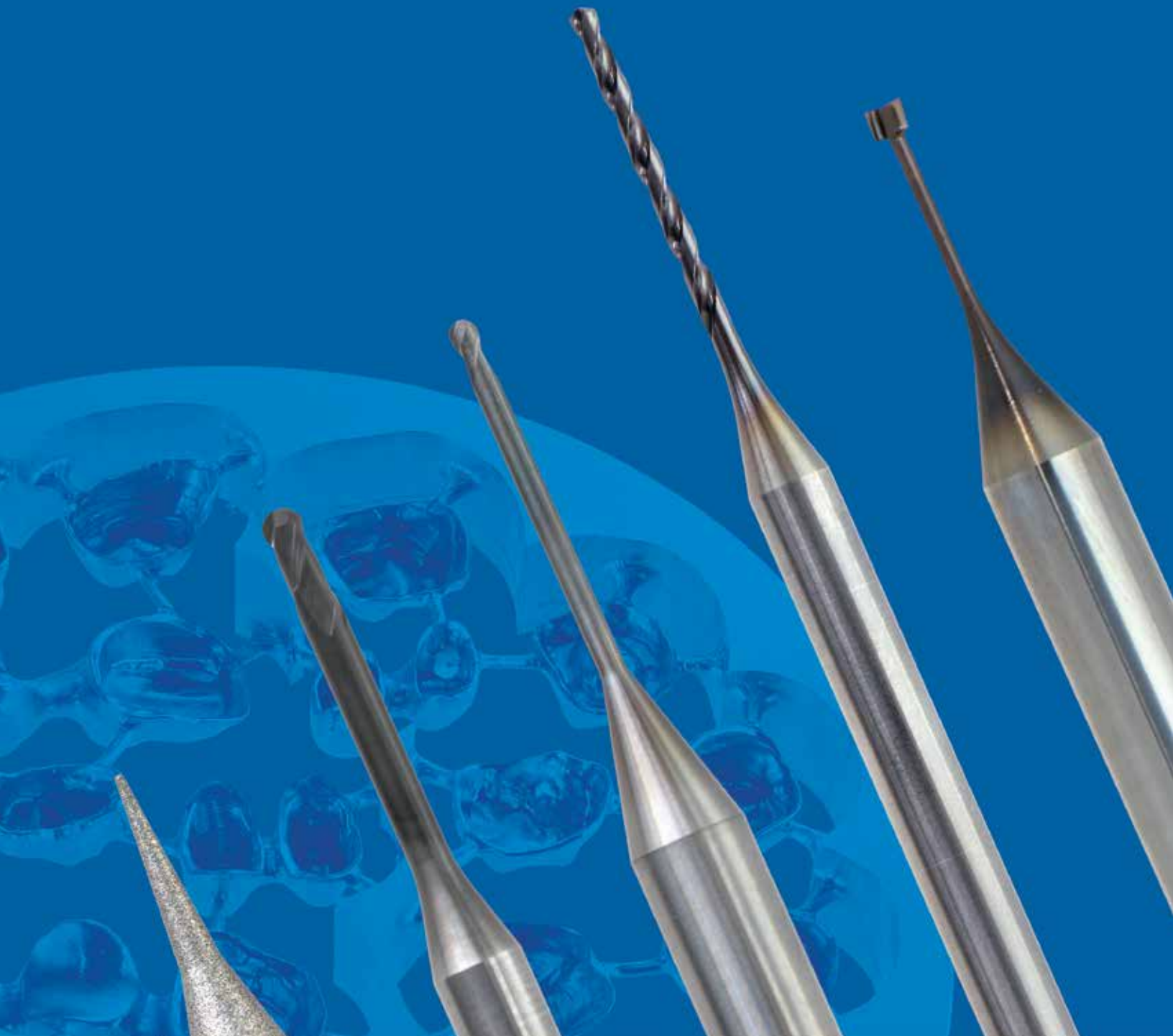




Vol 1

Cutting Tools Optimized for Dental Prosthetics Manufacturing

Dental Industry



Icon Descriptions

Tool Materials

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

Surface Treatment

BR	Bright	CrN	CrN Coating	N S/O	Nitride/ Steam Oxide Coating
EXO	Multi-Layer TiAlN Coating	N	Nitride Coating	TiN	TiN Coating
TiAlN	TiAlN Coating	TiCN	TiCN Coating	DLC	DLC Coating
WXL	WXL [®] Coating	WXS	WXS [®] Coating	WD1	WD1 Coating
S/O	Steam Oxide Coating	V	OSG Special Multi-Layer TiCN Coating	HR	HR Coating
SS	Super Smooth	DIA	OSG Patented Diamond Coating	EgiAs	EgiAs Coating

Tool Dimensions

EXTRA LONG	Extra Long Length	LH	Left Hand		Milling Diameter Tolerance
LONG	Long Length	LHS	Left Hand Spiral		Coolant-Through
JOBBERS	Jobbers Length	STI	Screw Thread Insert		Straight Shank
MED	Medium Length		Center Cutting		Taper Shank
REG	Regular Length		Non-Center Cutting		Helix Angle
STUB	Stub Length		Radius Tolerance		

Styles

	Square		Corner Radius		Ball
--	--------	--	---------------	--	------

Other Icons

	Speeds & Feeds		Shrink Fit		New		New Sizes
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Roland

DLC-LN-EBD | DG-LN-EBD | WXL-LN-EBD | ED-ES RO | ED-BS RO

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imes-icore

WXL-LN-EBD IM | DG-LN-EBD IM | WXL-LN-EDS IM | WXS-EMS IM

WXL-CPR IM | WXS-CPR IM | WXS-CRE IM

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Zirkonzahn

WXL-LN-EBD ZI | WXL-PC-EBD ZI | DIA-LN-EBD ZI | WXL-LN-CPR ZI | WXL-LN-EDS ZI

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vhf

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Amann Girrbach

WXL-LN-EBD AG | DIA-LN-EBD AG

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End Mills



Product series	List Number	Discount Code	Features	Page
DG-CPR	7563	HTE	Corner Radius for Zirconium & Composite	21
DG-LN-EBD	7513	HTE	Ball Nose for Zirconium & Composite	22
DG-LN-EBT	7533	HTE	Ball Nose for Zirconium & Composite	22
DLC-LN-EBD	2915	HTE	Ball Nose for PEEK & PMMA	23
PHX-LN-DBT	9590	EP	Ball Nose for High Productivity	24
WXS-EMS	4540	HTE	Square for Hardened Material	25
WXS-CPR	4592	HTE	Corner Radius for Hardened Material	26
WXS-CRE	4572	HTE	Corner Radius, High Feed for Metal Material	27
WXS-LN-EBD	4590	HTE	Ball Nose for Hardened Material	28
WXL-LN-EDS	3791	HTE	Square for General Purpose	29
WXL-LN-EMS-6	3794	HTE	Square for General Purpose	30
WXL-CPR	3792	HTE	Corner Radius for General Purpose	31
WXL-LN-EBD	3790	HTE	Ball Nose for General Purpose	32
FXS-PKE	9143	HTE	Corner Radius for Titanium	33

T-Slot



Product series	List Number	Discount Code	Features	Page
EXO-MG-TSC	9152	HTE	Undercut mill	34

Diamond Grinding Burs



Product series	List Number	Discount Code	Features	Page
ED-ES	7780	HTE	Conical for glass ceramic	35
ED-BS	7730	HTE	Ball for glass ceramic	35

Drills



Product series	List Number	Discount Code	Features	Page
WX-MS-GDS	5330	HTE	Stub length: WX-MS-GDS	36
MRS-GDL	5340	HTE	Deep length: MRS-GDL	37
AD-LDS	5190	ADR	Spot drill: AD-LDS	38

Thread Mills











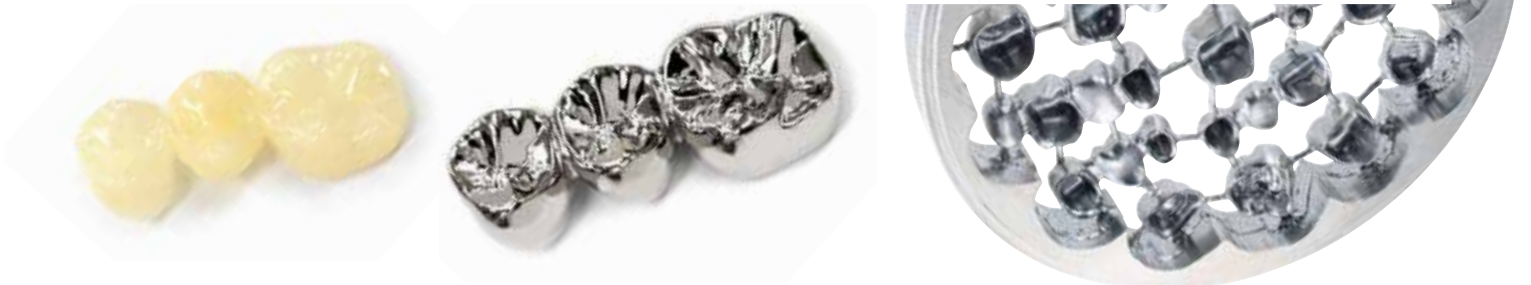
Product series	List Number	Discount Code	Features	Page
WH-VM-PNC	41300	HTE	Thread mill	39

Tool Selection Suggestion








By Application

Bridge | Crown







					
	Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK
 Ball Nose	WXS-LN-EBD	WXL-LN-EBD	DG-LN-EBD (WXS-LN-EBD)	DLC-LN-EBD	DLC-LN-EBD
 Radius	WXS-CRE (Roughing) WXS-CPR	FXS-PKE (Roughing) WXL-CPR	WXS-CPR	WXL-CPR	WXL-CPR
 Square	WXL-LN-EDS	WXL-LN-EDS	WXL-LN-EDS	WXL-LN-EDS	WXL-LN-EDS



Abutment

		
	Titanium	Zirconium
 Ball Nose	WXL-LN-EBD	DG-LN-EBD
 Radius	FXS-PKE (Roughing) WXL-CPR	WXS-CPR
 Square	WXL-LN-EDS	WXL-LN-EDS
 Drill	MRS-GDL WX-MS-GDS	MRS-GDL WX-MS-GDS
 Thread milling	WH-VM-PNC	WH-VM-PNC








Implant Bar

	
	Titanium
 Ball Nose	WXL-LN-EBD
 Radius	FXS-PKE (Roughing) WXL-CPR
 Square	WXL-LN-EDS
 Drill	MRS-GDL WX-MS-GDS
 Thread milling	WH-VM-PNC



Tool Selection Suggestion

By Material

	DG Series	DLC Series	WXL Series	WXS Series	ED Series	WX-MS-GDS	MRS-GDL	AD-LDS
 Cobalt Chrome			○	⊗		⊗	⊗	⊗
 Titanium			⊗	○		⊗	⊗	⊗
 Zirconium	⊗	○	○	○		○	○	○
 Wax/PMMA		⊗	⊗	○		○	○	○
 PEEK		⊗	○			○	○	○
 Hybrid Ceramic/Composite	⊗				○			
 Glass Ceramics					⊗			

○ good ⊗ best

The OSG Advantage

Innovation, Service & Global Network

OSG is the world's largest manufacturer of round cutting tools. Established in 1938, OSG has a longstanding reputation as a total solution cutting tool provider throughout the manufacturing industry. Gaining the support and trust of our

customers has always been OSG's commitment. Through our innovative technological know-how, exceptional services, and out-of-the-box thinking, we can offer tailored support for your dental application needs.

