New products for machining technicians

NEW Indexable insert countersink for counterbores

- Universal application and maximum service life thanks to use of tried-and-tested WOEX indexable inserts (grade: BK8425 / K10; chip breaker -01)
- For creating countersinks according to DIN 974
- With through coolant supply

→ Page 58+59

Table of contents

KOMET \ Performance

Premium quality tools for high performance.

The premium quality tools from the **KOMET Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Symbol explanation

Coolant supply version


central internal coolant


lateral internal coolant

Shank


Plain cylindrical shank


Cylindrical shank with lateral driving face „Weldon“

Applications


Through hole


Blind hole

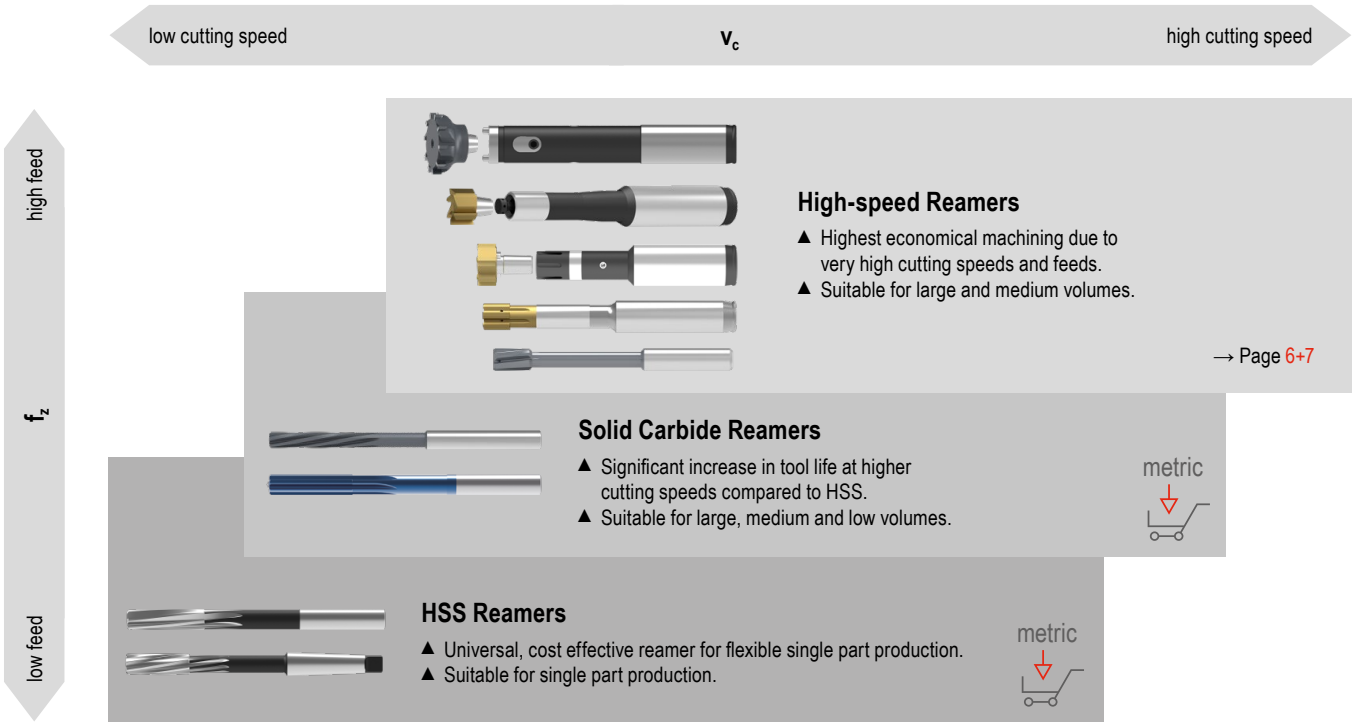

Through hole with transverse hole/ interrupted cut


Blind hole with transverse hole/ interrupted cut

ZEFP = Number of flutes
● = Main Application
○ = Extended application

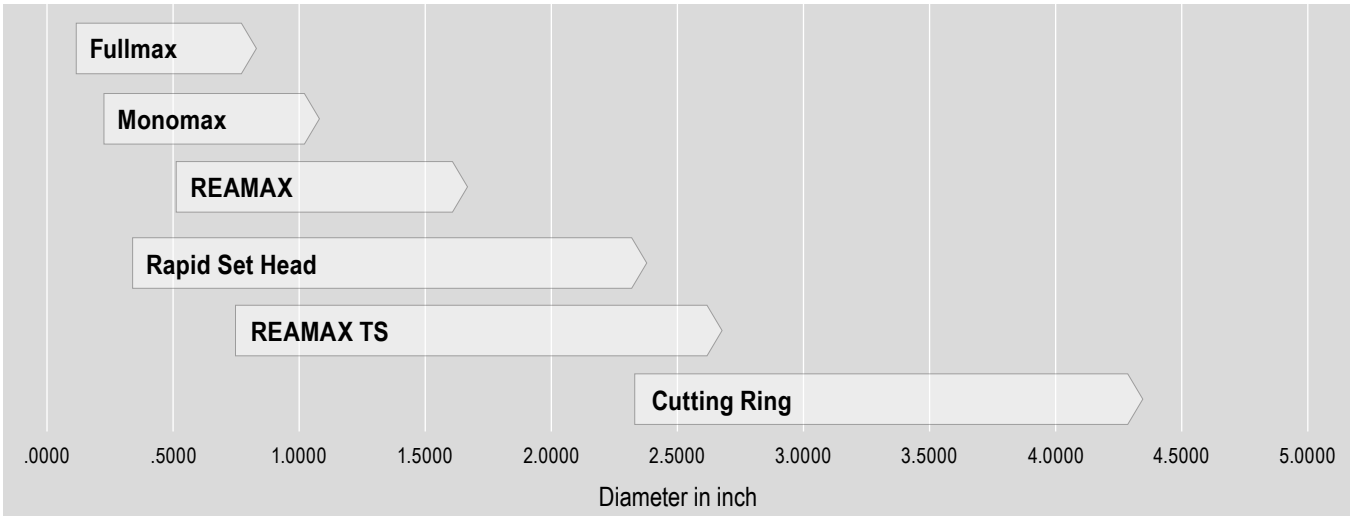
metric
Additional metric items are available in our Online-Shop at cuttingtools.ceratizit.com and in the metric main catalog.

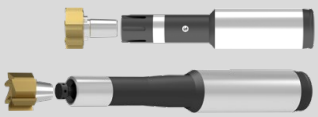
Toolfinder – Reamers



4

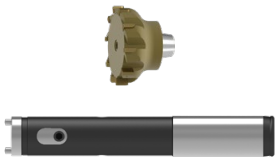
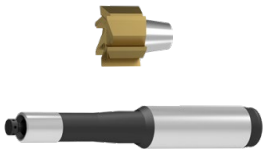
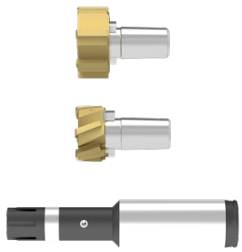
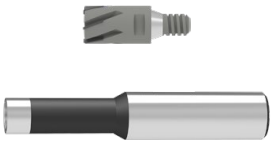
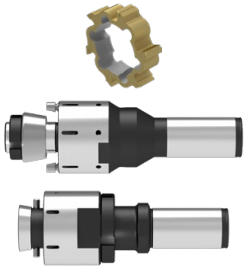
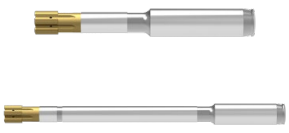
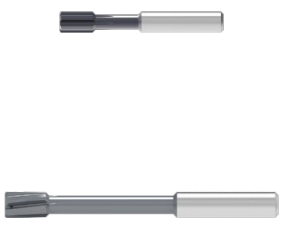
Overview of high-speed reamers



	mono	modular
fixed	Fullmax 	 Rapid Set Head REAMAX
expandable	Monomax 	 REAMAX TS Cutting Ring

Toolfinder – Reamers

Solid carbide – high speed reamers

REAMAX TS		▲ Highly flexible and economical replaceable head system ▲ All common materials ▲ Can be adjusted in µm range
		▲ Holder available in 3xD and 5xD ▲ DAH zero holder available in 3xD and 5xD
REAMAX		▲ Exchangeable head system, optimized for use with air mist coolant (MMS) ▲ Face and taper contact giving run out accuracy ≤ 2 µm
		▲ Holder available in 3xD and 5xD
Rapid Set Head		▲ Exchangeable head system ▲ Left hand spiral fluted cutting blades, available for highest productivity ▲ Re-tipping and regrinding available
MultiChange		▲ Flexible quick change system for reaming, countersinking and chamfering ▲ Face and taper contact giving run out accuracy ≤ 5 µm
		▲ Stable holder in solid carbide and steel, from short to long
Cutting Ring		▲ For large diameter holes ▲ Compensation for wear through simple readjustment ▲ Re-tipping and regrinding available
Monomax		▲ Expandable monoblock reamer in 3xD and 5xD ▲ Re-tipping and regrinding available ▲ All common materials
Fullmax		▲ High-speed reamer in shorter and longer version ▲ Reamers for machining steel, stainless and acid-resistant steels, cast materials, aluminium and hardened materials up to 63 HRC ▲ Extremely irregular pitch ▲ Standard shank ~ DIN 6535 HA

Solid Carbide Reamers and HSS Reamers can be found in the metric catalog.

