6 tolerance ONLY!
Ø1/4-1" and Ø6-25mm → h7 tolerance ONLY!

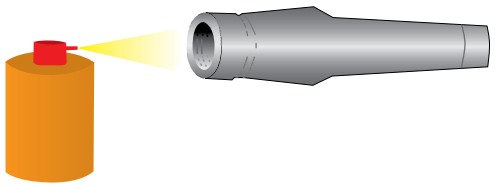
- Failure to use tools that adhere to these standards may result in complications with respect to inserting and removing tools.
- Be sure to observe minimum chucking lengths on extensions. Failure to do so can result in poor accuracy, deformation, or cracking of tool or extension.

Care Tips:

- Simple household bleach will remove oxidation from the outside of extensions. Use it to clean metal powder and debris from the insides as well to help prevent scratching & abrasions.



- Be sure to keep threads on the end of the extensions well oiled to allow for easy installation and removal from the holders.



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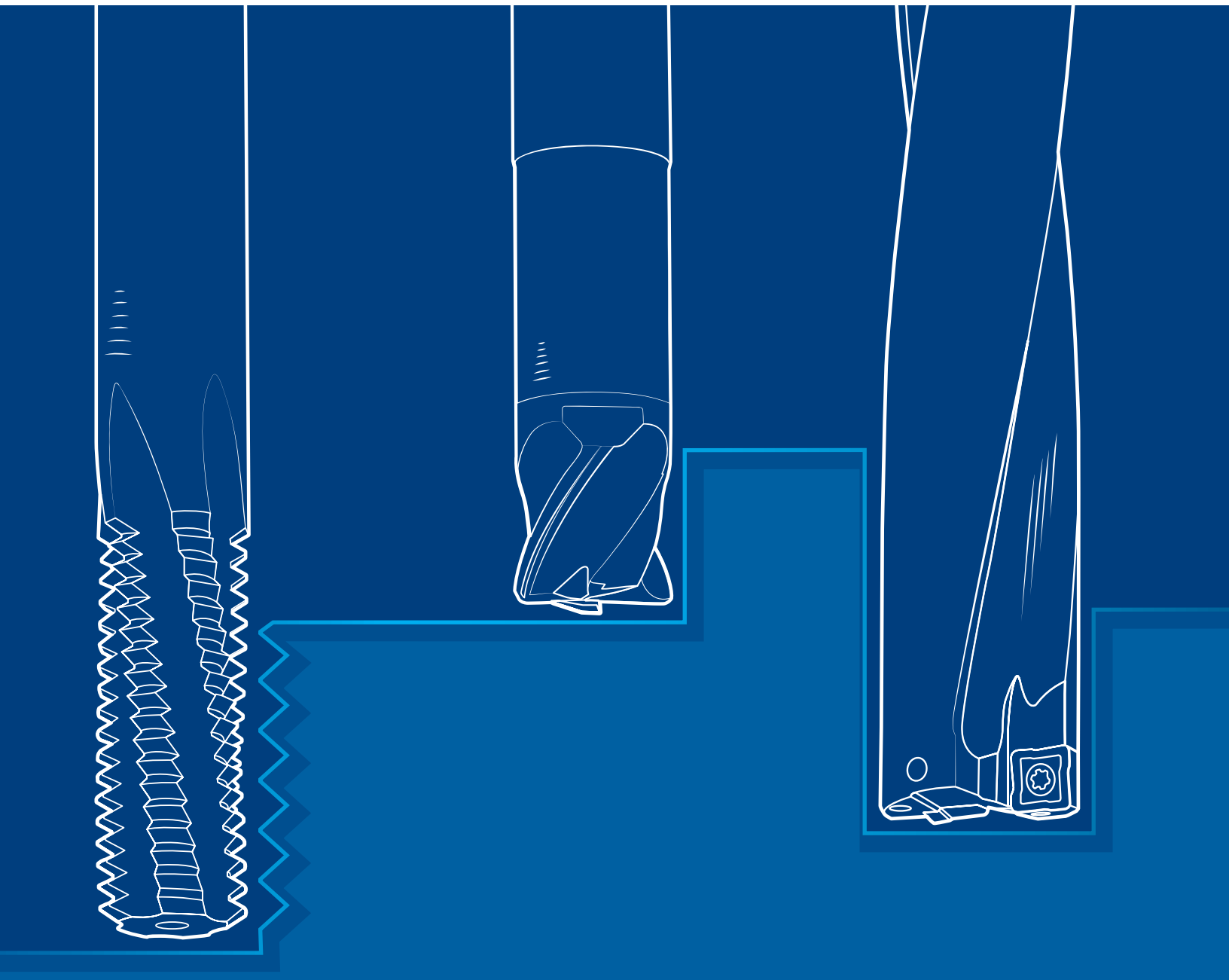
shaping your dreams



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