KNOW-HOW

01

Over 75 years of history and proven successes in the cutting tool sector, serving an array of industries including automotive, mold & die, aerospace, energy, medical, etc.

ABSOLUTE QUALITY CONTROL

02

OSG produces its own carbide, designs its own tools, develops its own coating and manufactures its own CNC machines to ensure quality control.

TAILORED SOLUTIONS

03



















OSG offers custom support for each of our client's individual needs - from application evaluation, tool drawing creation, to creating tailored proposals.

AFTER SALES SUPPORT

04

OSG is committed to providing the best possible service and offers on-site technical support to guarantee performance.



Coating	Coating Color	Type	Thickness (μm)	Hardness (HV)	Oxidation Temp. (°C)	Application
 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.
 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.
 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.
 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.
 DG	 Black	DG	8, 12, 20	9000	600	For milling graphite. A CVD coating with superior surface hardness and wear resistance, and outstanding durability.

OSG Diamond Coating

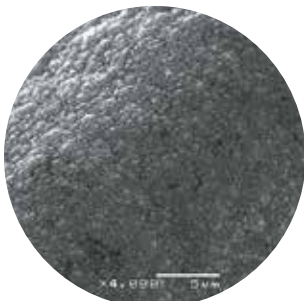


OSG's proprietary diamond coating is composed of ultra-fine diamond crystals and is ideal for common dental materials such as PMMA, zirconium and hybrid resin.

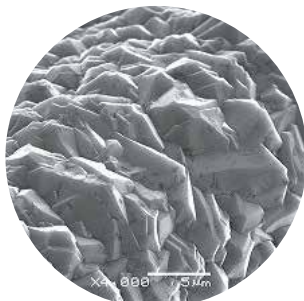
Features & Benefits

- **Smooth Surface**
Results in better work surface.
- **Sharp Cutting Edge**
Prevents delamination.
- **Multi-Layer Structure & Special Treatment**
Increase toughness and adhesion to prolong tool life.

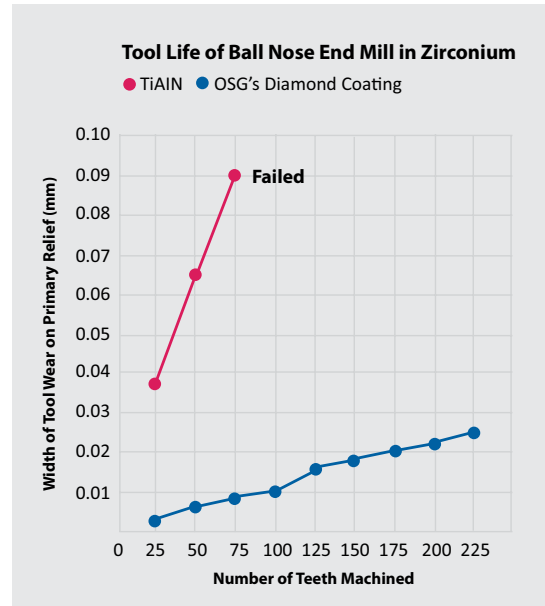
Comparison of Diamond Coating Surface



OSG's Diamond Coating

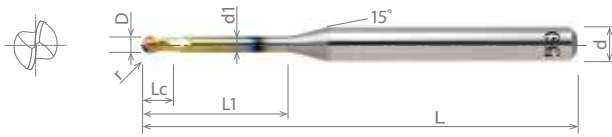


Competitor's Diamond Coating



List 2915

DLC-LN-EBD, Ball Nose for PEEF, PMMA & Zirconium



Shank diameter 4mm

EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1604644	4	0.6	0.3	6	50	0.5	0.55	2
W1604586	4	1.0	0.5	16	50	0.8	0.95	2
W1604587	4	2.0	1.0	20	50	1.6	1.95	2



List 7513

DG-LN-EBD, Ball Nose for Zirconium & Composite



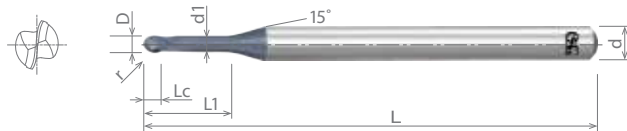
Shank diameter 4mm

EDP	d	D	r	L1	L	Lc	d1	ZΔ
8553711	4	0.6	0.3	6	50	0.9	0.56	2
8553712	4	0.6	0.3	10	50	0.9	0.56	2
8553723	4	1.0	0.5	10	50	1.5	0.96	2
48249116	4	1.0	0.5	16	50	1.5	0.93	2
48249220	4	2.0	1.0	20	50	3.0	1.87	2



List 3790

WXL-LN-EBD, Ball Nose for General Use



Shank diameter 4mm

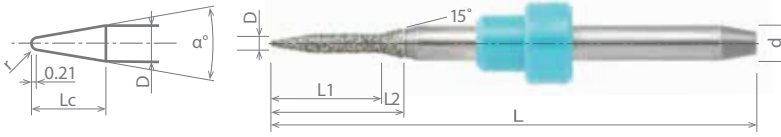
EDP	d	D	r	L1	L	Lc	d1	ZΔ
3110320	4	0.3	0.15	2	45	0.24	0.28	2
3110525	4	0.5	0.25	2.5	45	0.40	0.45	2
3110660	4	0.6	0.30	6	45	0.50	0.55	2
3110700	4	0.6	0.30	10	45	0.50	0.55	2
3111070	4	1.0	0.50	7	45	0.80	0.95	2
3111112	4	1.0	0.50	12	45	0.80	0.95	2
3111114	4	1.0	0.50	14	50	0.80	0.95	2
3111116	4	1.0	0.50	16	50	0.80	0.95	2
3112112	4	2.0	1.00	12	45	1.60	1.95	2
3112114	4	2.0	1.00	14	50	1.60	1.95	2
3112116	4	2.0	1.00	16	50	1.60	1.95	2
48251220	4	2.0	1.00	20	50	1.60	1.95	2



List 7780

ED-ES RO (Conical), For Glass Ceramics

SPEED
FEED
P56



Shank diameter 3mm

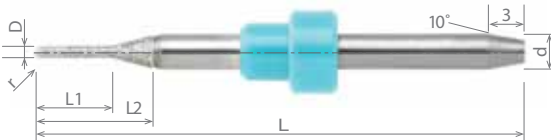
EDP	d	D	r	Lc	α	L1	L2	L
P1701078	3	1.7	0.25	3.6	20	8.9	11	40

HTE

List 7730

ED-BS RO (Ball), For Glass Ceramics

SPEED
FEED
P56



Shank diameter 3mm

EDP	d	D	r	L1	L2	L
P1701079	3	1.0	0.50	6	9	40
P1701080	3	1.5	0.75	10	11	40
P1701081	3	2.5	1.25	14.75	15	40

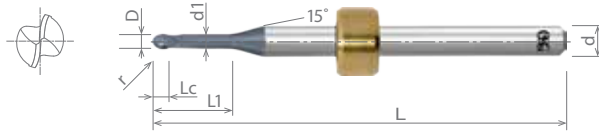
HTE



List 3790

WXL-LN-EBD IM, Ball Nose for PMMA, PEEK, WAX & Metal

SPEED FEED P53-54		CARBIDE	WXL
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Shank diameter 6mm

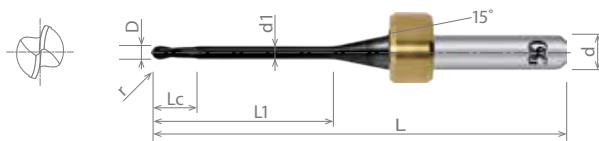
EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1800444	6	0.60	0.30	2.5	50	0.5	0.55	2
W1800445	6	0.60	0.30	8	50	0.5	0.55	2
W1800446	6	1.00	0.50	8	50	0.8	0.95	2
W1800447	6	1.00	0.50	10	50	0.8	0.95	2
W1800448	6	1.00	0.50	12	50	0.8	0.95	2
W1800449	6	1.00	0.50	16	50	0.8	0.95	2
W1800450	6	1.50	0.75	8	50	1.2	1.45	2
W1800451	6	1.50	0.75	10	50	1.2	1.45	2
W1800452	6	1.50	0.75	12	50	1.2	1.45	2
W1800453	6	2.00	1.00	10	50	1.6	1.95	2
W1800454	6	2.00	1.00	12	50	1.6	1.95	2
W1800455	6	2.00	1.00	20	50	1.6	1.95	2
W1703068	6	2.50	1.25	20	50	6	2.30	2
W1800467	6	3.00	1.50	12	50	2.4	2.85	2



List 7513

DG-LN-EBD IM, Ball Nose for Zirconium & Composite

SPEED FEED P41		CARBIDE	DG
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Shank diameter 6mm

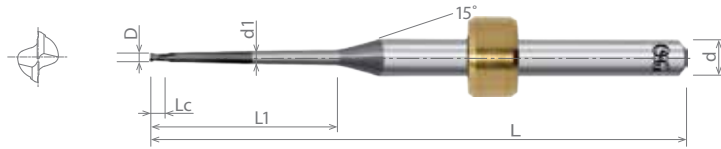
EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1800439	6	0.6	0.30	8	50	0.5	0.54	2
W1800440	6	1.0	0.50	10	50	0.8	0.93	2
W1800442	6	1.0	0.50	16	50	1.5	0.93	2
W1800441	6	2.0	1.00	12	50	3	1.87	2
W1800443	6	2.0	1.00	20	50	3	1.87	2
W1703069	6	2.5	1.25	20	53	6	2.30	2



List 3791

WXL-LN-EDS IM, Square for PMMA, PEEK, Wax & Metal

SPEED FEED P49-50	CARBIDE	WXL
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Shank diameter 6mm

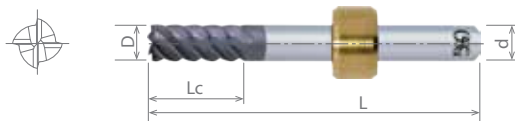
EDP	d	D	L1	L	Lc	d1	ZΔ
W1800457	6	0.5	4	45	0.7	0.45	2
W1800458	6	1.0	5	45	1.5	0.95	2
W1800456	6	1.5	12	50	2.3	1.45	2
W1800459	6	1.5	16	50	2.3	1.45	2



List 4540

WXS-EMS IM, Square for PMMA, Wax & Metal

SPEED FEED P45	CARBIDE	WXS
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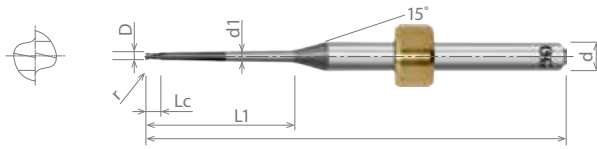
Shank diameter 6mm

EDP	d	D	L	Lc	ZΔ
W1800466	6	2	50	6.2	4



List 3792

WXL-CPR IM, Square with Corner Radius for PMMA, Wax & Metal



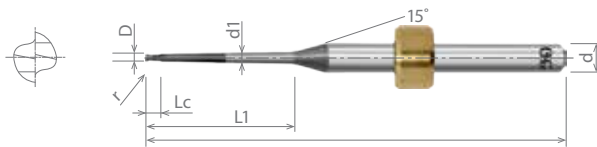
Shank diameter 6mm

EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1800460	6	1.5	0.2	12	50	1.2	1.43	2
W1800461	6	1.5	0.2	15	50	1.2	1.43	2



List 4592

WXS-CPR IM, Square with Corner Radius for PMMA, Wax & Metal



Shank diameter 6mm

EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1800462	6	1	0.2	8	50	0.8	0.94	2