	Hole diameter in inch Ø DC	Through hole	Blind hole	Internal coolant supply	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Tempered steel H	Non-metal materials O	KOMET \ Performance
	.7087 – 2.5590 (18.00 – 65.00 mm)			✓	●	●	●	●	●		○	9–14
				✓								15+16
	.4921 – 1.5748 (12.50 – 40.00 mm)			✓	●	●	●	●		●	○	17+18
				✓								19
	.3780 – 2.3622 (9.60 – 60.00 mm)			✓	●	●	●	●	●			20–22
	.3780 – 2.3622 (9.60 – 60.00 mm)				●							23
				✓								24+25
	.3150 – 1.2677 (8.00 – 30.20 mm)			✓	●	●	●	●				metric
				✓								
	2.3858 – 4.3539 (60.60 – 110.60 mm)				●	●	●	●	●			26–29
				✓								30
				✓								31
short	.2205 – 1.0197 (5.60 – 25.90 mm)			✓	●	●	●	●	●		○	32–37
long	.2205 – 1.0197 (5.60 – 25.90 mm)			✓	●	●	●	●	●		○	38–41
short	.1575 – .6300 (4.00 – 16.00 mm) .1165 – .7894 (2.96 – 20.05 mm)			✓	●	●	●	○	○	○		42–47
long	.1575 – .6300 (4.00 – 16.00 mm) .1165 – .7894 (2.96 – 20.05 mm)			✓	●	●	●	●	○	●	○	48–57

Countersinks Overview

	Tool type	Coating	Hole diameter in mm Ø DC	Countersinking angle SIG	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Tempered steel H	Non-metal materials O	KOMET \ Performance
Indexable Insert Counterbore Tool												
	WPS		10–48	180°	●	●	●	●	●	○	●	58+59
Insert countersink 60°/90°												
	WPS		16.5–25.5 19.0–37.0	60° 90°	●	●	●	●	●	○	●	60–62
HSS – Counterbores												
			6.0–20.0	180°	●	●	●	●	○		●	metric
Solid Carbide Countersinks												
	N	HPC-TiN	6.3–31.0	90°	●	○	●	●	○	○	○	
	N		12.5–25.0	60°	●	○	●	●	○	○		metric
	N		10.4–31.0	90°	●	○	●	●	○	○		
HSS Countersinks												
	N	TiN	4.3–31.0	90°	●	○	●	●	○	○	○	
	N		4.3–31.0	90°	●	○	●	●	○		●	
	N	TiN	5.0–31.0	90°	●	○	●	●	○	○	●	
	N	TiAlN	5.0–31.0	90°	●	○	●	●	○	○	●	
	VA	TiAlN	6.3–31.0	90°	○	●	○	○	○	○	●	metric
	AL		6.3–31.0	90°	○	○	○	●	○		●	
			6.3–25.0	60°	●	○	●	●	○		●	
	N		30.0–80.0	90°	●	○	●	●	○		●	
			6.3–25.0	120°	●	○	●	●	○		●	
Deburring Countersink												
			6.3–28.0	90°	●	○	●	●	○		●	metric
		TiN	6.3–28.0	90°	●	○	●	●	○	○	●	

REAMAX TS – Selection guide – Through hole

Ø .7087 – 2.5590 inch										
Article no.			49 597 …	49 544 …	49 531 …	49 586 …	49 521 …	49 526 …	49 534 …	49 596 …	49 520 …
KOMET no.			75J.93	75J.93	75J.21	75J.65	75J.65	75J.17	75J.71	75J.71	75J.71
Grind geometry			ASG4000	ASG3000	ASG03	ASG3000	ASG0106	ASG0706	ASG3000	ASG4000	ASG0106
Lead angle			25°	45°	30°/2°	45°	45°	45°/8°	45°	25°	45°
Grade / coating			DST	DST	K10	DBG-P	DBG-P	DBC	TiN	TiN	TiN
Application			Through hole								
Material sub-group		Index									
P	Non alloyed steel	P.1.1	●	●		●			○	●	
		P.1.2	●	●		●			○	●	
		P.1.3	●	●		●			○	●	
		P.1.4	●	●		●			○	●	
		P.1.5	●	●		●			○	●	
	Low alloyed steel	P.2.1	●	●		●			○		
		P.2.2	●	●		●			○		
		P.2.3	●	●		●			○		
		P.2.4	●	●		●			○		
	High-alloy steel and high-alloy tool steel	P.3.1					●				○
		P.3.2					●				○
		P.3.3					●				○
	Stainless steel	P.4.1					●				○
		P.4.2					●				○
M	Stainless steel	M.1.1					●				○
		M.2.1					●				○
		M.3.1					●				○
K	Grey cast iron	K.1.1				●			○		
		K.1.2				●			○		
	Spherulitic graphite cast iron	K.2.1	●	●		●					
		K.2.2	●	●		●					
	Malleable iron	K.3.1		●		●					
		K.3.2	●	●		●					
N	Aluminum alloys	N.1.1						●			
		N.1.2						●			
	Cast Aluminium Alloys	N.2.1						●			
		N.2.2						●			
		N.2.3						●			
	Copper and copper alloys (Bronze, Brass)	N.3.1		○					●		
		N.3.2		○					●		
		N.3.3							●		
	Magnesium alloys	N.4.1						●			
S	Heat resistant alloys	S.1.1									
		S.1.2									
		S.2.1									
		S.2.2									
		S.2.3									
	Titanium alloys	S.3.1			●						
		S.3.2			●						
		S.3.3			●						
O	Non-metal materials	O.1.1									
		O.1.2									
		O.2.1									
		O.2.2									
		O.3.1						○			

● = Main application
○ = Additional range of application

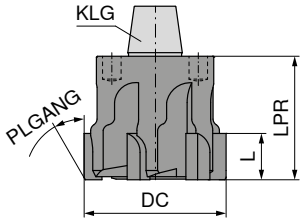
REAMAX TS – Selection guide – Blind hole

Ø .7087 – 2.5590 inch									
Article no.			49 539 …	49 530 …	49 585 …	49 571 …	49 527 …	49 535 …	49 580 …
KOMET no.			75H.93	75H.21	75H.65	75H.65	75H.71	75H.71	75H.17
Grind geometry			ASG3000	ASG03	ASG3000	ASG0106	ASG0106	ASG3000	ASG0706
Lead angle			45°	30°/2°	45°	45°	45°	45°	45°/8°
Grade / coating			DST	K10	DBG-P	DBG-P	TiN	TiN	DBC
Application			Blind hole						
Material sub-group		Index							
P	Non alloyed steel	P.1.1	●		●			○	
		P.1.2	●		●			○	
		P.1.3	●		●			○	
		P.1.4	●		●			○	
		P.1.5	●		●			○	
	Low alloyed steel	P.2.1	●		●			○	
		P.2.2	●		●			○	
		P.2.3	●		●			○	
		P.2.4	●		●			○	
	High-alloy steel and high-alloy tool steel	P.3.1				●	○		
		P.3.2				●	○		
		P.3.3				●	○		
	Stainless steel	P.4.1				●	○		
		P.4.2				●	○		
M	Stainless steel	M.1.1				●	○		
		M.2.1				●	○		
		M.3.1				●	○		
K	Grey cast iron	K.1.1			●			●	
		K.1.2			●			●	
	Spherulitic graphite cast iron	K.2.1	●		●				
		K.2.2	●		●				
	Malleable iron	K.3.1	●		●				
		K.3.2	●		●				
N	Aluminum alloys	N.1.1							●
		N.1.2							●
	Cast Aluminium Alloys	N.2.1							●
		N.2.2							●
		N.2.3							●
	Copper and copper alloys (Bronze, Brass)	N.3.1	○					●	
		N.3.2	○					●	
		N.3.3						●	
	Magnesium alloys	N.4.1							●
S	Heat resistant alloys	S.1.1							
		S.1.2							
		S.2.1							
		S.2.2							
		S.2.3							
	Titanium alloys	S.3.1		●					
		S.3.2		●					
		S.3.3		●					
O	Non-metal materials	O.1.1							
		O.1.2							
		O.2.1							
		O.2.2							
		O.3.1							○

● = Main application
○ = Additional range of application

REAMAX TS – Replaceable reaming heads

- ▲ up to tolerance class IT 6
- ▲ maximum changeover precision guaranteed
- ▲ high precision grind for maximum quality
- ▲ expandable to hold tight tolerances and extend tool life
- ▲ interface enables head change in the machine
- ▲ retraction from the hole at 3–4 times the cutting feed rate
- ▲ KLG = coupling size
- ▲ ZEFP = number of cutting edges



	DST	DBG-P	DBC	DST
				
	75J.93 PLGANG 25° ASG4000 CERMET Through hole	75J.65 PLGANG 45° ASG0106 HM Through hole	75J.17 PLGANG 45/8° ASG0706 HM Through hole	75J.93 PLGANG 45° ASG3000 CERMET Through hole
	49 597 ...	**49 521 ...**	**49 526 ...**	**49 544 ...**

DC inch	L inch	LPR inch	ZEFP	KLG							
0.7087 - 0.7874	0.236	0.787	6	1	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.7874 - 0.8661	0.236	0.787	6	2	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.8661 - 1.0630	0.236	0.787	6	3	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.0630 - 1.2519	0.236	0.984	6	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.2520 - 1.3779	0.236	0.984	8	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.3780 - 1.6535	0.236	0.984	8	5	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.6535 - 2.0472	0.236	1.181	8	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
2.0472 - 2.5590	0.315	1.378	10	7	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
P					●		●				●
M							●				
K					●						●
N									●		○
S											
H											
O									○		

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 64–68

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

→ **Page 92+93**
Here you will find a detailed operating instruction.

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

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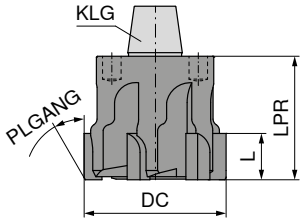

					TiN	DBG-P	K10	TiN	TiN
									
					75J.71 PLGANG 25° ASG4000 HM Through hole	75J.65 PLGANG 45° ASG3000 HM Through hole	75J.21 PLGANG 30/2° ASG03 HM Through hole	75J.71 PLGANG 45° ASG0106 HM Through hole	75J.71 PLGANG 45° ASG3000 HM Through hole
					49 596 ...	**49 586 ...**	**49 531 ...**	**49 520 ...**	**49 534 ...**
DC inch	L inch	LPR inch	ZEFP	KLG					
0.7087 - 0.7874	0.236	0.787	6	1	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7874 - 0.8661	0.236	0.787	6	2	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.8661 - 1.0630	0.236	0.787	6	3	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.0630 - 1.2519	0.236	0.984	6	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.2520 - 1.3779	0.236	0.984	8	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.3780 - 1.6535	0.236	0.984	8	5	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.6535 - 2.0472	0.236	1.181	8	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
2.0472 - 2.5590	0.315	1.378	10	7	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
P					●	●		○	○
M								○	
K						●			○
N									●
S							●		
H									
O									

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

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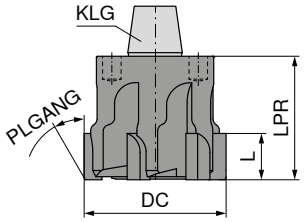


	DST	DBG-P	DBC	DBG-P	TiN
					
	75H.93 PLGANG 45° ASG3000 CERMET Blind hole	75H.65 PLGANG 45° ASG0106 HM Blind hole	75H.17 PLGANG 45/8° ASG0706 HM Blind hole	75H.65 PLGANG 45° ASG3000 HM Blind hole	75H.71 PLGANG 45° ASG3000 HM Blind hole
	49 539 ...	**49 571 ...**	**49 580 ...**	**49 585 ...**	**49 535 ...**

DC inch	L inch	LPR inch	ZEFP	KLG									
0.7087 - 0.7874	0.236	0.787	6	1	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.7874 - 0.8661	0.236	0.787	6	2	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.8661 - 1.0630	0.236	0.787	6	3	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.0630 - 1.2519	0.236	0.984	6	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.2520 - 1.3779	0.236	0.984	8	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.3780 - 1.6535	0.236	0.984	8	5	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.6535 - 2.0472	0.236	1.181	8	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
2.0472 - 2.5590	0.315	1.378	10	7	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
P					●		●				●		○
M							●						
K					●						●		●
N					○				●				●
S													
H													
O									○				

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 64–68

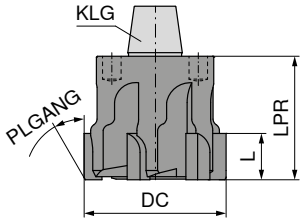
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

→ **Page 92+93**
Here you will find a detailed operating instruction.

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

REAMAX TS – Replaceable reaming heads

- ▲ up to tolerance class IT 6
- ▲ maximum changeover precision guaranteed
- ▲ high precision grind for maximum quality
- ▲ expandable to hold tight tolerances and extend tool life
- ▲ interface enables head change in the machine
- ▲ retraction from the hole at 3–4 times the cutting feed rate
- ▲ KLG = coupling size
- ▲ ZEFP = number of cutting edges



	K10	TiN
		
	75H.21 PLGANG 30/2° ASG03 HM Blind hole	75H.71 PLGANG 45° ASG0106 HM Blind hole
	49 530 ...	**49 527 ...**

DC inch	L inch	LPR inch	ZEFP	KLG		
0.7087 - 0.7874	0.236	0.787	6	1	**xxxx** [1]	**xxxx** [1]
0.7874 - 0.8661	0.236	0.787	6	2	**xxxx** [1]	**xxxx** [1]
0.8661 - 1.0630	0.236	0.787	6	3	**xxxx** [1]	**xxxx** [1]
1.0630 - 1.2519	0.236	0.984	6	4	**xxxx** [1]	**xxxx** [1]
1.2520 - 1.3779	0.236	0.984	8	4	**xxxx** [1]	**xxxx** [1]
1.3780 - 1.6535	0.236	0.984	8	5	**xxxx** [1]	**xxxx** [1]
1.6535 - 2.0472	0.236	1.181	8	6	**xxxx** [1]	**xxxx** [1]
2.0472 - 2.5590	0.315	1.378	10	7	**xxxx** [1]	**xxxx** [1]
P						○
M						○
K						
N						
S					●	
H						
O						

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 64–68

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

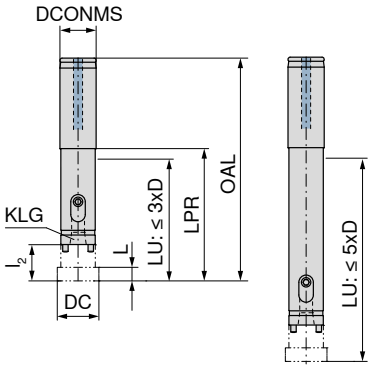
→ **Page 92+93**
Here you will find a detailed operating instruction.

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

REAMAX TS – Holder

▲ KLG = Coupling Size

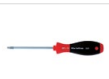
Scope of supply:
Complete holder with pull stud. Reamer head not included



DC inch	KOMET no.	OAL inch	l_2 inch	LPR inch	L inch	DCONMS inch	DCONMS mm	torque moment Nm	KLG	40 501 ...	40 503 ...
0.7087 - 0.7870	75A.40.13010	5.118	0.787	3.150	0.236	0.787	20	1.5	1	**02099**	
0.7087 - 0.7870	75A.40.15010	7.480	0.787	5.512	0.236	0.787	20	1.5	1		**02099**
0.7874 - 0.8657	75A.40.13020	5.118	0.787	3.150	0.236	0.787	20	2.5	2	**02299**	
0.7874 - 0.8657	75A.40.15020	7.480	0.787	5.512	0.236	0.787	20	2.5	2		**02299**
0.8661 - 1.0626	75A.40.13030	5.118	0.787	3.150	0.236	0.787	20	4	3	**02799**	
0.8661 - 1.0626	75A.40.15030	8.268	0.787	6.299	0.236	0.787	20	4	3		**02799**
1.0630 - 1.3776	75A.40.13040	6.929	0.984	4.724	0.236	0.984	25	5	4	**03599**	
1.0630 - 1.3776	75A.40.15040	9.291	0.984	7.087	0.236	0.984	25	5	4		**03599**
1.3780 - 1.6535	75A.40.13050	6.929	0.984	4.724	0.236	0.984	25	6	5	**04299**	
1.3780 - 1.6535	75A.40.15050	10.079	0.984	7.874	0.236	0.984	25	6	5		**04299**
1.6535 - 2.0472	75A.40.13060	7.087	1.181	4.724	0.236	1.260	32	10	6	**05299**	
1.6535 - 2.0472	75A.40.15060	11.024	1.181	8.661	0.236	1.260	32	10	6		**05299**
2.0472 - 2.5590	75A.40.13070	7.087	1.181	4.724	0.315	1.260	32	13	7	**06599**	
2.0472 - 2.5590	75A.40.15070	11.024	1.181	8.661	0.315	1.260	32	13	7		**06599**

Do not heat shrink tools !


Clamping key – T


Screwdriver


Reamax TS pull stud

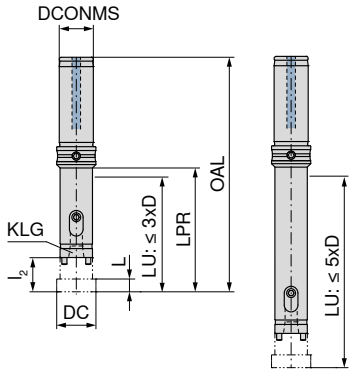
Spare parts DC		80 397 ...		80 950 ...		40 900 ...
0.7087 - 0.7870			T08 - IP	**039**		**00100**
0.7874 - 0.8657	SW2.5	**025**				**00200**
0.8661 - 1.0626	SW3	**030**				**00300**
1.0630 - 1.3776	SW3	**030**				**00400**
1.3780 - 1.6535	SW3	**030**				**00500**
1.6535 - 2.0472	SW4	**040**				**00500**
2.0472 - 2.5590	SW5	**050**				**00700**

→ **Page 92+93**
Here you will find a detailed operating instruction.

REAMAX TS – Holder

▲ KLG = Coupling size
▲ Adjustment inside the machine
▲ Alignable DAH Zero holder for correction of concentricity error
▲ DAH Zero holder is pre-loaded and set to a runout of < 0.0002"

Scope of supply:
Complete holder with pull stud. Reamer head not included



DC inch	KOMET no.	OAL inch	l_2 inch	LPR inch	L inch	DCONMS inch	DCONMS mm	torque moment Nm	KLG	40 504 ...	40 506 ...
0.7087 - 0.7870	75A.41.13010	5.709	0.787	3.150	0.236	0.787	20	1.5	1	**02099**	
0.7087 - 0.7870	75A.41.15010	8.071	0.787	5.512	0.236	0.787	20	1.5	1		**02099**
0.7874 - 0.8657	75A.41.13020	5.709	0.787	3.150	0.236	0.787	20	2.5	2	**02299**	
0.7874 - 0.8657	75A.41.15020	8.071	0.787	5.512	0.236	0.787	20	2.5	2		**02299**
0.8661 - 1.0626	75A.41.13030	5.709	0.787	3.150	0.236	0.787	20	4	3	**02799**	
0.8661 - 1.0626	75A.41.15030	8.858	0.787	6.299	0.236	0.787	20	4	3		**02799**
1.0630 - 1.3776	75A.41.13040	6.929	0.984	4.724	0.236	0.984	25	5	4	**03599**	
1.0630 - 1.3776	75A.41.15040	9.291	0.984	7.087	0.236	0.984	25	5	4		**03599**
1.3780 - 1.6535	75A.41.13050	6.929	0.984	4.724	0.236	0.984	25	6	5	**04299**	
1.3780 - 1.6535	75A.41.15050	10.079	0.984	7.874	0.236	0.984	25	6	5		**04299**

Do not heat shrink tools !


Clamping key – T

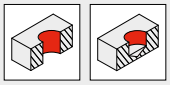
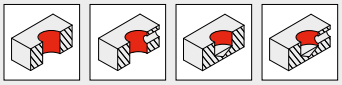

Screwdriver


Reamax TS pull stud

Spare parts DC		80 397 ...		80 950 ...	40 900 ...
0.7087 - 0.7870			T08 - IP	**039**	**00100**
0.7874 - 0.8657	SW2.5	**025**			**00200**
0.8661 - 1.0626	SW3	**030**			**00300**
1.0630 - 1.3776	SW3	**030**			**00400**
1.3780 - 1.6535	SW3	**030**			**00500**

→ **Page 92+93**
Here you will find a detailed operating instruction.

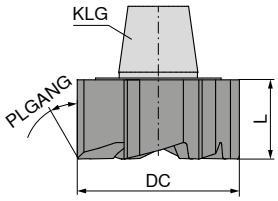
REAMAX – Selection guide

Ø .4921 – 1.5748 inch								
Article no.			40 536 …	40 525 …	40 560 …	40 551 …	40 570 …	40 505 …
KOMET no.			640.93	640.93	640.65	640.65	640.27	640.71
Cutting edge geometry			ASG4000	ASG3000	ASG3000	ASG0106	ASG0706	ASG3000
Lead angle			25°	45°	45°	45°	45°/8°	45°
Grade / coating			DST	DST	DBG-P	DBG-P	DBC	TiN
Application			Through hole	Through hole + blind hole				
Material sub-group		Index						
P	Non alloyed steel	P.1.1	●	●	●			○
		P.1.2	●	●	●			○
		P.1.3	●	●	●			○
		P.1.4	●	●	●			○
		P.1.5	●	●	●			○
	Low alloyed steel	P.2.1	●	●	●			○
		P.2.2	●	●	●			○
		P.2.3	●	●	●			○
		P.2.4			●	●		○
	High-alloy steel and high-alloy tool steel	P.3.1				●		
		P.3.2				●		
		P.3.3				●		
	Stainless steel	P.4.1				●		
		P.4.2				●		
M	Stainless steel	M.1.1				●		
		M.2.1				●		
		M.3.1				●		
K	Grey cast iron	K.1.1			●			○
		K.1.2			●			○
	Spherulitic graphite cast iron	K.2.1	○	●	●			
		K.2.2	○	●	●			
	Malleable iron	K.3.1		●	●			
		K.3.2	○	●	●			
N	Aluminum alloys	N.1.1					●	
		N.1.2					●	
	Cast aluminium alloys	N.2.1					●	
		N.2.2					●	
		N.2.3						
	Copper and copper alloys (Bronze, Brass)	N.3.1		○				●
		N.3.2		○				●
		N.3.3						●
	Magnesium alloys	N.4.1						
H	Hardened steel	H.1.1				●		
		H.1.2				●		
		H.1.3				●		
		H.1.4						
	Chilled iron	H.2.1				●		
	Hardened cast iron	H.3.1				●		
O	Non-metal materials	O.1.1						
		O.1.2						
		O.2.1						
		O.2.2						
		O.3.1					○	

● = Main application
○ = Additional range of application

REAMAX – Replaceable reaming heads

- ▲ Up to tolerance class IT 7 with absolute process security, from the first hole
- ▲ Maximum changeover precision guaranteed
- ▲ Maximum radial run-out accuracy thanks to precision-ground face and taper contact
- ▲ No Ø adjustment necessary
- ▲ Optimised for use with minimum quantity lubrication (MQL)
- ▲ Retraction from the hole at 3-4x feed rate
- ▲ KLG = Coupling size
- ▲ ZEFP = Number of cutting edges



	DST	DBG-P	DBC	DST	DBG-P	TiN
						
	640.93 PLGANG 25° ASG4000 CERMET Through hole	640.65 PLGANG 45° ASG0106 HM Through hole + blind hole	640.27 PLGANG 45/8° ASG0706 HM Through hole + blind hole	640.93 PLGANG 45° ASG3000 CERMET Through hole + blind hole	640.65 PLGANG 45° ASG3000 HM Through hole + blind hole	640.71 PLGANG 45° ASG3000 HM Through hole + blind hole
	40 536 ...	40 551 ...	40 570 ...	40 525 ...	40 560 ...	40 505 ...