List 4572

WXS-CRE IM, For Metal High Speed Milling



Shank diameter 6mm

EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1800463	6	2.0	0.50	8	50	0.8	1.8	4
W1800464	6	2.0	0.50	12	50	0.8	1.8	4
W1800465	6	3.0	0.75	16	50	1.3	2.7	4



List 3790

WXL-LN-EBD ZI, Ball Nose for PEEK, Wax & PMMA



Shank diameter 6mm

EDP	d	D	r	L1	Lc
W1702328	6	2	1	17	10



List 3712

WXL-PC-EBD ZI, Ball Nose for PEEK, Wax & PMMA



Shank diameter 6mm

EDP	d	D	r	L1	Lc
W1702329	6	1	0.5	20	6



List 7313

DIA-LN-EBD ZI, Ball Nose for Zirconium & Composite



Shank diameter 6mm

EDP	d	D	r	L1	Lc
W1702756	6	1	0.5	12	6
W1702755	6	2	1	18	10



List 3792

WXL-LN-CPR ZI, Corner Radius for General Use



Shank diameter 6mm

EDP	d	D	r	L1	Lc
W1702330	6	1.5	0.05	17	7



List 3791

WXL-LN-EDS ZI, Square for General Use



EDP	d	D	L1	Lc
W1702331	6	0.6	7	3



List 3790

WXL-LN-EBD VH, S1/S2/K5 MODEL, Ball Nose for PMMA & Wax

SPEED FEED P53-54		CARBIDE	WXL
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Shank diameter 3mm

EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1604588	3	0.6	0.3	6	40	0.5	0.55	2
W1604589	3	1	0.5	12	40	0.8	0.93	2
W1604590	3	2	1.0	16	40	9	1.95	2



List 2915

DLC-LN-EBD VH, S1/S2/K5 MODEL, Ball Nose for Zirconium & PEEK

SPEED FEED P43		CARBIDE	DLC
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Shank diameter 3mm

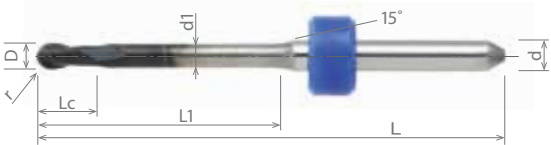
EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1604645	3	0.6	0.3	6	40	0.5	0.55	2
W1604591	3	1	0.5	12	40	0.8	0.93	2
W1604592	3	2	1.0	16	40	9	1.95	2



List 7313

DIA-LN-EBD SI, Ball Nose for Zirconium & Composite

	CARBIDE	
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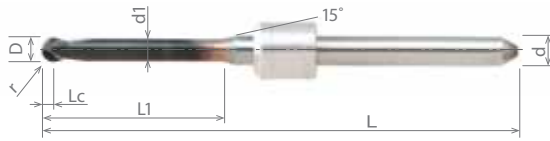
Shank diameter 3mm

EDP	d	D	r	L1	L	Lc	d1	ZΔ
W1702591	3	0.5	0.25	5	42	1	0.45	2
W1702590	3	1.0	0.50	16	43	3	0.93	2
W1702589	3	2.5	1.25	23	44	5	2.32	2



List 3790

WXL-LN-EBD AG, Ball Nose for PMMA, Wax & PEEK



Shank diameter 3mm

EDP	d	D	r	L1	L	Lc	d1
W1701698	3	1.0	0.50	17.5	47	2	0.95
W1701699	3	2.5	1.25	19.0	47	5	2.32



List 7313

DIA-LN-EBD AG, Ball Nose for Zirconium & Composite



Shank diameter 3mm

EDP	d	D	r	L1	L	Lc	d1
W1604840	3	0.6	0.30	12	47	1	0.55
W1604841	3	1.0	0.50	16	47	3	0.95
W1604842	3	2.5	1.25	18	47	2	2.32

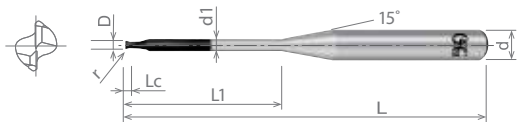


List 7563

DG-CPR, Stub Length, Long Neck, Corner Radius, Rib Processor

SPEED FEED P40	CARBIDE	DG	30°	SHANK h6
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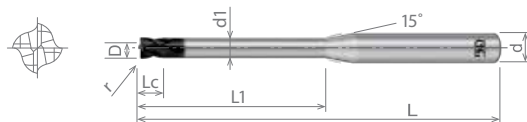
Radius Tolerance
±0.01mm



Shank diameter 4mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Corner Radius	Neck Length	Neck Dia.	Shank Diameter	Flutes
	D	L	Lc	r	L1	d1	d	
8554511	0.5	50	0.9	0.1	4	0.46	4	2
8554512	0.5	50	0.9	0.1	6	0.46	4	2
48103001	1.0	50	1.5	0.1	10	0.96	4	2
8554542	2.0	60	3.0	0.2	10	1.90	4	2
8554544	2.0	70	3.0	0.2	20	1.90	4	2

Packed: 1 pc. Available in DG coating only.



Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Corner Radius	Neck Length	Neck Dia.	Shank Diameter	Flutes
	D	L	Lc	r	L1	d1	d	
48103004	4.0	70	6.0	0.5	25	3.90	6	4

Packed: 1 pc. Available in DG coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	

good best

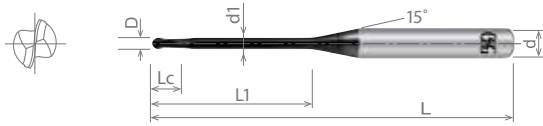


EXOCARB® Diamond

Ball Nose for Zirconium & Composite

List 7513

DG-LN-EBD, 2 Flute, Long Neck, Ball End, Rib Processing



SPEED FEED P41		CARBIDE	DG		30°	SHANK h6
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Radius Tolerance	
r<0.5	±0.008mm
r≥0.5	±0.01mm

Shank diameter 3mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
48249140	1.0	45	1.5	10	0.93	3
W1603980	1.0	50	1.5	16	0.93	3
48249246	2.0	45	3.0	16	1.90	3
48249250	2.0	45	3.0	20	1.90	3

Packed: 1 pc. Available in DG coating only.



Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
48249068	0.6	50	0.5	8	0.55	6
48249170	1.0	50	0.8	10	0.95	6
W1602615	1.0	50	1.5	16	0.93	6
48249272	2.0	50	3.0	12	1.87	6
W1602616	2.0	50	3.0	20	1.87	6

Packed: 1 pc. Available in DG coating only.



Shank diameter 4mm

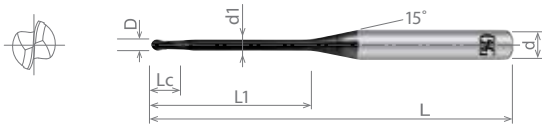
EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
8553711	0.6	50	0.9	6	0.56	4
8553712	0.6	50	0.9	10	0.56	4
8553723	1.0	50	1.5	10	0.96	4
48249116	1.0	50	1.5	16	0.93	4
8553724	1.0	60	1.5	16	0.96	4
8553725	1.0	60	1.5	20	0.96	4
8553733	1.5	60	2.3	16	1.44	4
8553743	2.0	60	3.0	16	1.90	4
48249220	2.0	50	3.0	20	1.87	4
8553744	2.0	60	3.0	20	1.90	4

Packed: 1 pc. Available in DG coating only.



List 7533

DG-LN-EBT, 3 Flute, Long Neck, Ball End, Rib Processing



SPEED FEED P42		CARBIDE	DG		30°	SHANK h6
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Radius Tolerance	
±0.01mm	

Shank diameter 3mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
W1601320	2.0	50	3.0	20	1.87	3

Packed: 1 pc. Available in DG coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	

good best

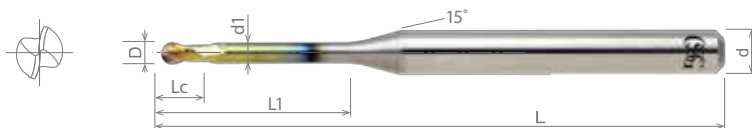


List 2915

DLC-LN-EBD, 2 Flute, Regular Length, Long Neck, Ball End, Rib Processing

SPEED FEED P43		CARBIDE		DLC		30°		SHANK h6
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Radius Tolerance	
r<0.5	±0.008mm
r≥0.5	±0.01mm



Shank diameter 4mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
W1604644	0.6	50	0.5	6	0.55	4
W1604586	1.0	50	0.8	16	0.95	4
W1604587	2.0	50	1.6	20	1.95	4

Packed: 1 pc. Available om DLC coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/ Composite	Glass Ceramics
		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

good best

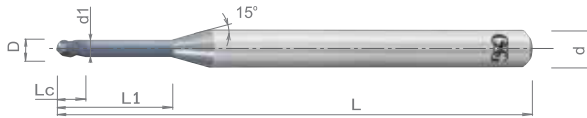


List 9590

PHX-LN-DBT, 3 Flute, Long Neck, Ball End

SPEED FEED P44		CARBIDE	WXS		45°	SHANK h6
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Radius Tolerance ±0.007mm



Shank diameter 4mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
3194901	0.6	50	0.45	1	0.55	4
3194902	0.6	50	0.45	2	0.55	4
3194903	0.6	50	0.45	3	0.55	4
3194904	0.6	50	0.45	4	0.55	4
3194906	0.6	50	0.45	6	0.55	4
W1504436	0.8	50	0.60	1	0.75	4
W1504437	0.8	50	0.60	2	0.75	4
W1504438	0.8	50	0.60	3	0.75	4
W1504439	0.8	50	0.60	4	0.75	4
W1504440	0.8	50	0.60	6	0.75	4
3195004	1.0	50	0.75	4	0.95	4
3195006	1.0	50	0.75	6	0.95	4
3195008	1.0	50	0.75	8	0.95	4
3195010	1.0	50	0.75	10	0.95	4
3195012	1.0	50	0.75	12	0.95	4
3195014	1.0	50	0.75	14	0.95	4
3195016	1.0	50	0.75	16	0.95	4
3195106	1.5	50	1.13	6	1.45	4
3195108	1.5	50	1.13	8	1.45	4
3195110	1.5	50	1.13	10	1.45	4
3195112	1.5	50	1.13	12	1.45	4
3195116	1.5	50	1.13	16	1.45	4
3195206	2.0	50	1.50	6	1.95	4
3195208	2.0	50	1.50	8	1.95	4
3195210	2.0	50	1.50	10	1.95	4
3195212	2.0	50	1.50	12	1.95	4
3195214	2.0	50	1.50	14	1.95	4
3195216	2.0	50	1.50	16	1.95	4
3195218	2.0	60	1.50	18	1.95	4
3195220	2.0	60	1.50	20	1.95	4
3195222	2.0	60	1.50	22	1.95	4
3195312	3.0	60	2.25	12	2.85	4
3195316	3.0	60	2.25	16	2.85	4
3195320	3.0	60	2.25	20	2.85	4
3195325	3.0	60	2.25	25	2.85	4
3195416	4.0	60	3.00	16	3.85	4
3195420	4.0	60	3.00	20	3.85	4
3195425	4.0	60	3.00	25	3.85	4

Packed: 1 pc. Available WXS® coating only.



Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
3195520	6.0	60	4.50	20	5.85	6
3195530	6.0	60	4.50	30	5.85	6

Packed: 1 pc. Available WXS® coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input type="checkbox"/>	<input type="checkbox"/>					

good best



List 4540

WXS-EMS, 4 Flute, Regular Length

SPEED FEED P45	CARBIDE	WXS	45°	SHANK h6
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Milling Diameter Tolerance +0 / -0.02mm
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Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
3041010	1	60	2.5	6
3041015	1.5	60	4	6
3041020	2	60	6	6
W1703577	2	50	6	6

Packed: 1 pc. Available WXS® coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

good best

EXOCARB® WXS

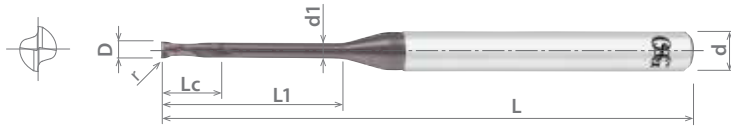
Ultra Premium Performance Carbide End Mills with OSG's Proprietary WXS® Coating

List 4592

WXS-CPR, 2 Flute, Stub Length, Long Neck, Corner Radius, Rib Processing

SPEED FEED P46	CARBIDE	WXS	30°	SHANK h6
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Radius Tolerance ±0.005mm



Shank diameter 4mm

EDP Number	Mill Diameter	Corner Radius	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	r	L	Lc	L1	d1	d
3100405	0.4	0.05	50	0.30	4	0.37	4
3100504	0.5	0.05	50	0.40	4	0.46	4
3100506	0.5	0.05	50	0.40	6	0.46	4
3100602	0.6	0.10	50	0.48	4	0.56	4
3100603	0.6	0.10	50	0.48	6	0.56	4
3101013	1.0	0.20	50	0.80	8	0.95	4
3101014	1.0	0.20	50	0.80	10	0.95	4
3101015	1.0	0.20	50	0.80	12	0.95	4
3101022	1.0	0.30	50	0.80	12	0.95	4
3101504	1.5	0.20	50	1.20	12	1.45	4
3101505	1.5	0.20	50	1.20	16	1.45	4
3101510	1.5	0.30	50	1.20	16	1.45	4
3102010	2.0	0.20	60	1.60	16	1.95	4
3102022	2.0	0.50	60	1.60	16	1.95	4
3102023	2.0	0.50	60	1.60	20	1.95	4

Packed: 1 pc. Available WXS® coating only.



Shank diameter 6mm

EDP Number	Mill Diameter	Corner Radius	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	r	L	Lc	L1	d1	d
48253108	1.0	0.20	50	0.80	8	0.94	6
3103015	3.0	0.50	60	2.50	16	2.85	6
3103027	3.0	0.50	60	2.50	20	2.85	6

Packed: 1 pc. Available WXS® coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

good best



List 4572

WXS-CRE, High-Feed, Corner Radius

SPEED FEED P47	CARBIDE	WXS	SHANK h6
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Milling Diameter Tolerance +0 / -0.02mm



Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Corner Radius	Neck Length	Neck Dia.	Shank Diameter	No. of Flutes
	D	L	Lc	r	L1	d1	d	
48106421	2	50	0.8	0.50	8	2.00	6	4
48254212	2	50	0.8	0.50	12	1.80	6	4
48254316	3	50	1.3	0.75	16	2.70	6	5
48106433	3	55	1.2	0.75	12	2.70	6	5
48106445	4	55	1.6	1.00	12	3.60	6	5

Packed: 1 pc. Available in WXS coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input checked="" type="checkbox"/>	<input type="checkbox"/>					

good best



EXOCARB® WXS

Ultra Premium Performance Carbide End Mills with OSG's Proprietary WXS® Coating

List 4590

WXS-LN-EBD, 2 Flute, Stub Length, Long Neck, Ball End, Rib Processing

SPEED FEED P48		CARBIDE	WXS		30°	SHANK h6
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Radius Tolerance ±0.005mm



Shank diameter 4mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
3051008	1.0	45	0.8	8	0.95	4
3051010	1.0	45	0.8	10	0.95	4
3051012	1.0	45	0.8	12	0.95	4
3051016	1.0	50	0.8	16	0.95	4
3051510	1.5	45	1.2	10	1.45	4
3051512	1.5	45	1.2	12	1.45	4
3051516	1.5	50	1.2	16	1.45	4
3051520	1.5	55	1.2	20	1.45	4
3052012	2.0	45	1.6	12	1.95	4
3052016	2.0	50	1.6	16	1.95	4
3052020	2.0	55	1.6	20	1.95	4

Packed: 1 pc. Available WXS® coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

good best

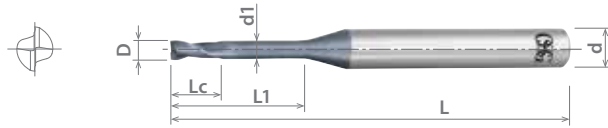


List 3791

WXL-LN-EDS, 2 Flute, Stub Length, Long Neck, Rib Processing

SPEED FEED P49-50	CARBIDE	WXL	30°	SHANK h6
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Milling Diameter Tolerance +0 / -0.015mm



Shank diameter 4mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Diameter	Shank Diameter
	D	L	Lc	L1	d1	d
3131308	0.3	45	0.5	4	0.28	4
3131408	0.4	45	0.6	4	0.37	4
3131504	0.5	45	0.7	4	0.45	4
3131506	0.5	45	0.7	6	0.45	4
3131508	0.5	45	0.7	8	0.45	4
3131510	0.5	45	0.7	10	0.45	4
3131604	0.6	45	0.9	4	0.55	4
3131606	0.6	45	0.9	6	0.55	4
3131608	0.6	45	0.9	8	0.55	4
3131610	0.6	45	0.9	10	0.55	4
3132010	1.0	45	1.5	10	0.95	4
3132012	1.0	45	1.5	12	0.95	4
3132014	1.0	50	1.5	14	0.95	4
3132016	1.0	50	1.5	16	0.95	4
3132018	1.0	55	1.5	18	0.95	4
3132020	1.0	55	1.5	20	0.95	4
3132510	1.5	45	2.3	10	0.95	4
3132512	1.5	45	2.3	12	1.45	4
3132514	1.5	50	2.3	14	1.45	4
3132516	1.5	50	2.3	16	1.45	4
3132518	1.5	55	2.3	18	1.45	4
3132520	1.5	55	2.3	20	1.45	4
3133010	2.0	45	3.0	10	1.95	4
3133016	2.0	50	3.0	16	1.95	4
3133020	2.0	55	3.0	20	1.95	4

Packed: 1 pc. Available WXL® coating only.



Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Diameter	Shank Diameter
	D	L	Lc	L1	d1	d
W1604584	0.5	45	0.7	4	0.45	6
W1604585	1.0	45	1.5	5	0.95	6
48252112	1.5	50	2.3	12	1.45	6
W1601161	1.5	50	2.3	16	1.45	6

Packed: 1 pc. Available WXL® coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

good best



EXOCARB® WXL

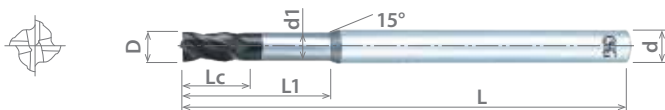
Premium Performance Carbide End Mills with OSG's Proprietary WXL® Coating

List 3794

WXL-LN-EMS-6, 4 Flute, Long Neck

SPEED FEED P51	CARBIDE	WXL	30°	SHANK h6
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Milling Diameter Tolerance +0 / -0.015mm



Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
48142010	1	60	1.5	5	0.95	6

Packed: 1 pc. Available in WXL coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

good best

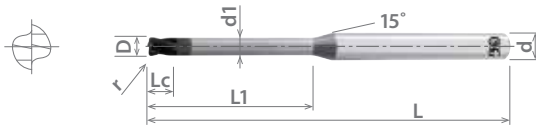


List 3792

WXL-CPR, 2 Flute, Corner Radius, Rib Processing

SPEED FEED P52	CARBIDE	WXL	30°	SHANK h6
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Radius Tolerance
±0.005mm



Shank diameter 6mm

EDP Number	Mill Diameter	Corner Radius	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	r	L	Lc	L1	d1	d
48250112	1.5	0.2	50	1.2	12	1.43	6
48250115	1.5	0.2	50	1.2	15	1.43	6

Packed: 1 pc. Available WXL® coating only.



						
Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

good best

EXOCARB® WXL

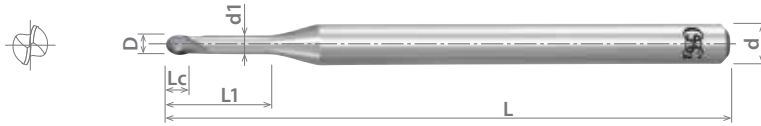
Premium Performance Carbide End Mills with OSG's Proprietary WXL® Coating

List 3790

WXL-LN-EBD, 2 Flute, Regular Length, Long Neck, Ball End, Rib Processing

SPEED FEED P53-54		CARBIDE	WXL		30°	SHANK h6
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Radius Tolerance ±0.005mm



Shank diameter 3mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
W1603333	1.0	50	0.8	16	0.95	3
W1603334	2.0	50	1.6	20	1.95	3
W1603335	0.6	45	0.5	6	0.55	3

Packed: 1 pc. Available WXL® coating only.



Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
3120625	0.6	50	0.5	2.5	0.55	6
48251008	0.6	50	0.5	8	0.55	6
3121080	1.0	50	0.8	8	0.95	6
3121100	1.0	50	0.8	10	0.95	6
3121112	1.0	60	0.8	12	0.95	6
3121116	1.0	60	0.8	16	0.95	6
48251116	1.0	50	0.8	16	0.95	6
3121580	1.5	50	1.2	8	1.45	6
3121600	1.5	50	1.2	10	1.45	6
3121612	1.5	50	1.2	12	1.45	6
3122100	2.0	50	1.6	10	1.95	6
3122112	2.0	50	1.6	12	1.95	6
3122116	2.0	60	1.6	16	1.95	6
48251221	2.0	50	1.6	20	1.95	6
W1703576	3.0	50	2.4	12	2.85	6
3123112	3.0	55	2.4	12	2.85	6
3123116	3.0	55	2.4	16	2.85	6

Packed: 1 pc. Available WXL® coating only.