DC H7 inch	L inch	ZEFP	KLG										
0.4921 - 0.5902	0.354	6	1	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
0.5906	0.354	6	1	15000[1]		15000		15000[1]		15000[1]		15000	
0.5909 - 0.6295	0.354	6	1	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
0.6299	0.354	6	2	160		16000		16000[1]		160		16000	
0.6303 - 0.7083	0.354	6	2	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
0.7087	0.354	6	2	180		18000		18000[1]		180		18000	
0.7091 - 0.7870	0.354	6	2	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
0.7874	0.354	6	2	200		20000		20000[1]		200		20000	
0.7878 - 0.8657	0.354	6	2	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
0.8661	0.354	8	3	220		22000		22000[1]		220		22000	
0.8665 - 0.9445	0.354	8	3	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
0.9449	0.354	8	3	24000[1]		24000		24000[1]		24000[1]		24000	
0.9453 - 0.9839	0.354	8	3	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
0.9843	0.354	8	3	250		25000		25000[1]		250		25000	
0.9846 - 1.0232	0.354	8	3	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
1.0236 - 1.1020	0.354	8	4	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
1.1024	0.354	8	4	280		28000		28000[1]		280		28000	
1.1028 - 1.1807	0.354	8	4	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
1.1811	0.354	8	4	300		30000		30000[1]		300		30000	
1.1815 - 1.2598	0.354	8	4	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
1.2602 - 1.5744	0.354	8	5	xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]		xxxx [1]	
1.5748	0.354	8	5	400		40000		40000[1]		400		40000	

P	●	●		●	●	○
M		●				
K	○			●	●	○
N			●	○		●
S						
H		●				
O			○			

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 69–71

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

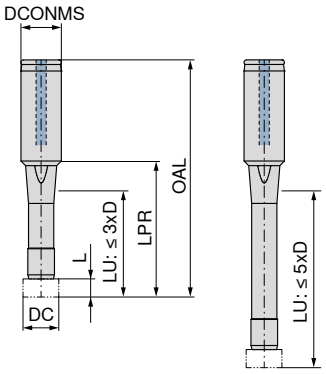
A detailed operating manual is available for download in the online shop next to the product.

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

REAMAX – Holder

▲ KLG = Coupling Size

Scope of supply:
Complete holder, but without exchangeable head

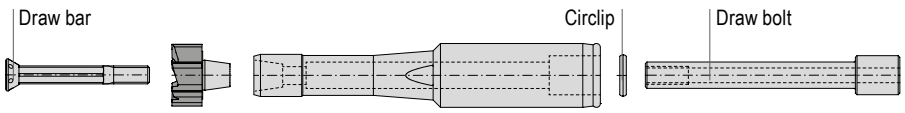


DC inch	KOMET no.	KLG	OAL inch	LPR inch	L inch	DCONMS inch	DCONMS mm	torque moment Nm	40 590 ...	40 591 ...
0.4921 - 0.6295	640.01.001	1	4.213	2.323	0.354	0.630	16	4 - 5	**016** [1]	
0.4921 - 0.6295	640.81.001	1	5.394	3.504	0.354	0.630	16	4 - 5		**016** [1]
0.6299 - 0.8657	640.01.002	2	4.685	2.717	0.354	0.787	20	6 - 7	**022**	
0.6299 - 0.8657	640.81.002	2	6.654	4.685	0.354	0.787	20	6 - 7		**022**
0.8661 - 1.0232	640.01.003	3	5.512	3.307	0.354	0.984	25	10 - 12	**026**	
0.8661 - 1.0232	640.81.003	3	7.717	5.512	0.354	0.984	25	10 - 12		**026**
1.0236 - 1.2598	640.01.005	4	6.299	4.094	0.354	0.984	25	18 - 20	**032**	
1.0236 - 1.2598	640.81.005	4	8.898	6.693	0.354	0.984	25	18 - 20		**032**
1.2602 - 1.5748	640.01.006	5	7.835	5.472	0.354	1.260	32	26 - 28	**040**	
1.2602 - 1.5748	640.81.006	5	10.630	8.268	0.354	1.260	32	26 - 28		**040**

1) This holder can also be used for reaming heads for through holes from Ø 12 mm (.4724 inch), which are available on request

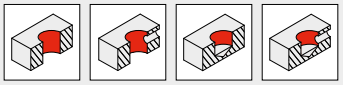
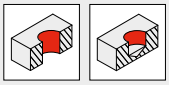
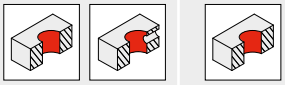
Do not heat shrink tools !

Spare parts DC	Draw bolt 5xD 40 950 ...	Draw bolt 3xD 40 950 ...	Draw bar 40 950 ...	Circlip 40 950 ...
0.4921 - 0.6295		**101**	**001**	**301**
0.4921 - 0.6295	**107**		**001**	**301**
0.6299 - 0.8657		**102**	**002**	**302**
0.6299 - 0.8657	**108**		**002**	**302**
0.8661 - 1.0232		**103**	**003**	**303**
0.8661 - 1.0232	**109**		**003**	**303**
1.0236 - 1.2598		**104**	**004**	**303**
1.0236 - 1.2598	**110**		**004**	**303**
1.2602 - 1.5748		**106**	**005**	**304**
1.2602 - 1.5748	**112**		**005**	**304**



A detailed operating manual is available for download in the online shop next to the product.

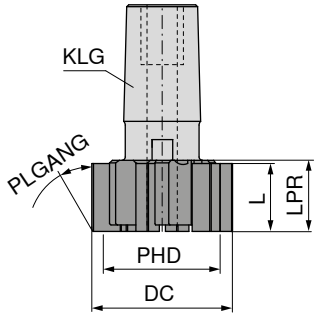
Rapid Set Head – Selection guide

Ø .3780 – 2.3622 inch											
Article no.			49 817 …	49 816 …	49 800 …	49 808 …	49 809 …	49 813 …	49 804 …	49 801 …	49 805 …	49 812 …
KOMET no.			340.65	340.65	340.21	340.71	340.71	340.93	340.21	340.21	340.70	340.92
Grind geometry			ASG3000	ASG0106	ASG03	ASG3000	ASG0106	ASG3000	ASG02	ASG3000	ASG05	ASG05
Lead angle			45°	45°	30°/2°	45°	45°	45°	45°/8°	45°	25°	25°
Grade / coating			DBG-P	DBG-P	K10	TiN	TiN	DST	K10	K10	TiN	DST
Application			Through hole + blind hole								Through hole	
Material sub-group		Index										
P	Non alloyed steel	P.1.1	●			○		●		○	○	●
		P.1.2	●			○		●		○	○	●
		P.1.3	●			○		●		○	○	●
		P.1.4	●			○		●		○	○	●
		P.1.5	●			○		●		○	○	●
	Low alloyed steel	P.2.1	●			○		●		○	○	●
		P.2.2	●			○		●		○	○	●
		P.2.3	●			○		●		○	○	●
		P.2.4	●			●					●	
	High-alloy steel and high-alloy tool steel	P.3.1		●			●					
		P.3.2		●			●					
		P.3.3		●			●					
	Stainless steel	P.4.1		●			●					
		P.4.2		●			●					
M	Stainless steel	M.1.1		●			●					
		M.2.1		●			●					
		M.3.1		●			●					
K	Grey cast iron	K.1.1	●			●				○		
		K.1.2	●			●				○		
	Spherulitic graphite cast iron	K.2.1	●					●		○		
		K.2.2	●					●		○		
	Malleable iron	K.3.1	●					●		○		
		K.3.2	●					●		○		
N	Aluminum alloys	N.1.1							●	○		
		N.1.2							●	○		
	Cast Aluminium Alloys	N.2.1							●	○		
		N.2.2							●	○		
		N.2.3							●	○		
	Copper and copper alloys (Bronze, Brass)	N.3.1				○		●	●	○		
		N.3.2				○			●	○		
		N.3.3				○			●	○		
	Magnesium alloys	N.4.1							●	○		
S	Heat resistant alloys	S.1.1										
		S.1.2										
		S.2.1										
		S.2.2										
		S.2.3										
	Titanium alloys	S.3.1			●							
		S.3.2			●							
		S.3.3			●							
O	Non-metal materials	O.1.1										
		O.1.2										
		O.2.1										
		O.2.2										
		O.3.1										

● = Main application
○ = Additional range of application

Rapid Set Head

▲ PHD = Approximate diameter for face machining geometries (ASG)
▲ KLG = Coupling Size
▲ ZEFP = Number of cutting edges



	TiN	TiN	K10	K10	K10
					
	340.71 straight flute PLGANG 45° ASG3000 HM Through hole + blind hole	340.71 straight flute PLGANG 45° ASG0106 HM Through hole + blind hole	340.21 straight flute PLGANG 45° ASG3000 HM Through hole + blind hole	340.21 straight flute PLGANG 30/2° ASG03 HM Through hole + blind hole	340.21 straight flute PLGANG 45/8° ASG02 HM Through hole + blind hole
	49 808 ...	**49 809 ...**	**49 801 ...**	**49 800 ...**	**49 804 ...**

DC inch	L inch	LPR inch	PHD inch	ZEFP	KLG									
0.3780 - 0.4957	0.374	0.433	DC-0.1220	4	1	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.4961 - 0.6138	0.413	0.433	DC-0.1417	4	2	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.6142 - 0.7319	0.413	0.433	DC-0.1417	6	3	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.7323 - 0.9449	0.413	0.433	DC-0.2008	6	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.9453 - 1.1850	0.413	0.433	DC-0.2362	6	5	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.1854 - 1.2165	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.2169 - 1.5748	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.5752 - 1.9957	0.630	0.669	DC-0.3150	6	7	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.9961 - 2.3622	0.630	0.669	DC-0.3150	6	8	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]

P	●	●	○		
M		●			
K	●		○		
N	○		○		●
S				●	
H					
O					

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 86–90

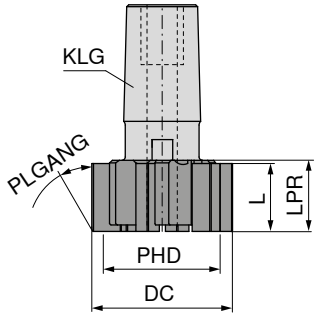
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

→ **Page 96**
Here you will find a detailed operating instruction.

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Rapid Set Head

▲ PHD = Approximate diameter for face machining geometries (ASG)
▲ KLG = Coupling Size
▲ ZEFP = Number of cutting edges



	DST	DBG-P	DBG-P
			
	340.93 straight flute PLGANG 45° ASG3000 CERMET Through hole + blind hole	340.65 straight flute PLGANG 45° ASG3000 HM Through hole + blind hole	340.65 straight flute PLGANG 45° ASG0106 HM Through hole + blind hole
	49 813 ...	**49 817 ...**	**49 816 ...**

DC inch	L inch	LPR inch	PHD inch	ZEFP	KLG				
0.3780 - 0.4957	0.374	0.433	DC-0.1220	4	1	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.4961 - 0.6138	0.413	0.433	DC-0.1417	4	2	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.6142 - 0.7319	0.413	0.433	DC-0.1417	6	3	**xxxx** [1]				
0.6142 - 0.7319	0.413	0.433	DC-0.1417	6	4			**xxxx** [1]		**xxxx** [1]
0.7323 - 0.9449	0.413	0.433	DC-0.2008	6	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.9453 - 1.1850	0.413	0.433	DC-0.2362	6	5	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.1854 - 1.2165	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.2169 - 1.5748	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.5752 - 1.9957	0.630	0.669	DC-0.3150	6	7	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
1.9961 - 2.3622	0.630	0.669	DC-0.3150	6	8	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
P						●		●		●
M										●
K						●		●		
N						●				
S										
H										
O										

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 86–90

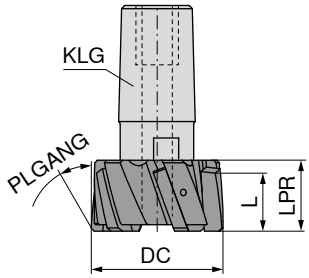
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

→ **Page 96**
Here you will find a detailed operating instruction.

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Rapid Set Head

▲ KLG = Coupling Size
▲ ZEFP = Number of cutting edges



TiN

340.70
Left Hand Helix
PLGANG 25°
ASG05
HM
Through hole

49 805 ...

DST

340.92
Left Hand Helix
PLGANG 25°
ASG05
CERMET
Through hole

49 812 ...

DC inch	L inch	LPR inch	ZEFP	KLG		
0.3780 - 0.4957	0.374	0.433	4	1	**xxxx** [1]	**xxxx** [1]
0.4961 - 0.6138	0.413	0.433	4	2	**xxxx** [1]	**xxxx** [1]
0.6142 - 0.7319	0.413	0.433	4	3	**xxxx** [1]	**xxxx** [1]
0.7323 - 0.9449	0.413	0.433	6	4	**xxxx** [1]	**xxxx** [1]
0.9453 - 1.1850	0.413	0.433	6	5	**xxxx** [1]	**xxxx** [1]
1.1854 - 1.2165	0.630	0.669	6	6	**xxxx** [1]	**xxxx** [1]
1.2169 - 1.5748	0.630	0.669	6	6	**xxxx** [1]	**xxxx** [1]
1.5752 - 1.9957	0.630	0.669	6	7	**xxxx** [1]	**xxxx** [1]
1.9961 - 2.3622	0.630	0.669	6	8	**xxxx** [1]	**xxxx** [1]
P					●	●
M						
K						
N						
S						
H						
O						

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 86–90

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

→ **Page 96**
Here you will find a detailed operating instruction.

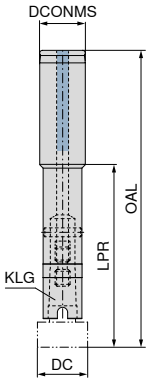
→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Holder for Rapid Head Set

▲ KLG = Coupling Size

Scope of supply:

Holder includes radial coolant screw (through hole) for diameters 0.4961" – 2.3622".
Solid screw included for diameters 0.3780" – 0.4957".
Axial coolant screw (blind hole) must be ordered separately.



DC inch	KOMET no.	OAL inch	LPR inch	DCONMS inch	DCONMS mm	KLG	49 890 ...	49 891 ...
0.3780 - 0.4957	540.56.001	3.740	1.969	0.500	12.700	1	**01399**	
0.3780 - 0.4957	540.13.001	6.220	4.449	0.500	12.700	1		**01399**
0.4961 - 0.6138	540.56.002	4.252	2.362	0.625	15.875	2	**01699**	
0.4961 - 0.6138	540.13.002	6.260	4.370	0.625	15.875	2		**01699**
0.6142 - 0.7319	540.56.003	4.331	2.362	0.625	15.875	3	**01999**	
0.6142 - 0.7319	540.13.003	6.732	4.764	0.625	15.875	3		**01999**
0.7323 - 0.9449	540.56.004	5.118	3.150	0.750	19.050	4	**02499**	
0.7323 - 0.9449	540.13.004	7.520	5.551	0.750	19.050	4		**02499**
0.9453 - 1.1850	540.56.005	6.220	3.858	1.000	25.400	5	**03099**	
0.9453 - 1.1850	540.13.005	8.622	6.260	1.000	25.400	5		**03099**
1.1854 - 1.5748	540.56.006	6.457	4.094	1.000	25.400	6	**04099**	
1.1854 - 1.5748	540.13.006	8.858	6.496	1.000	25.400	6		**04099**
1.5752 - 1.9961	540.56.007	7.244	4.094	1.500	38.100	7	**05199**	
1.5752 - 1.9961	540.13.007	11.142	7.992	1.500	38.100	7		**05199**
1.9961 - 2.3622	540.56.008	7.421	4.272	1.500	38.100	8	**06099**	
1.9961 - 2.3622	540.13.008	11.358	8.209	1.500	38.100	8		**06099**

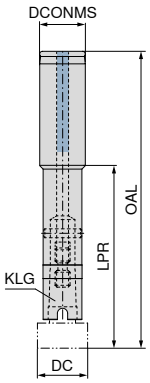
Spare parts DC	 Adjustment screw 10 950 ...	 Screw long version 40 950 ...	 Screw short version 40 950 ...	 Threaded pin 40 950 ...	Differential Axial Coolant 40 950 ...	Differential Radial Coolant 40 950 ...	 Bushing 40 950 ...
0.3780 - 0.4957			**41600**				
0.3780 - 0.4957		**41700**					
0.4961 - 0.6138				**41800**	**40600**	**40100**	**41100**
0.6142 - 0.7319	**09500**				**40700**	**40200**	**41200**
0.7323 - 0.9449				**42000**	**40800**	**40300**	**41300**
0.9453 - 1.1850				**42100**	**40900**	**40400**	**41400**
1.1854 - 1.5748				**42100**	**40900**	**40400**	**41400**
1.5752 - 1.9961				**42200**	**41000**	**40500**	**41500**
1.9961 - 2.3622				**42200**	**41000**	**40500**	**41500**

→ **Page 96**
Here you will find a detailed operating instruction.

Holder for Rapid Head Set

Scope of supply:

▲ **Ø 9.60 - 12.59**: Holder with screw 4095041600 or 4095041700 (short or long depending on holder version), however without solid carbide high-speed reamer
▲ **Ø 12.60 - 60.00**: Holder with clamping key, differential screw for radial cooling, bushing and grub screw, however without solid carbide high-speed reamer
▲ Order differential screw for axial cooling separately if required



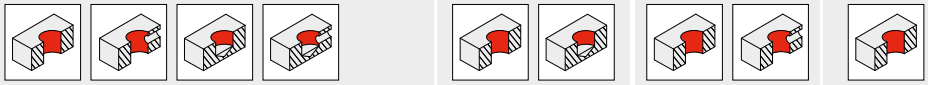
DC mm	KOMET no.	OAL mm	LPR mm	DCONMS mm	KLG	40 890 ...	40 891 ...
9.60 - 12.59	540.66.000	95.0	50.0	12	1	**01399** [1]	
9.60 - 12.59	540.36.000	158.0	113.0	12	1		**01399** [1]
12.60 - 15.59	540.66.001	108.0	60.0	16	2	**01699** [1]	
12.60 - 15.59	540.36.001	159.0	111.0	16	2		**01699** [1]
15.60 - 18.59	540.66.002	110.0	60.0	20	3	**01999** [1]	
15.60 - 18.59	540.36.002	171.0	121.0	20	3		**01999** [1]
18.60 - 24.00	540.66.003	130.0	80.0	20	4	**02499** [1]	
18.60 - 24.00	540.36.003	191.0	141.0	20	4		**02499** [1]
24.01 - 30.10	540.66.004	158.0	98.0	25	5	**03099** [1]	
24.01 - 30.10	540.36.004	219.0	159.0	25	5		**03099** [1]
30.11 - 40.00	540.66.005	164.0	104.0	25	6	**04099** [1]	
30.11 - 40.00	540.36.005	225.0	165.0	25	6		**04099** [1]
40.01 - 50.70	540.66.006	184.0	104.0	32	7	**05199** [1]	
40.01 - 50.70	540.36.006	283.0	203.0	32	7		**05199** [1]
50.71 - 60.00	540.66.007	188.5	108.5	32	8	**06099** [1]	
50.71 - 60.00	540.36.007	288.5	208.5	32	8		**06099** [1]

1) Not in stock

Spare parts DC	 Adjustment screw **10 950 ...**	 Clamping key – T **80 397 ...**	 Screw long version **40 950 ...**	 Screw short version **40 950 ...**	 Threaded pin **40 950 ...**	 Differential Axial Coolant **40 950 ...**	 Differential Radial Coolant **40 950 ...**	 Bushing **40 950 ...**
9.60 - 12.59		**025**	**41700**					
9.60 - 12.59		**025**		**41600**				
12.60 - 15.59		**020**			**41800**	**40600**	**40100**	**41100**
15.60 - 18.59	**09500**	**025**				**40700**	**40200**	**41200**
18.60 - 24.00		**030**			**42000**	**40800**	**40300**	**41300**
24.01 - 30.10		**040**			**42100**	**40900**	**40400**	**41400**
30.11 - 40.00		**040**			**42100**	**40900**	**40400**	**41400**
40.01 - 50.70		**060**			**42200**	**41000**	**40500**	**41500**
50.71 - 60.00		**060**			**42200**	**41000**	**40500**	**41500**

→ **Page 96**
Here you will find a detailed operating instruction.