Shank diameter 4mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	L1	d1	d
3110320	0.3	45	0.24	2	0.28	4
3110525	0.5	45	0.4	2.5	0.45	4
3110540	0.5	45	0.4	4	0.45	4
3110560	0.5	45	0.4	6	0.45	4
3110580	0.5	45	0.4	8	0.45	4
3110640	0.6	45	0.5	4	0.55	4
3110660	0.6	45	0.5	6	0.55	4
3110680	0.6	50	0.5	8	0.55	4
3110700	0.6	45	0.5	10	0.55	4
3111080	1.0	45	0.8	8	0.95	4
3111100	1.0	45	0.8	10	0.95	4
3111112	1.0	45	0.8	12	0.95	4
3111114	1.0	50	0.8	14	0.95	4
3111116	1.0	50	0.8	16	0.95	4
3111118	1.0	55	0.8	18	0.95	4
3111120	1.0	55	0.8	20	0.95	4
3111600	1.5	45	1.2	10	1.45	4
3111612	1.5	45	1.2	12	1.45	4
3111614	1.5	50	1.2	14	1.45	4
3111616	1.5	55	1.2	16	1.45	4
3111620	1.5	55	1.2	20	1.45	4
3112112	2.0	45	1.6	12	1.95	4
3112114	2.0	50	1.6	14	1.95	4
3112116	2.0	50	1.6	16	1.95	4
3112120	2.0	55	1.6	20	1.95	4
48251220	2.0	50	1.6	20	1.95	4
3112615	2.5	55	2.0	15	2.35	4
3112620	2.5	60	2.0	20	2.35	4

Packed: 1 pc. Available WXL® coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

good best

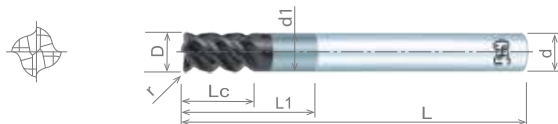


List 9143

FXS-PKE, 4 Flute, Corner Radius

SPEED FEED P55	CARBIDE	EXO	45°	SHANK h6
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Milling Diameter Tolerance +0 / -0.02mm



Shank diameter 6mm

EDP Number	Mill Diameter	Overall Length	Length of Cut	Corner Radius	Neck Length	Neck Dia.	Shank Diameter
	D	L	Lc	r	L1	d1	d
8548003	3	60	5	0.5	9	2.85	6
8548053	3	70	5	0.5	15	2.85	6

Packed: 1 pc. Available in EXO coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

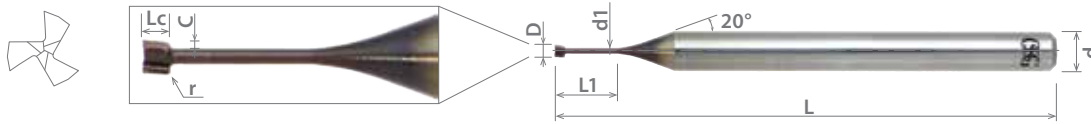
good best



List 9152



EXO-MG-TSC, 3 Flute, T-Slot for Undercut



Shank diameter 4mm

EDP Number	Mill Diameter	Radius	Overall Length	Length of Cut	Neck Length	Neck Dia.	Width of Cut	Shank Diameter
	D	r	L	Lc	L1	d1	C	d
W1700835	1.4	0.1	50	1	6	0.6	0.30	4
W1701727	1.6	0.1	50	1.5	6	0.9	0.25	4

Packed: 1 pc. Available in EXO coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

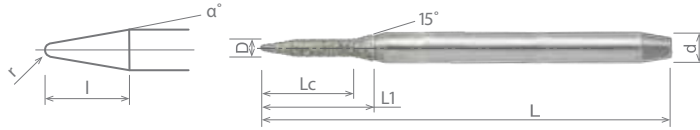
good best



SPEED
FEED
P56

List 7780

ED-ES, Conical, Diamond Grinding Burs



Shank diameter 4mm

EDP Number	Mill Diameter	Radius	Overall Length	Length of Cut	Neck Length	Tip Length	Tip Angle	Shank Diameter
	D	r	L	Lc	L1	l	α	d
P1500979	1.7	0.25	40	8.8	13	3.6	20	4

Packed: 1 pc.



List 7730

ED-BS, Ball, Diamond Grinding Burs



Shank diameter 3mm

EDP Number	Mill Diameter	Radius	Overall Length	Length of Cut	Neck Length	Shank Diameter
	D	R	L	Lc	L1	d
P1701082	1	0.5	40	10	15	3

Packed: 1 pc.



Shank diameter 3mm

EDP Number	Mill Diameter	Radius	Overall Length	Length of Cut	Neck Length	Shank Diameter
	D	R	L	Lc	L1	d
P1500978	1	0.5	40	6	11	4
P1500977	2.5	1.25	40	14.75	17	4

Packed: 1 pc.



						
Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
					<input type="checkbox"/>	<input checked="" type="checkbox"/>

good best

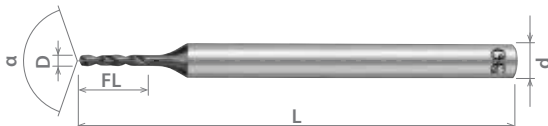
EXOCARB® MAX-MINI

High Performance Miniature Carbide Drills

List 5330

WX-MS-GDS, Stub Length, Precision Drill

SPEED FEED P57	CARBIDE	TiAlN	30°	SHANK h6
Cutting Diameter Tolerance				
0.5mm - 3mm		+0 / -0.010mm		



Shank diameter 3mm

EDP Number	Mill Diameter	Flute Length	OAL	Shank Diameter	Point Angle
	D	FL	L	d	α
3300050	0.50	3	38	3	140°
3300055	0.55	3.5	38	3	140°
3300060	0.60	3.5	38	3	140°
3300065	0.65	4	38	3	140°
3300070	0.70	4.5	38	3	140°
3300075	0.75	4.5	38	3	140°
3300076	0.76	5	38	3	140°
3300077	0.77	5	38	3	140°
3300078	0.78	5	38	3	140°
3300079	0.79	5	38	3	140°
3300080	0.80	5	38	3	140°
3300085	0.85	5	38	3	140°
3300090	0.90	5.5	38	3	140°
3300095	0.95	5.5	38	3	140°
3300096	0.96	6	38	3	140°
3300097	0.97	6	38	3	140°
3300098	0.98	6	38	3	140°
3300099	0.99	6	38	3	140°
3300100	1.00	6	38	3	140°
3300110	1.10	7	42	3	140°
3300111	1.11	7	42	3	140°
3300112	1.12	7	42	3	140°
3300113	1.13	7	42	3	140°
3300114	1.14	7	42	3	140°
3300115	1.15	7	42	3	140°
3300116	1.16	7	42	3	140°
3300120	1.20	8	42	3	140°
3300125	1.25	8	42	3	140°
3300126	1.26	8	42	3	140°
3300127	1.27	8	42	3	140°
3300128	1.28	8	42	3	140°
3300129	1.29	8	42	3	140°
3300130	1.30	8	42	3	140°
3300135	1.35	9	42	3	140°
3300136	1.36	9	42	3	140°
3300137	1.37	9	42	3	140°
3300138	1.38	9	42	3	140°
3300139	1.39	9	42	3	140°
3300140	1.40	9	42	3	140°
3300141	1.41	9	42	3	140°
3300142	1.42	9	42	3	140°
3300143	1.43	9	42	3	140°

EDP Number	Mill Diameter	Flute Length	OAL	Shank Diameter	Point Angle
	D	FL	L	d	α
3300144	1.44	9	42	3	140°
3300145	1.45	9	42	3	140°
3300146	1.46	9	42	3	140°
3300147	1.47	9	42	3	140°
3300148	1.48	9	42	3	140°
3300149	1.49	9	42	3	140°
3300150	1.50	9	42	3	140°
3300151	1.51	10	42	3	140°
3300152	1.52	10	42	3	140°
3300153	1.53	10	42	3	140°
3300154	1.54	10	42	3	140°
3300155	1.55	10	42	3	140°
3300156	1.56	10	42	3	140°
3300157	1.57	10	42	3	140°
3300158	1.58	10	42	3	140°
3300160	1.60	10	42	3	140°
3300163	1.63	10	42	3	140°
3300164	1.64	10	42	3	140°
3300165	1.65	10	42	3	140°
3300166	1.66	10	42	3	140°
3300167	1.67	10	42	3	140°
3300170	1.70	10	42	3	140°
3300175	1.75	11	42	3	140°
3300180	1.80	11	42	3	140°
3300181	1.81	11	42	3	140°
3300182	1.82	11	42	3	140°
3300183	1.83	11	42	3	140°
3300184	1.84	11	42	3	140°
3300185	1.85	11	42	3	140°
3300190	1.90	11	42	3	140°
3300195	1.95	12	50	3	140°
3300200	2.00	12	50	3	140°
3300210	2.10	12	50	3	140°
3300220	2.20	13	50	3	140°
3300230	2.30	13	50	3	140°
3300240	2.40	14	50	3	130°
3300250	2.50	14	50	3	130°
3300260	2.60	14	50	3	130°
3300270	2.70	16	50	3	130°
3300280	2.80	16	50	3	130°
3300290	2.90	16	50	3	130°
3300300	3.00	16	50	3	130°

Packed: 1 pc. Available TiAlN coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

good best

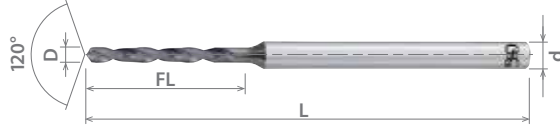
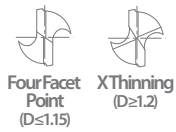


List 5340

MRS-GDL, Long Length, Precision Drill

SPEED FEED P58	CARBIDE	SS	30°	SHANK h6
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Cutting Diameter Tolerance	
0.5mm - 3mm	+0 / -0.008mm



Shank diameter 3mm

EDP Number	Mill Diameter	Flute Length	OAL	Shank Diameter
	D	FL	L	d
8577050	0.50	6.0	42	3
8577055	0.55	6.6	42	3
8577060	0.60	7.2	42	3
8577065	0.65	7.8	46	3
8577070	0.70	8.4	46	3
8577075	0.75	9.0	46	3
8577080	0.80	9.6	46	3
8577090	0.90	10.8	46	3
8577100	1.00	12.0	46	3
8577110	1.10	13.2	50	3
8577111	1.11	13.8	50	3
8577112	1.12	13.8	50	3
8577115	1.15	13.8	50	3
8577120	1.20	14.4	50	3
8577127	1.27	15.6	50	3
8577128	1.28	15.6	50	3
8577129	1.29	15.6	50	3
8577130	1.30	15.6	50	3
8577140	1.40	16.8	54	3
8577145	1.45	17.4	54	3
8577146	1.46	18.0	54	3
8577147	1.47	18.0	54	3
8577150	1.50	18.0	54	3
8577151	1.51	18.6	54	3
8577152	1.52	18.6	54	3
8577153	1.53	18.6	54	3
8577155	1.55	18.6	54	3
8577156	1.56	19.2	54	3
8577157	1.57	19.2	54	3
8577160	1.60	19.2	54	3
8577170	1.70	20.4	58	3
8577180	1.80	21.6	58	3

EDP Number	Mill Diameter	Flute Length	OAL	Shank Diameter
	D	FL	L	d
8577181	1.81	22.2	58	3
8577182	1.82	22.2	58	3
8577183	1.83	22.2	58	3
8577190	1.90	22.8	58	3
8577198	1.98	24.0	58	3
8577199	1.99	24.0	58	3
8577200	2.00	24.0	58	3
8577210	2.10	25.2	62	3
8577212	2.12	25.8	62	3
8577213	2.13	25.8	62	3
8577214	2.14	25.8	62	3
8577220	2.20	26.4	62	3
8577229	2.29	27.6	62	3
8577230	2.30	27.6	62	3
8577231	2.31	28.2	62	3
8577239	2.39	28.8	62	3
8577240	2.40	28.8	62	3
8577241	2.41	29.4	66	3
8577242	2.42	29.4	66	3
8577250	2.50	30.0	66	3
8577255	2.55	30.6	66	3
8577256	2.56	31.2	66	3
8577257	2.57	31.2	66	3
8577260	2.60	31.2	66	3
8577270	2.70	32.4	66	3
8577277	2.77	33.6	66	3
8577278	2.78	33.6	66	3
8577279	2.79	33.6	66	3
8577280	2.80	33.6	66	3
8577290	2.90	34.8	66	3
8577300	3.00	36.0	66	3

Packed: 1 pc. Available Super Smooth coating only.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

good best



List 5190

AD-LDS, 90° Spot Drill

SPEED FEED P59	CARBIDE	EgiAs	12°	SHANK h7
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Shank diameter 3mm

EDP Number	Mill Diameter	Flute Length	OAL	Shank Diameter
	D	FL	L	d
8688933	3	9	48	3

Packed: 1 pc. Available EgiAs coating only.



Shank diameter 4mm

EDP Number	Mill Diameter	Flute Length	OAL	Shank Diameter
	D	FL	L	d
8688934	4	12	54	4

Packed: 1 pc. Available EgiAs coating only.