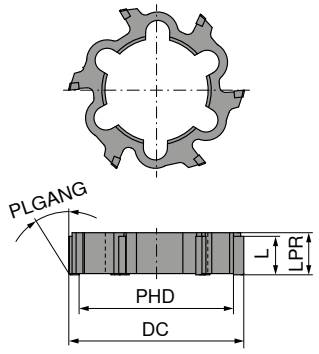
Cutting Ring – Selection guide

Ø 2.3858 – 4.3539 inch											
Article no.			49 836 ...	49 835 ...	49 839 ...	49 823 ...	49 824 ...	49 827 ...	49 832 ...	49 831 ...	49 828 ...
KOMET no.			300.65	300.65	300.17	300.05	300.05	300.45	300.25	300.05	300.45
Grind geometry			ASG3000	ASG0106	ASG0706	ASG3000	ASG0106	ASG3000	ASG03	ASG4000	ASG4000
Lead angle			45°	45°	45°/8°	45°	45°	45°	30°/2°	25°	45°
Grade / coating			DBG-P	DBG-P	DBC	TiN	TiN	DST	K10	TiN	DST
Application			Through hole + blind hole							Through hole	
Material sub-group		Index									
P	Non alloyed steel	P.1.1	●			○		●		●	●
		P.1.2	●			○		●		●	●
		P.1.3	●			○		●		●	●
		P.1.4	●			○		●		●	●
		P.1.5	●			○		●		●	●
	Low alloyed steel	P.2.1	●			○		●			●
		P.2.2	●			○		●			●
		P.2.3	●			○		●			●
		P.2.4	●			○					
	High-alloy steel and high-alloy tool steel	P.3.1		●			●				
		P.3.2		●			●				
		P.3.3		●							
	Stainless steel	P.4.1		●			○				
		P.4.2		●			○				
M	Stainless steel	M.1.1		●			○				
		M.2.1		●			○				
		M.3.1		●			○				
K	Grey cast iron	K.1.1	●			○					
		K.1.2	●			○					
	Spherulitic graphite cast iron	K.2.1	●					●			
		K.2.2	●					●			
	Malleable iron	K.3.1	●					●			
		K.3.2	●					●			
N	Aluminum alloys	N.1.1			●						
		N.1.2			●						
	Cast Aluminium Alloys	N.2.1			●						
		N.2.2			●						
		N.2.3			●						
	Copper and copper alloys (Bronze, Brass)	N.3.1				○		●		○	
		N.3.2				○				○	
		N.3.3				○				○	
	Magnesium alloys	N.4.1			●						
S	Heat resistant alloys	S.1.1									
		S.1.2									
		S.2.1									
		S.2.2									
		S.2.3									
	Titanium alloys	S.3.1							●		
		S.3.2							●		
		S.3.3							●		
O	Non-metal materials	O.1.1									
		O.1.2									
		O.2.1									
		O.2.2									
		O.3.1									

● = Main application
○ = Additional range of application

Cutting ring

▲ PHD = Approximate diameter for face machining geometries (ASG)
▲ ZEFP = Number of cutting edges



	DBG-P	DBG-P	K10	TiN	TiN
					
	300.65 PLGANG 45° ASG3000 HM Through hole + blind hole	300.65 PLGANG 45° ASG0106 HM Through hole + blind hole	300.25 PLGANG 30/2° ASG03 HM Through hole + blind hole	300.05 PLGANG 45° ASG3000 HM Through hole + blind hole	300.05 PLGANG 45° ASG0106 HM Through hole + blind hole
	49 836 ...	49 835 ...	49 832 ...	49 823 ...	49 824 ...

DC inch	L inch	LPR inch	PHD inch	ZEFP									
2.3858 - 2.5823	0.630	0.728	DC-0.3307	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
2.5827 - 2.7791	0.630	0.728	DC-0.3307	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
2.7795 - 2.9760	0.630	0.728	DC-0.3307	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
2.9764 - 3.1335	0.630	0.728	DC-0.3307	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
3.1339 - 3.3697	0.630	0.728	DC-0.3307	8	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
3.3701 - 3.5665	0.630	0.728	DC-0.3307	8	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
3.5669 - 3.7634	0.630	0.728	DC-0.3307	8	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
3.7638 - 3.9602	0.630	0.728	DC-0.3307	8	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
3.9606 - 4.3539	0.630	0.728	DC-0.3307	10	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]

P	●		●				○		●
M			●						●
K	●						○		
N							○		
S					●				
H									
O									

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 81–85

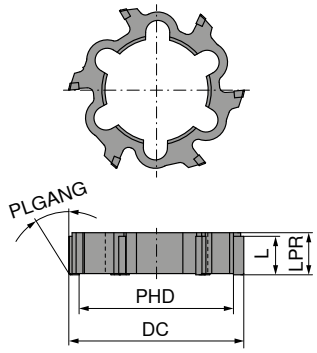
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 2.5000" ±.0005")

→ **Page 94+95**
Here you will find a detailed operating instruction.

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Cutting ring

▲ PHD = Approximate diameter for face machining geometries (ASG)
▲ ZEFP = Number of cutting edges



	DST	DBC
		
	300.45 PLGANG 45° ASG3000 CERMET Through hole + blind hole	300.17 PLGANG 45° ASG0706 HM Through hole + blind hole
	49 827 ...	**49 839 ...**

DC inch	L inch	LPR inch	PHD inch	ZEFP		
2.3858 - 2.5823	0.630	0.689	DC-0.3307	6	**xxxx** [1]	
2.3858 - 2.5823	0.630	0.728	DC-0.3307	6		**xxxx** [1]
2.5827 - 2.7791	0.630	0.689	DC-0.3307	6	**xxxx** [1]	
2.5827 - 2.7791	0.630	0.728	DC-0.3307	6		**xxxx** [1]
2.7795 - 2.9760	0.630	0.689	DC-0.3307	6	**xxxx** [1]	
2.7795 - 2.9760	0.630	0.728	DC-0.3307	6		**xxxx** [1]
2.9764 - 3.1335	0.630	0.689	DC-0.3307	6	**xxxx** [1]	
2.9764 - 3.1335	0.630	0.728	DC-0.3307	6		**xxxx** [1]
3.1339 - 3.3697	0.630	0.689	DC-0.3307	8	**xxxx** [1]	
3.1339 - 3.3697	0.630	0.728	DC-0.3307	8		**xxxx** [1]
3.3701 - 3.5665	0.630	0.689	DC-0.3307	8	**xxxx** [1]	
3.3701 - 3.5665	0.630	0.728	DC-0.3307	8		**xxxx** [1]
3.5669 - 3.7634	0.630	0.689	DC-0.3307	8	**xxxx** [1]	
3.5669 - 3.7634	0.630	0.728	DC-0.3307	8		**xxxx** [1]
3.7638 - 3.9602	0.630	0.689	DC-0.3307	8	**xxxx** [1]	
3.7638 - 3.9602	0.630	0.728	DC-0.3307	8		**xxxx** [1]
3.9606 - 4.3539	0.630	0.689	DC-0.3307	10	**xxxx** [1]	
3.9606 - 4.3539	0.630	0.728	DC-0.3307	10		**xxxx** [1]
P					●	
M						
K					●	
N					●	●
S						
H						
O						

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 81–85

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 2.5000" ±.0005")

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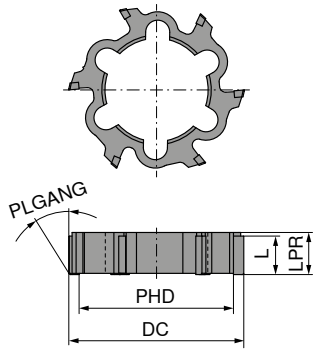
Cutting ring

▲ PHD = Approximate diameter for face machining geometries (ASG)
▲ ZEFP = Number of cutting edges



TiN

300.05
PLGANG 25°
ASG4000
HM
Through hole

49 831 ...

DST

300.45
PLGANG 25°
ASG4000
CERMET
Through hole

49 828 ...

DC inch	L inch	LPR inch	PHD inch	ZEFP		
2.3858 - 2.5823	0.630	0.728	DC-0.3307	6	**xxxx** [1]	
2.3858 - 2.5823	0.630	0.689	DC-0.3307	6		**xxxx** [1]
2.5827 - 2.7791	0.630	0.728	DC-0.3307	6	**xxxx** [1]	
2.5827 - 2.7791	0.630	0.689	DC-0.3307	6		**xxxx** [1]
2.7795 - 2.9760	0.630	0.728	DC-0.3307	6	**xxxx** [1]	
2.7795 - 2.9760	0.630	0.689	DC-0.3307	6		**xxxx** [1]
2.9764 - 3.1335	0.630	0.728	DC-0.3307	6	**xxxx** [1]	
2.9764 - 3.1335	0.630	0.689	DC-0.3307	6		**xxxx** [1]
3.1339 - 3.3697	0.630	0.728	DC-0.3307	8	**xxxx** [1]	
3.1339 - 3.3697	0.630	0.689	DC-0.3307	8		**xxxx** [1]
3.3701 - 3.5665	0.630	0.728	DC-0.3307	8	**xxxx** [1]	
3.3701 - 3.5665	0.630	0.689	DC-0.3307	8		**xxxx** [1]
3.5669 - 3.7634	0.630	0.728	DC-0.3307	8	**xxxx** [1]	
3.5669 - 3.7634	0.630	0.689	DC-0.3307	8		**xxxx** [1]
3.7638 - 3.9602	0.630	0.728	DC-0.3307	8	**xxxx** [1]	
3.7638 - 3.9602	0.630	0.689	DC-0.3307	8		**xxxx** [1]
3.9606 - 4.3539	0.630	0.728	DC-0.3307	10	**xxxx** [1]	
3.9606 - 4.3539	0.630	0.689	DC-0.3307	10		**xxxx** [1]
P					●	●
M						
K						
N					○	
S						
H						
O						

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→ v_c Page 81–85

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 2.5000" ±.0005")

→ **Page 94+95**
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→ **Page 99**
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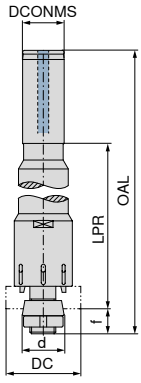
Cutting ring holder for through hole machining

Scope of supply:

Holder includes positioning pin, taper ring and adjusting nut. Does not include cutting ring.



≤ 3xD

≤ 5xD

DC inch	KOMET no.	OAL inch	LPR inch	DCONMS inch	DCONMS mm	d inch	f inch	40 892 ...	40 893 ...
2.3858 - 2.7795	503.76.008	7.461	4.134	1.260	32	1.575	0.965	**07199** [1]	
2.3858 - 2.7795	504.76.009	12.658	9.331	1.260	32	1.575	0.965		**07199** [1]
2.7795 - 3.1338	503.76.009	7.461	4.134	1.260	32	1.575	0.965	**08099** [1]	
2.7795 - 3.1338	504.76.010	12.658	9.331	1.260	32	1.575	0.965		**08099** [1]
3.1339 - 3.5669	503.76.010	8.012	4.134	1.575	40	2.213	1.122	**09199** [1]	
3.1339 - 3.5669	504.76.011	13.327	9.449	1.575	40	2.213	1.122		**09199** [1]
3.5669 - 3.9606	503.76.011	8.012	4.134	1.575	40	2.213	1.122	**10199** [1]	
3.5669 - 3.9606	504.76.012	13.327	9.449	1.575	40	2.213	1.122		**10199** [1]

1) Not in stock

Position Pin

Adjustic Nut

Taper Ring

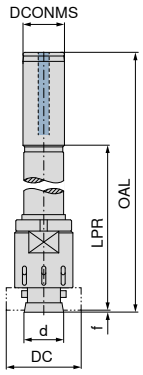
Spare parts DC	40 950 ...	40 950 ...	40 950 ...
2.3858 - 2.7795	**50700**	**50100**	**50500**
2.7795 - 3.1338	**50700**	**50100**	**50500**
3.1339 - 3.5669	**50800**	**50200**	**50600**
3.5669 - 3.9606	**50800**	**50200**	**50600**

→ **Page 94**
Here you will find a detailed operating instruction.