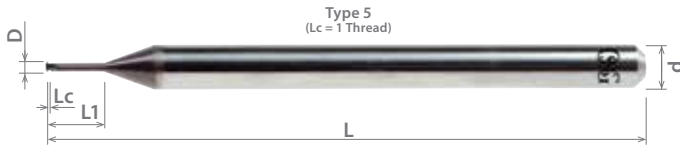


Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

good best

List 41300

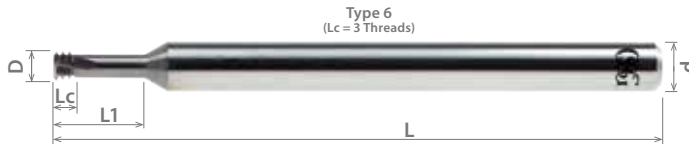
WH-VM-PNC, Miniature, Helical Flute



Shank diameter 3mm

Size	Pitch	Cutter Diameter	Overall Length	Length of Cut	Neck Length	Shank Diameter	No. of Flutes	EDP Number
		D	L	Lc	L1			d
M1	0.25	0.72	40	0.26	2.75	3	3	3900495
M1.2	0.25	0.91		0.26	3.25			3900496
M1.4	0.30	1.05		0.31	3.80			3900497
M1.6	0.35	1.20		0.36	4.35			3900498
M1.7, M1.8	0.35	1.30		0.36	4.85			3900499

Packed: 1 pc.
Available in Super Smooth coating only.
For internal threads only.



Shank diameter 6mm

Size	Pitch	Cutter Diameter	Overall Length	Length of Cut	Neck Length	Shank Diameter	No. of Flutes	EDP Number
		D	L	Lc	L1			d
M2	0.40	1.50	40	1.20	5.20	6	3	3900500

Packed: 1 pc.
Available in WXS® coating only.
For internal threads only.



For more information on thread mill applications, including ThreadPro software, visit: www.osgtool.com/ThreadPro.



Cobalt Chrome	Titanium	Zirconium	Wax/PMMA	PEEK	Hybrid Ceramic/Composite	Glass Ceramics
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

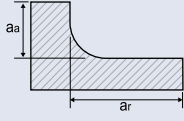
good best

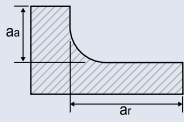


Cutting Conditions

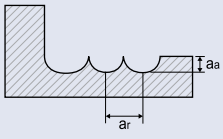
Speeds & Feeds

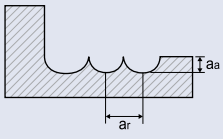
List 7563: DG-CPR

			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.5	4	4	22900	340	0.05	0.15	27500	410	0.05	0.15
0.5	4	6	22900	300	0.05	0.15	27500	360	0.05	0.15
1	4	10	14300	720	0.10	0.30	17100	860	0.10	0.30
2	4	10~20	7200	720	0.20	0.60	9300	930	0.20	0.60
4	6	25	3600	720	0.32	1.20	4600	920	0.32	1.20

			Hybrid Ceramic/Composite							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.5	4	4	14500	450	0.10	0.10	17400	540	0.10	0.10
0.5	4	6	14500	430	0.08	0.10	17400	520	0.08	0.10
1	4	10	12000	600	0.10	0.15	14400	720	0.10	0.15
2	4	10~20	7000	630	0.20	0.25	8400	760	0.20	0.25
4	6	25	4200	630	0.20	0.30	5000	760	0.20	0.30

List 7513: DG-LN-EBD

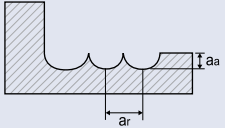
			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.6	4	6	29200	350	0.03	0.18	43800	470	0.03	0.18
0.6	4, 6	8~10	26800	320	0.03	0.18	40100	430	0.03	0.18
1	3, 4, 6	10	25600	510	0.05	0.30	38300	840	0.05	0.30
1	3, 4, 6	16	23000	460	0.05	0.30	34500	760	0.05	0.30
1	4	20	21000	420	0.05	0.30	31600	700	0.05	0.30
1.5	4	16	23600	700	0.08	0.45	35400	1170	0.08	0.45
2	3, 4, 6	12~20	18300	730	0.10	0.60	27300	1200	0.10	0.60

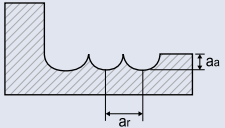
			Hybrid Ceramic/Composite							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.6	4	6	19000	1180	0.08	0.1	22800	1470	0.08	0.1
0.6	4, 6	8~10	18000	1100	0.08	0.1	21600	1370	0.08	0.1
1	3, 4, 6	10	18000	1400	0.30	0.5	21600	1750	0.30	0.5
1	3, 4, 6	16	18000	1400	0.30	0.5	21600	1750	0.30	0.5
1	4	20	17200	1300	0.25	0.5	20600	1620	0.25	0.5
1.5	4	16	15000	1300	0.40	0.6	18000	1620	0.40	0.6
2	3, 4, 6	12~20	14500	1300	0.50	0.7	17400	1620	0.50	0.7

Cutting Conditions

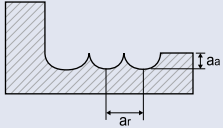
Speeds & Feeds

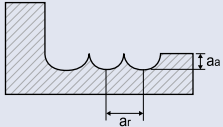
List 7533: DG-LN-EBT

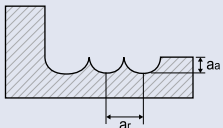
			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
2	3	20	18300	1090	0.1	0.6	27300	1800	0.1	0.6

			Hybrid Ceramic/Composite							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
2	3	20	14500	2250	0.5	0.7	17400	2800	0.5	0.7

List 2915: DLC-LN-EBD

			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.6	4	8	26800	320	0.03	0.18	40100	430	0.03	0.18
1	4	16	23400	470	0.05	0.30	35000	770	0.05	0.30
2	4	20	17500	700	0.10	0.60	21900	960	0.10	0.60

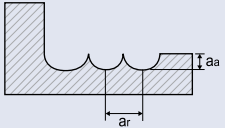
			PEEK							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.6	4	8	26800	420	0.03	0.18	34840	540	0.03	0.18
1	4	16	23400	700	0.05	0.30	35100	1050	0.05	0.30
2	4	20	17500	1050	0.10	0.60	26250	1580	0.10	0.60

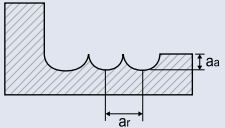
			WAX/PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.6	4	8	26800	420	0.03	0.18	34840	540	0.03	0.18
1	4	16	23400	700	0.05	0.30	35100	1050	0.05	0.30
2	4	20	17500	1050	0.10	0.60	26250	1580	0.10	0.60

Cutting Conditions

Speeds & Feeds

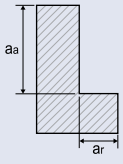
List 9590: PHX-LN-DBT

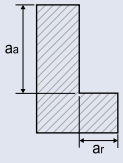
			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.6	4	1~3	19200	530	0.03	0.08	25000	700	0.03	0.08
0.6	4	4~6	19200	460	0.01	0.06	25000	600	0.01	0.06
0.8	4	1~3	19200	650	0.05	0.10	25000	850	0.05	0.10
0.8	4	4~6	19200	470	0.04	0.08	25000	620	0.04	0.08
1	4	4~6	17700	840	0.06	0.16	23000	1100	0.06	0.16
1	4	8	15300	610	0.04	0.16	20000	800	0.04	0.16
1	4	10~12	12300	340	0.03	0.15	16000	450	0.03	0.15
1	4	14~16	9600	270	0.01	0.10	12500	350	0.01	0.10
1.5	4	6~8	13800	950	0.08	0.23	18000	1300	0.08	0.23
1.5	4	10~12	11500	690	0.05	0.20	15000	900	0.05	0.20
1.5	4	16	7700	380	0.02	0.15	10000	500	0.02	0.15
2	4	6~8	11900	1000	0.15	0.30	15500	1400	0.15	0.30
2	4	10~12	9200	750	0.10	0.30	12000	1000	0.10	0.30
2	4	14~16	6500	520	0.07	0.25	8500	700	0.07	0.25
2	4	18~22	5400	420	0.05	0.20	7000	550	0.05	0.20
3	4	12~16	6900	920	0.20	0.50	9000	1200	0.20	0.50
3	4	20	6200	820	0.20	0.50	8000	1100	0.20	0.50
3	4	25	4200	530	0.18	0.50	5500	700	0.18	0.50
4	4	16~20	5400	880	0.25	0.80	7000	1150	0.25	0.80
4	4	25	5000	800	0.23	0.60	6500	1050	0.23	0.60
6	6	20~30	3800	830	0.30	1.00	5000	1100	0.30	1.00

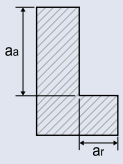
			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.6	4	1~3	19200	530	0.03	0.08	25000	700	0.03	0.08
0.6	4	4~6	19200	460	0.01	0.06	25000	600	0.01	0.06
0.8	4	1~3	19200	650	0.05	0.10	25000	850	0.05	0.10
0.8	4	4~6	19200	470	0.04	0.08	25000	620	0.04	0.08
1	4	4~6	17700	840	0.06	0.16	23000	1100	0.06	0.16
1	4	8	15300	610	0.04	0.16	20000	800	0.04	0.16
1	4	10~12	12300	340	0.03	0.15	16000	450	0.03	0.15
1	4	14~16	9600	270	0.01	0.10	12500	350	0.01	0.10
1.5	4	6~8	13800	950	0.08	0.23	18000	1300	0.08	0.23
1.5	4	10~12	11500	690	0.05	0.20	15000	900	0.05	0.20
1.5	4	16	7700	380	0.02	0.15	10000	500	0.02	0.15
2	4	6~8	11900	1000	0.15	0.30	15500	1400	0.15	0.30
2	4	10~12	9200	750	0.10	0.30	12000	1000	0.10	0.30
2	4	14~16	6500	520	0.07	0.25	8500	700	0.07	0.25
2	4	18~22	5400	420	0.05	0.20	7000	550	0.05	0.20
3	4	12~16	6900	920	0.20	0.50	9000	1200	0.20	0.50
3	4	20	6200	820	0.20	0.50	8000	1100	0.20	0.50
3	4	25	4200	530	0.18	0.50	5500	700	0.18	0.50
4	4	16~20	5400	880	0.25	0.80	7000	1150	0.25	0.80
4	4	25	5000	800	0.23	0.60	6500	1050	0.23	0.60
6	6	20~30	3800	830	0.30	1.00	5000	1100	0.30	1.00

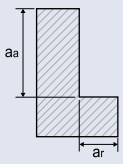


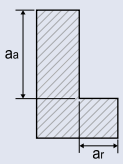
List 4540: WXS-EMS

			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	-	15900	470	1.5	0.05	20700	820	1.5	0.05
2	6	-	8000	240	3.0	0.10	10300	410	3.0	0.10

			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	-	15400	440	1.5	0.05	20100	800	1.5	0.05
2	6	-	7700	220	3.0	0.10	10000	400	3.0	0.10

			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	-	15900	520	1.5	0.05	20700	670	1.5	0.05
2	6	-	8000	260	3.0	0.10	10300	340	3.0	0.10

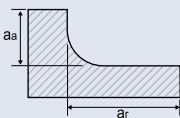
			WAX/PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	-	15900	670	1.5	0.05	20700	870	1.5	0.05
2	6	-	8000	340	3.0	0.10	10300	450	3.0	0.10