Cutting ring holder for blind hole machining

Scope of supply:

Holder includes bushing, taper screw and adjusting nut. Does not include cutting ring.



≤ 3xD

≤ 5xD

DC inch	KOMET no.	OAL inch	LPR inch	DCONMS inch	DCONMS mm	d inch	f inch	40 894 ...	40 896 ...
2.3858 - 2.7795	513.76.008	6.555	4.134	1.260	32	1.457	0.059	**07199** [1]	
2.3858 - 2.7795	514.76.008	11.752	9.331	1.260	32	1.457	0.059		**07199** [1]
2.7795 - 3.1338	513.76.009	6.555	4.134	1.260	32	1.457	0.059	**08099** [1]	
2.7795 - 3.1338	514.76.009	11.752	9.331	1.260	32	1.457	0.059		**08099** [1]
3.1339 - 3.5669	513.76.010	6.949	4.134	1.575	40	2.094	0.059	**09199** [1]	
3.1339 - 3.5669	514.76.010	12.264	9.449	1.575	40	2.094	0.059		**09199** [1]
3.5669 - 3.9606	513.76.011	6.949	4.134	1.575	40	2.094	0.059	**10199** [1]	
3.5669 - 3.9606	514.76.011	12.264	9.449	1.575	40	2.094	0.059		**10199** [1]

1) Not in stock

Adjustic Nut

Taper Screw

Bushing

Spare parts DC	40 950 ...	40 950 ...	40 950 ...
2.3858 - 2.7795	**50300**	**51100**	**51500**
2.7795 - 3.1338	**50300**	**51100**	**51600**
3.1339 - 3.5669	**50400**	**51200**	**51700**
3.5669 - 3.9606	**50400**	**51200**	**51800**

→ **Page 95**
Here you will find a detailed operating instruction.

Monomax – Selection guide – Through hole

Ø .2205 – 1.0197 inch											
Article no. (3xD)			49 652 ...	49 676 ...	49 648 ...	49 688 ...	49 605 ...	49 656 ...	49 635 ...	49 625 ...	49 672 ...
Article no. (5xD)			49 653 ...	49 677 ...	49 649 ...	49 689 ...	49 606 ...	49 661 ...	49 636 ...	49 626 ...	49 673 ...
KOMET no. (3xD)			56J.65	56.J65	56J.17	56J.71	56J.71	56J.71	56J.93	56J.93	56J.21
KOMET no. (5xD)			56R.65	56.R65	56R.17	56R.71	56R.71	56R.71	56R.93	56R.93	56R.21
Grind geometry			ASG0106	ASG3000	ASG0706	ASG4000	ASG3000	ASG0106	ASG4000	ASG3000	ASG03
Lead angle			45°	45°	45°/8°	45°	45°	45°	25°	45°	30°/2°
Grade / coating			DBG-P	DBG-P	DBC	TiN	TIN	TiN	DST	DST	K10
Application			Through hole								
Material sub-group		Index									
P	Non alloyed steel	P.1.1				●	○		●	●	
		P.1.2				●	○		●	●	
		P.1.3				●	○		●	●	
		P.1.4				●	○		●	●	
		P.1.5				●	○		●	●	
	Low alloyed steel	P.2.1					○		●	●	
		P.2.2					○		●	●	
		P.2.3					○		●	●	
		P.2.4	●								
	High-alloy steel and high-alloy tool steel	P.3.1	●					○			
		P.3.2	●					○			
		P.3.3	●					○			
	Stainless steel	P.4.1	●					○			
		P.4.2	●					○			
M	Stainless steel	M.1.1	●					○			
		M.2.1	●					○			
		M.3.1	●					○			
K	Grey cast iron	K.1.1		●			○				
		K.1.2		●			○				
	Spherulitic graphite cast iron	K.2.1		●					○	●	
		K.2.2		●					○	●	
	Malleable iron	K.3.1		●					○	●	
		K.3.2		●					○	●	
N	Aluminum alloys	N.1.1			●						
		N.1.2			●						
	Cast aluminium alloys	N.2.1			●						
		N.2.2			●						
		N.2.3			●						
	Copper and copper alloys (Bronze, Brass)	N.3.1					●			○	
		N.3.2					●			○	
		N.3.3					●				
	Magnesium alloys	N.4.1									
S	Heat resistant alloys	S.1.1									
		S.1.2									
		S.2.1									
		S.2.2									
		S.2.3									
	Titanium alloys	S.3.1									●
		S.3.2									●
		S.3.3									●
O	Non-metal materials	O.1.1									
		O.1.2									
		O.2.1									
		O.2.2									
		O.3.1			○						

● = Main application
○ = Additional range of application

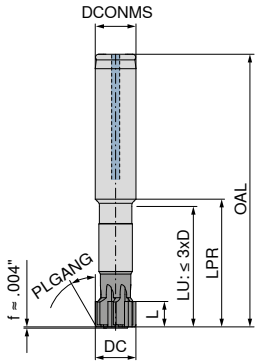
Monomax – Selection guide – Blind hole

Ø .2205 – 1.0197 inch								
Article no. (3xD)			49 657 ...	49 644 ...	49 684 ...	49 660 ...	49 640 ...	49 680 ...	49 668 ...
Article no. (5xD)			49 665 ...	49 645 ...	49 685 ...	49 664 ...	49 641 ...	49 681 ...	49 669 ...
KOMET no. (3xD)			56H.65	56H.65	56H.71	56H.71	56H.17	56H.93	56H.21
KOMET no. (5xD)			56Q.65	56Q.65	56Q.71	56Q.71	56Q.17	56Q.93	56Q.21
Grind geometry			ASG3000	ASG0106	ASG3000	ASG0106	ASG0706	ASG3000	ASG03
Lead angle			45°	45°	45°	45°	45°/8°	45°	30°/2°
Grade / coating			DBG-P	DBG-P	TiN	TiN	DBC	DST	K10
Application			Blind hole						
Material sub-group		Index							
P	Non alloyed steel	P.1.1	●		○			●	
		P.1.2	●		○			●	
		P.1.3	●		○			●	
		P.1.4	●		○			●	
		P.1.5	●		○			●	
	Low alloyed steel	P.2.1	●		○			●	
		P.2.2	●		○			●	
		P.2.3	●		○			●	
		P.2.4	●						
	High-alloy steel and high-alloy tool steel	P.3.1		●		○			
		P.3.2		●		○			
		P.3.3		●		○			
	Stainless steel	P.4.1		●		○			
		P.4.2		●		○			
M	Stainless steel	M.1.1		●		○			
		M.2.1		●		○			
		M.3.1		●		○			
K	Grey cast iron	K.1.1	●		○				
		K.1.2	●		○				
	Spherulitic graphite cast iron	K.2.1	●					●	
		K.2.2	●					●	
	Malleable iron	K.3.1	●					●	
		K.3.2	●					●	
N	Aluminum alloys	N.1.1					●		
		N.1.2					●		
	Cast aluminium alloys	N.2.1					●		
		N.2.2					●		
		N.2.3					●		
	Copper and copper alloys (Bronze, Brass)	N.3.1			●			○	
		N.3.2			●			○	
		N.3.3			●				
	Magnesium alloys	N.4.1							
S	Heat resistant alloys	S.1.1							
		S.1.2							
		S.2.1							
		S.2.2							
		S.2.3							
	Titanium alloys	S.3.1							●
		S.3.2							●
		S.3.3							●
O	Non-metal materials	O.1.1							
		O.1.2							
		O.2.1							
		O.2.2							
		O.3.1					○		

● = Main application
○ = Additional range of application

Monomax – High-speed reamers, short

- ▲ expandable to hold tight tolerances and extend tool life
- ▲ wear compensation within the tolerance zone
- ▲ retraction from the hole at 3–4 times the cutting feed rate
- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges



	DST	DBC	DBG-P	DST	TiN
					
	56J.93	56J.17	56J.65	56J.93	56J.71
	≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD
	PLGANG 45°	PLGANG 45/8°	PLGANG 45°	PLGANG 25°	PLGANG 45°
	ASG3000	ASG0706	ASG0106	ASG4000	ASG3000
	CERMET	HM	HM	CERMET	HM
	Through hole	Through hole	Through hole	Through hole	Through hole
	49 625 ...	**49 648 ...**	**49 652 ...**	**49 635 ...**	**49 605 ...**

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS $_{h6}$ inch	DCONMS mm	ZEFP									
0.2205 - 0.3504	0.394	1.575	1.654	3.346	0.472	12	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.3504 - 0.6259	0.394	1.969	2.047	3.740	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.6260 - 0.7441	0.394	1.969	2.047	3.937	0.630	16	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.7441 - 1.0197	0.394	2.362	2.441	4.724	0.787	20	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
P								●				●		●		○
M												●				
K								●						○		○
N								○		●						●
S																
H																
O										○						

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 72–77

Do not heat shrink tools !

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø .5000" ±.0005")

Detailed adjustment instructions are available to download in the online shop for the item.