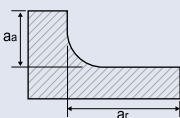
			PEEK							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	-	15900	670	1.5	0.05	20700	870	1.5	0.05
2	6	-	8000	340	3.0	0.10	10300	450	3.0	0.10

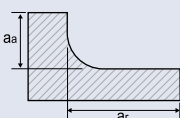
Cutting Conditions

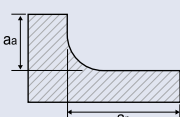
Speeds & Feeds

List 4592: WXS-CPR

			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.4	4	4	27000	750	0.01	0.12	35100	970	0.01	0.12
1	4, 6	8~12	14800	810	0.05	0.30	19200	1050	0.05	0.30
1.5	4	12~16	11400	890	0.05	0.45	14800	1160	0.05	0.45
2	4	16~20	9900	940	0.06	0.60	12800	1220	0.06	0.60
3	6	16~20	8500	1030	0.07	0.90	11000	1340	0.07	0.90

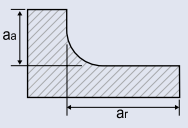
			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.4	4	4	28500	800	0.01	0.12	37000	1040	0.01	0.12
1	4, 6	8~12	15600	860	0.05	0.30	20000	1100	0.05	0.30
1.5	4	12~16	12000	950	0.05	0.45	15600	1230	0.05	0.45
2	4	16~20	10500	1000	0.06	0.60	13600	1300	0.06	0.60
3	6	16~20	9000	1100	0.07	0.90	11700	1430	0.07	0.90

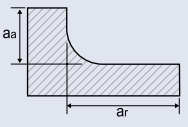
			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.4	4	4	28500	880	0.01	0.12	37000	1140	0.01	0.12
1	4, 6	8~12	15600	940	0.05	0.30	20000	1220	0.05	0.30
1.5	4	12~16	12000	1040	0.05	0.45	15600	1350	0.05	0.45
2	4	16~20	10500	1100	0.06	0.60	13600	1430	0.06	0.60
3	6	16~20	9000	1210	0.07	0.90	11700	1570	0.07	0.90

			WAX/PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.4	4	4	28500	1050	0.01	0.12	37000	1360	0.01	0.12
1	4, 6	8~12	15600	1130	0.05	0.30	20000	1470	0.05	0.30
1.5	4	12~16	12000	1250	0.05	0.45	15600	1620	0.05	0.45
2	4	16~20	10500	1320	0.06	0.60	13600	1710	0.06	0.60
3	6	16~20	9000	1450	0.07	0.90	11700	1880	0.07	0.90



List 4572: WXS-CRE

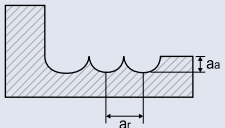
			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	ap (mm)	ae (mm)	Speed (RPM)	Feed (mm/min.)	ap (mm)	ae (mm)
2	6	8~12	7600	850	0.05	0.6	9700	1360	0.05	0.6
3	6	12~16	5035	1430	0.08	0.9	6500	2310	0.08	0.9
4	6	12	3800	1810	0.10	1.2	4800	2830	0.10	1.2

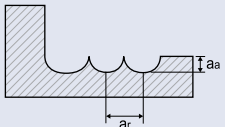
			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	ap (mm)	ae (mm)	Speed (RPM)	Feed (mm/min.)	ap (mm)	ae (mm)
2	6	8~12	8000	960	0.05	0.6	10300	1550	0.05	0.6
3	6	12~16	5300	1590	0.08	0.9	6900	2590	0.08	0.9
4	6	12	4000	2000	0.10	1.2	5100	3190	0.10	1.2

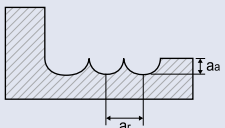
Cutting Conditions

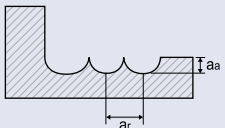
Speeds & Feeds

List 4590: WXS-LN-EBD

			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	4	8~16	28600	630	0.05	0.30	37100	1040	0.05	0.30
1.5	4	10~20	23100	790	0.08	0.45	29900	1260	0.08	0.45
2	4	12~20	17900	820	0.10	0.60	23200	1300	0.10	0.60

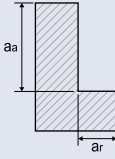
			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	4	8~16	29200	740	0.05	0.30	37900	1150	0.05	0.30
1.5	4	10~20	23600	890	0.08	0.45	30600	1390	0.08	0.45
2	4	12~20	18300	920	0.10	0.60	23700	1430	0.10	0.60

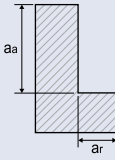
			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	4	8~16	29200	810	0.05	0.30	37900	1260	0.05	0.30
1.5	4	10~20	23600	980	0.08	0.45	30600	1530	0.08	0.45
2	4	12~20	18300	1010	0.10	0.60	23700	1570	0.10	0.60

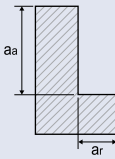
			WAX/PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	4	8~16	29200	1050	0.05	0.30	37900	1630	0.05	0.30
1.5	4	10~20	23600	1270	0.08	0.45	30600	1980	0.08	0.45
2	4	12~20	18300	1310	0.10	0.60	23700	2040	0.10	0.60



List 3791: WXL-LN-EDS

			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.3	4	4	20200	170	0.03	0.09	28400	330	0.03	0.09
0.4	4	4	21850	260	0.04	0.12	29700	470	0.04	0.12
0.5	4, 6	4~10	19400	300	0.05	0.15	26400	510	0.05	0.15
0.6	4	4~10	14500	270	0.06	0.18	19900	450	0.06	0.18
1	4	10~20	12000	390	0.10	0.30	16300	640	0.10	0.30
1	6	5	9700	310	0.10	0.30	13100	510	0.10	0.30
1.5	4, 6	10~12	10050	500	0.15	0.45	13700	840	0.15	0.45
1.5	4	18	9150	460	0.15	0.45	12400	760	0.15	0.45
1.5	6	16	8000	400	0.15	0.45	10900	660	0.15	0.45
2	4	16	7600	510	0.20	0.60	10400	840	0.20	0.60
2	4	20	6800	460	0.20	0.60	9300	750	0.20	0.60

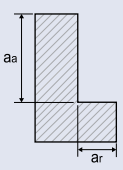
			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.3	4	4	20700	200	0.03	0.09	29000	400	0.03	0.09
0.4	4	4	22400	310	0.04	0.12	30400	540	0.04	0.12
0.5	4, 6	4~10	19900	350	0.05	0.15	27000	590	0.05	0.15
0.6	4	4~10	14900	320	0.06	0.18	20300	520	0.06	0.18
1	4	10~20	12300	460	0.10	0.30	16700	730	0.10	0.30
1	6	5	9900	370	0.10	0.30	13400	580	0.10	0.30
1.5	4, 6	10~12	10300	590	0.15	0.45	14000	950	0.15	0.45
1.5	4	18	9400	540	0.15	0.45	12700	860	0.15	0.45
1.5	6	16	8200	470	0.15	0.45	11100	750	0.15	0.45
2	4	16	7800	600	0.20	0.60	10600	950	0.20	0.60
2	4	20	7000	540	0.20	0.60	9500	850	0.20	0.60

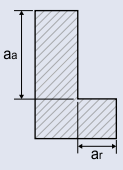
			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.3	4	4	20700	220	0.03	0.09	26900	280	0.03	0.09
0.4	4	4	22400	340	0.04	0.12	29100	440	0.04	0.12
0.5	4, 6	4~10	19900	380	0.05	0.15	25800	500	0.05	0.15
0.6	4	4~10	14900	350	0.06	0.18	19300	460	0.06	0.18
1	4	10~20	12300	500	0.10	0.30	16000	660	0.10	0.30
1	6	5	9900	400	0.10	0.30	12800	530	0.10	0.30
1.5	4, 6	10~12	10300	650	0.15	0.45	13400	840	0.15	0.45
1.5	4	18	9400	600	0.15	0.45	12200	770	0.15	0.45
1.5	6	16	8200	520	0.15	0.45	10600	670	0.15	0.45
2	4	16	7800	660	0.20	0.60	10100	850	0.20	0.60
2	4	20	7000	600	0.20	0.60	9100	770	0.20	0.60

Cutting Conditions

Speeds & Feeds

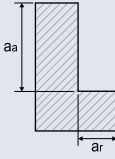
List 3791: WXL-LN-EDS (Continued)

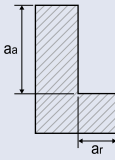
			WAX/PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.3	4	4	20700	280	0.03	0.09	26900	360	0.03	0.09
0.4	4	4	22400	440	0.04	0.12	29100	570	0.04	0.12
0.5	4, 6	4~10	19900	500	0.05	0.15	25800	650	0.05	0.15
0.6	4	4~10	14900	460	0.06	0.18	19300	600	0.06	0.18
1	4	10~20	12300	660	0.10	0.30	16000	860	0.10	0.30
1	6	5	9900	530	0.10	0.30	12800	690	0.10	0.30
1.5	4, 6	10~12	10300	840	0.15	0.45	13400	1090	0.15	0.45
1.5	4	18	9400	770	0.15	0.45	12200	1000	0.15	0.45
1.5	6	16	8200	670	0.15	0.45	10600	870	0.15	0.45
2	4	16	7800	850	0.20	0.60	10100	1100	0.20	0.60
2	4	20	7000	770	0.20	0.60	9100	1000	0.20	0.60

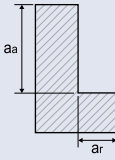
			PEEK							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.3	4	4	20700	280	0.03	0.09	26900	360	0.03	0.09
0.4	4	4	22400	440	0.04	0.12	29100	570	0.04	0.12
0.5	4, 6	4~10	19900	500	0.05	0.15	25800	650	0.05	0.15
0.6	4	4~10	14900	460	0.06	0.18	19300	600	0.06	0.18
1	4	10~20	12300	660	0.10	0.30	16000	860	0.10	0.30
1	6	5	9900	530	0.10	0.30	12800	690	0.10	0.30
1.5	4, 6	10~12	10300	840	0.15	0.45	13400	1090	0.15	0.45
1.5	4	18	9400	770	0.15	0.45	12200	1000	0.15	0.45
1.5	6	16	8200	670	0.15	0.45	10600	870	0.15	0.45
2	4	16	7800	850	0.20	0.60	10100	1100	0.20	0.60
2	4	20	7000	770	0.20	0.60	9100	1000	0.20	0.60

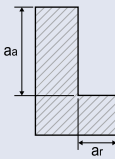


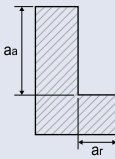
List 3794: WXL-LN-EMS-6

			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	5	9700	310	0.05	0.09	13100	510	0.05	0.09

			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	5	9900	370	0.05	0.09	13400	580	0.05	0.09

			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	5	9900	400	0.05	0.09	12800	530	0.05	0.09

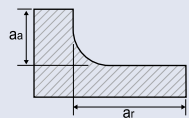
			WAX/PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	5	9900	530	0.05	0.09	12800	690	0.05	0.09

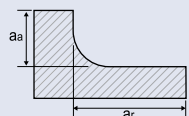
			PEEK							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	6	5	9900	530	0.05	0.09	12800	690	0.05	0.09

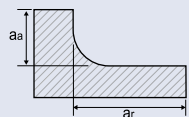
Cutting Conditions

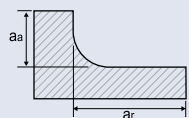
Speeds & Feeds

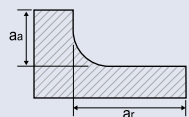
List 3792: WXL-CPR

			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1.5	6	12~15	10070	890	0.15	0.45	13000	1400	0.15	0.45

			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1.5	6	12~15	10600	950	0.15	0.45	13700	1480	0.15	0.45

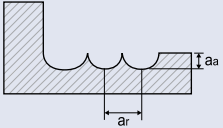
			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1.5	6	12~15	10600	950	0.15	0.45	13800	1230	0.15	0.45

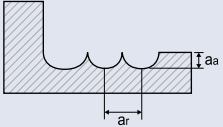
			WAX/PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1.5	6	12~15	10600	1050	0.15	0.45	13800	1360	0.15	0.45

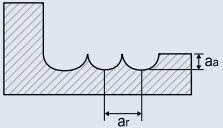
			PEEK							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1.5	6	12~15	10600	1420	0.15	0.45	13800	1360	0.15	0.45



List 3790: WXL-LN-EBD

			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.5	4	2.5	31500	250	0.03	0.15	40900	410	0.03	0.15
0.6	3	6	28600	230	0.03	0.18	37100	370	0.03	0.18
0.6	4,6	2.5~10	28600	290	0.03	0.18	37100	450	0.03	0.18
1	3	16	28600	460	0.05	0.30	37100	740	0.05	0.30
1	4,6	8~20	28600	630	0.05	0.30	37100	1040	0.05	0.30
1.5	4,6	8~20	23100	790	0.08	0.45	29900	1260	0.08	0.45
2	3	20	17900	610	0.10	0.60	23200	970	0.10	0.60
2	4,6	10~20	17900	820	0.10	0.60	23200	1300	0.10	0.60
2.5	4	15~20	14000	810	0.13	0.75	18100	1270	0.13	0.75
3	6	12~16	11900	830	0.15	0.90	15400	1320	0.15	0.90

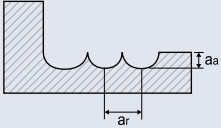
			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.5	4	2.5	32200	300	0.03	0.15	41800	470	0.03	0.15
0.6	3	6	29200	280	0.03	0.18	37900	430	0.03	0.18
0.6	4,6	2.5~10	29200	330	0.03	0.18	37900	520	0.03	0.18
1	3	16	29200	550	0.05	0.30	37900	860	0.05	0.30
1	4,6	8~20	29200	740	0.05	0.30	37900	1150	0.05	0.30
1.5	4,6	8~20	23600	890	0.08	0.45	30600	1390	0.08	0.45
2	3	20	18300	690	0.10	0.60	23700	1080	0.10	0.60
2	4,6	10~20	18300	920	0.10	0.60	23700	1430	0.10	0.60
2.5	4	15~20	14300	900	0.13	0.75	18500	1400	0.13	0.75
3	6	12~16	12200	920	0.15	0.90	15800	1430	0.15	0.90

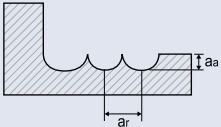
			Zirconium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.5	4	2.5	32200	330	0.03	0.15	41800	440	0.03	0.15
0.6	3	6	29200	310	0.03	0.18	38000	420	0.03	0.18
0.6	4,6	2.5~10	29200	360	0.03	0.18	38000	480	0.03	0.18
1	3	16	29200	600	0.05	0.30	38000	960	0.05	0.30
1	4,6	8~20	29200	810	0.05	0.30	38000	1300	0.05	0.30
1.5	4,6	8~20	23600	980	0.08	0.45	30700	1570	0.08	0.45
2	3	20	18300	760	0.10	0.60	23800	1220	0.10	0.60
2	4,6	10~20	18300	1010	0.10	0.60	23800	1620	0.10	0.60
2.5	4	15~20	14300	990	0.13	0.75	18600	1580	0.13	0.75
3	6	12~16	12200	1010	0.15	0.90	15800	1620	0.15	0.90

Cutting Conditions

Speeds & Feeds

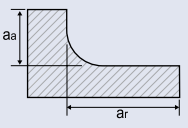
List 3790: WXL-LN-EBD (Continued)

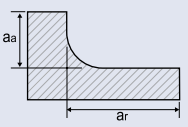
			WAX / PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.5	4	2.5	32200	460	0.03	0.15	41860	590	0.03	0.15
0.6	3	6	29200	410	0.03	0.18	37960	540	0.03	0.18
0.6	4,6	2.5~10	29200	500	0.03	0.18	37960	650	0.03	0.18
1	3	16	29200	830	0.05	0.30	37960	1080	0.05	0.30
1	4,6	8~20	29200	1100	0.05	0.30	37960	1430	0.05	0.30
1.5	4,6	8~20	23600	1340	0.08	0.45	30680	1740	0.08	0.45
2	3	20	18300	1040	0.10	0.60	23790	1350	0.10	0.60
2	4,6	10~20	18300	1380	0.10	0.60	23790	1800	0.10	0.60
2.5	4	15~20	14300	1350	0.13	0.75	18590	1760	0.13	0.75
3	6	12~16	12200	1380	0.15	0.90	15860	1800	0.15	0.90

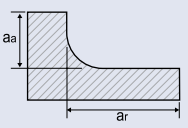
			PEEK							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
0.5	4	2.5	32200	460	0.03	0.15	41800	600	0.03	0.15
0.6	3	6	29200	410	0.03	0.18	38000	530	0.03	0.18
0.6	4,6	2.5~10	29200	500	0.03	0.18	38000	680	0.03	0.18
1	3	16	29200	830	0.05	0.30	38000	1250	0.05	0.30
1	4,6	8~20	29200	1100	0.05	0.30	38000	1650	0.05	0.30
1.5	4,6	8~20	23600	1340	0.08	0.45	30700	2010	0.08	0.45
2	3	20	18300	1040	0.10	0.60	23800	1560	0.10	0.60
2	4,6	10~20	18300	1380	0.10	0.60	23800	2070	0.10	0.60
2.5	4	15~20	14300	1350	0.13	0.75	18600	2030	0.13	0.75
3	6	12~16	12200	1380	0.15	0.90	15900	2070	0.15	0.90

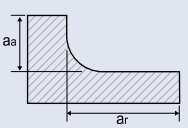


List 9143: FXS-PKE

			Cobalt Chrome							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
3	6	9~15	5035	1150	0.15	0.9	6500	1850	0.15	0.9

			Titanium							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
3	6	9~15	5300	1270	0.15	0.9	6900	2070	0.15	0.9


			WAX/PMMA							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
3	6	9~15	5300	1770	0.15	0.9	6900	2500	0.15	0.9

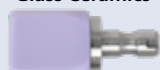
			PEEK							
			Small Desktop Machine				Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
3	6	9~15	5300	1770	0.15	0.9	6900	2500	0.15	0.9

Cutting Conditions


Speeds & Feeds

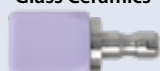
List 7780: ED-ES

Hybrid Ceramic/Composite										
										
Small Desktop Machine							Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1.7	4	0.25	60000	1750	0.07	0.07	60000	1750	0.07	0.07

Glass Ceramics										
										
Small Desktop Machine							Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1.7	4	0.25	60000	1600	0.07	0.07	60000	1600	0.07	0.07

List 7730: ED-BS

Hybrid Ceramic/Composite										
										
Small Desktop Machine							Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	3,4	0.25	60000	1300	0.05	0.05	60000	1300	0.05	0.05
2.5	4	1.25	60000	1300	0.05	0.05	60000	1300	0.05	0.05

Glass Ceramics										
										
Small Desktop Machine							Fast Milling Center			
D	d	l1	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)	Speed (RPM)	Feed (mm/min.)	aa (mm)	ar (mm)
1	3,4	0.25	60000	1200	0.05	0.05	60000	1200	0.05	0.05
2.5	4	1.25	60000	1200	0.05	0.05	60000	1200	0.05	0.05

List 5330: WX-MS-GDS

D	Cobalt Chrome		Titanium	
	Speed (RPM)	Feed (mm/rev.)	Speed (RPM)	Feed (mm/rev.)
0.5	9600	0.011	11500	0.012
0.6	8000	0.013	9600	0.014
0.7	6800	0.016	8200	0.017
0.8	6000	0.018	7200	0.019
0.9	5300	0.020	6400	0.022
1.0	4800	0.022	5700	0.024
1.1	4300	0.024	5200	0.026
1.2	4000	0.027	4800	0.029
1.3	3700	0.029	4400	0.031
1.4	3400	0.031	4100	0.033
1.5	3200	0.033	3800	0.036
1.6	3000	0.036	3600	0.038
1.7	2800	0.038	3400	0.040
1.8	2700	0.040	3200	0.043
1.9	2500	0.042	3000	0.045
2.0	2400	0.044	2900	0.048
2.1	2300	0.047	2700	0.050
2.2	2200	0.049	2600	0.052
2.3	2100	0.051	2500	0.055
2.4	2000	0.053	2400	0.057
2.5	1900	0.056	2300	0.060
2.6	1800	0.058	2200	0.062
2.7	1800	0.060	2100	0.064
2.8	1700	0.062	2000	0.067
2.9	1600	0.064	2000	0.069
3.0	1600	0.067	1900	0.071

Cutting Conditions

Speeds & Feeds

List 5340: MRS-GDL

D	Cobalt Chrome		Titanium	
	Speed (RPM)	Feed (mm/rev.)	Speed (RPM)	Feed (mm/rev.)
0.5	9600	0.012	11500	0.013
0.6	8000	0.015	9600	0.016
0.7	6800	0.017	8200	0.019
0.8	6000	0.020	7200	0.022
0.9	5300	0.022	6400	0.024
1.0	4800	0.025	5700	0.027
1.1	4300	0.028	5200	0.030
1.2	4000	0.030	4800	0.032
1.3	3700	0.033	4400	0.035
1.4	3400	0.035	4100	0.038
1.5	3200	0.038	3800	0.041
1.6	3000	0.040	3600	0.043
1.7	2800	0.043	3400	0.046
1.8	2700	0.045	3200	0.049
1.9	2500	0.048	3000	0.051
2.0	2400	0.050	2900	0.054
2.1	2300	0.053	2700	0.057
2.2	2200	0.055	2600	0.059
2.3	2100	0.058	2500	0.062
2.4	2000	0.060	2400	0.065
2.5	1900	0.063	2300	0.068
2.6	1800	0.065	2200	0.070
2.7	1800	0.068	2100	0.073
2.8	1700	0.070	2000	0.076
2.9	1600	0.073	2000	0.078
3.0	1600	0.075	1900	0.081



List 5190: AD-LDS

D	Cobalt Chrome		Titanium	
	Speed (RPM)	Feed (mm/rev.)	Speed (RPM)	Feed (mm/rev.)
3	1700	0.04~0.08	2000	0.04~0.08
4	1300	0.05~0.10	1500	0.05~0.10

List 41300: WH-VM-PNC

Size	D	Cobalt Chrome		Titanium	
		Speed (m/min.)	Feed (mm/tooth)	Speed (m/min.)	Feed (mm/tooth)
M1	0.72	20~40	0.01~0.03	20~60	0.01~0.03
M1.2	0.91				
M1.4	1.05				
M1.6	1.20				
M1.7, M1.8	1.30				
M2	1.50				



shaping your dreams

 **Safe use of cutting tools**

- Use safety cover, safety glasses and safety shoes during operation.
- Do not touch cutting edges with bare hands.
- Do not touch cutting chips with bare hands. Chips will be hot after cutting.
- Stop cutting when the tool becomes dull.
- Stop cutting operation immediately if you hear any abnormal cutting sounds.
- Do not modify tools.
- Please use appropriate tools for the operation. Check dimensions to ensure proper selection.

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