→ **Page 99**
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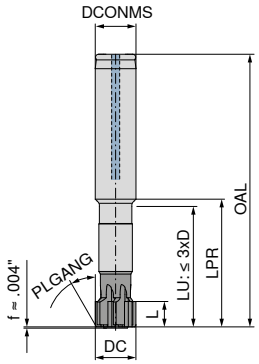
- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges



	K10	DBG-P	TiN	TiN
				
	56J.21	56J.65	56J.17	56J.71
				
	≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD
	PLGANG 30/2°	PLGANG 45°	PLGANG 25°	PLGANG 45°
	ASG03	ASG3000	ASG4000	ASG0106
	HM	HM	HM	HM
	Through hole	Through hole	Through hole	Through hole
	49 672 ...	**49 676 ...**	**49 688 ...**	**49 656 ...**

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS $_{h6}$ inch	DCONMS mm	ZEFP							
0.2205 - 0.3504	0.394	1.575	1.654	3.346	0.472	12	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.3504 - 0.6259	0.394	1.969	2.047	3.740	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.6260 - 0.7441	0.394	1.969	2.047	3.937	0.630	16	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.7441 - 1.0197	0.394	2.362	2.441	4.724	0.787	20	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	

P												●		○
M														○
K										●				
N														
S								●						
H														
O														

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 72–77

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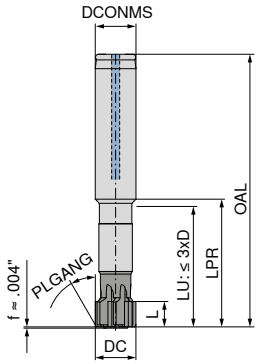
- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges



	DBG-P	DBC	DBG-P
			
	56H.65	56H.17	56H.65
	≤ 3xD	≤ 3xD	≤ 3xD
	PLGANG 45°	PLGANG 45/8°	PLGANG 45°
	ASG0106	ASG0706	ASG3000
	HM	HM	HM
	Blind hole	Blind hole	Blind hole
	49 644 ...	**49 640 ...**	**49 657 ...**

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS $_{h6}$ inch	DCONMS mm	ZEFP					
0.2205 - 0.3504	0.394	1.575	1.654	3.346	0.472	12	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.3504 - 0.6259	0.394	1.969	2.047	3.740	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.6260 - 0.7441	0.394	1.969	2.047	3.937	0.630	16	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.7441 - 1.0197	0.394	2.362	2.441	4.724	0.787	20	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]

P								●				●
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H												
O										○		

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→ v_c Page 72–77

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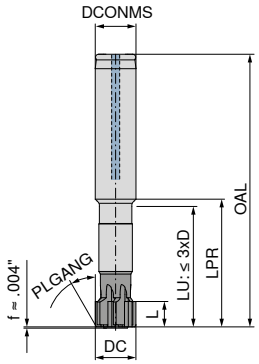

	TiN	K10	DST	TiN
				
	56H.71	56H.21	56H.93	56H.71
				
	≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD
	PLGANG 45°	PLGANG 30/2°	PLGANG 45°	PLGANG 45°
	ASG0106	ASG03	ASG3000	ASG3000
	HM	HM	CERMET	HM
	Blind hole	Blind hole	Blind hole	Blind hole
	49 660 ...	**49 668 ...**	**49 680 ...**	**49 684 ...**

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS $_{h6}$ inch	DCONMS mm	ZEFP							
0.2205 - 0.3504	0.394	1.575	1.654	3.346	0.472	12	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.3504 - 0.6259	0.394	1.969	2.047	3.740	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.6260 - 0.7441	0.394	1.969	2.047	3.937	0.630	16	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.7441 - 1.0197	0.394	2.362	2.441	4.724	0.787	20	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
P								○				●		○	
M								○							
K												●		○	
N												○		●	
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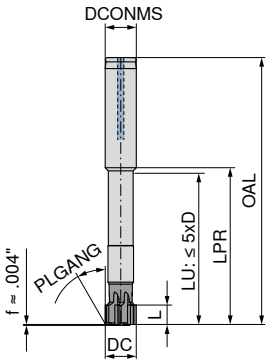

	DST	DBC	DBG-P	DST	TiN
					
	56R.93	56R.17	56R.65	56R.93	56R.71
	≤ 5xD	≤ 5xD	≤ 5xD	≤ 5xD	≤ 5xD
	PLGANG 45°	PLGANG 45/8°	PLGANG 45°	PLGANG 25°	PLGANG 45°
	ASG3000	ASG0706	ASG0106	ASG4000	ASG3000
	CERMET	HM	HM	CERMET	HM
	Through hole	Through hole	Through hole	Through hole	Through hole
	49 626 ...	**49 649 ...**	**49 653 ...**	**49 636 ...**	**49 606 ...**

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS $_{h6}$ inch	DCONMS mm	ZEFP									
0.2205 - 0.3504	0.394	3.346	3.425	5.118	0.472	12	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.3504 - 0.3897	0.394	3.346	3.425	5.118	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.3898 - 0.6259	0.394	4.528	4.606	6.299	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.6260 - 0.7441	0.394	5.118	5.197	7.087	0.630	16	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.7441 - 1.0197	0.394	5.512	5.591	7.874	0.787	20	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
P								●		●		●		○		
M										●						
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N								○		●				●		
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H																
O										○						

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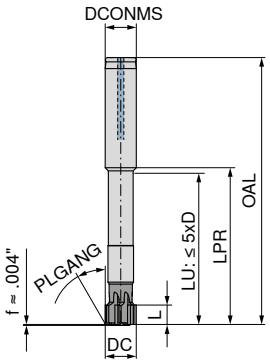

	TiN	DBG-P	K10	TiN
				
	56R.71	56R.65	56R.21	56R.71
	≤ 5xD	≤ 5xD	≤ 5xD	≤ 5xD
	PLGANG 45°	PLGANG 45°	PLGANG 30/2°	PLGANG 45°
	ASG4000	ASG3000	ASG03	ASG0106
	HM	HM	HM	HM
	Through hole	Through hole	Through hole	Through hole
	49 689 ...	**49 677 ...**	**49 673 ...**	**49 661 ...**

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP							
0.2205 - 0.3504	0.394	3.346	3.425	5.118	0.472	12	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.3504 - 0.3897	0.394	3.346	3.425	5.118	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.3898 - 0.6259	0.394	4.528	4.606	6.299	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.6260 - 0.7441	0.394	5.118	5.197	7.087	0.630	16	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.7441 - 1.0197	0.394	5.512	5.591	7.874	0.787	20	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]

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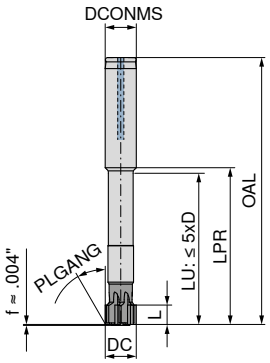

	DBG-P	DBC	DBG-P
			
	56Q.65  ≤ 5xD	56Q.17  ≤ 5xD	56Q.65  ≤ 5xD
	PLGANG 45°	PLGANG 45/8°	PLGANG 45°
	ASG0106	ASG0706	ASG3000
	HM	HM	HM
	Blind hole	Blind hole	Blind hole
	49 645 ...	**49 641 ...**	**49 665 ...**

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP					
0.2205 - 0.3504	0.394	3.346	3.425	5.118	0.472	12	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.3504 - 0.3897	0.394	3.346	3.425	5.118	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.3898 - 0.6259	0.394	4.528	4.606	6.299	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.6260 - 0.7441	0.394	5.118	5.197	7.087	0.630	16	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
0.7441 - 1.0197	0.394	5.512	5.591	7.874	0.787	20	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]
P								●				●
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K												●
N										●		
S												
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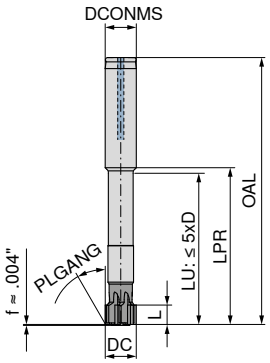

	DST	TiN	K10	TiN
				
	56Q.93	56Q.71	56Q.21	56Q.71
				
	≤ 5xD	≤ 5xD	≤ 5xD	≤ 5xD
	PLGANG 45°	PLGANG 45°	PLGANG 30/2°	PLGANG 45°
	ASG3000	ASG3000	ASG03	ASG0106
	CERMET	HM	HM	HM
	Blind hole	Blind hole	Blind hole	Blind hole
	49 681 ...	**49 685 ...**	**49 669 ...**	**49 664 ...**

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP							
0.2205 - 0.3504	0.394	3.346	3.425	5.118	0.472	12	4	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.3504 - 0.3897	0.394	3.346	3.425	5.118	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.3898 - 0.6259	0.394	4.528	4.606	6.299	0.472	12	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.6260 - 0.7441	0.394	5.118	5.197	7.087	0.630	16	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	
0.7441 - 1.0197	0.394	5.512	5.591	7.874	0.787	20	6	**xxxx** [1]		**xxxx** [1]		**xxxx** [1]		**xxxx** [1]	

P	●	○		○
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K	●	○		
N	○	●		
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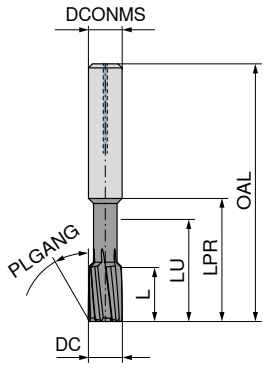
Fullmax – High-performance machine reamers, short

▲ extremely irregular pitch
▲ designed for high-speed machining
▲ specialized geometry and coating for universal use

UNI



DBG-U

51P.57

Left Hand Helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

40 483 ...

DC $_{H7}$ mm	L mm	LU mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	
4	12	17	22	50	4	4	**04000**
5	12	23	28	64	6	4	**05000**
6	12	23	28	64	6	4	**06000**
7	16	29	39	75	8	6	**07000**
8	16	29	39	75	8	6	**08000**
9	16	35	40	80	10	6	**09000**
10	16	35	40	80	10	6	**10000**
11	20	40	45	90	12	6	**11000**
12	20	40	45	90	12	6	**12000**
16	20	40	45	93	16	8	**16000**

P	●
M	●
K	●
N	○
S	○
H	○
O	

→ v_c Page 80

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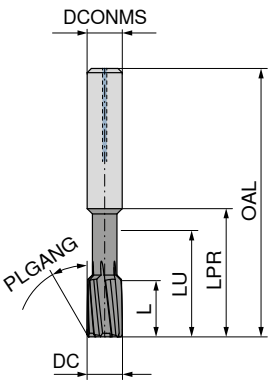

DBG-U

51P.57

Left Hand Helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

40 489 ...

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	
0.1165 - 0.1559	0.472	0.669	0.866	1.969	0.157	4	4	**xxxxx**[1]
0.1563	0.472	0.669	0.866	1.969	0.157	4	4	**03970**
0.1567	0.472	0.669	0.866	1.969	0.157	4	4	**03980**
0.1571	0.472	0.669	0.866	1.969	0.157	4	4	**03990**
0.1575	0.472	0.669	0.866	1.969	0.157	4	4	**04000**
0.1579	0.472	0.669	0.866	1.969	0.157	4	4	**04010**
0.1583	0.472	0.669	0.866	1.969	0.157	4	4	**04020**
0.1587	0.472	0.669	0.866	1.969	0.157	4	4	**04030**
0.1591 - 0.1594	0.472	0.669	0.866	1.969	0.157	4	4	**xxxxx**[1]
0.1598 - 0.1953	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx**[1]
0.1957	0.472	0.906	1.102	2.520	0.236	6	4	**04970**
0.1961	0.472	0.906	1.102	2.520	0.236	6	4	**04980**
0.1965	0.472	0.906	1.102	2.520	0.236	6	4	**04990**
0.1969	0.472	0.906	1.102	2.520	0.236	6	4	**05000**
0.1972	0.472	0.906	1.102	2.520	0.236	6	4	**05010**
0.1976	0.472	0.906	1.102	2.520	0.236	6	4	**05020**
0.1980	0.472	0.906	1.102	2.520	0.236	6	4	**05030**
0.1984 - 0.2346	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx**[1]
0.2350	0.472	0.906	1.102	2.520	0.236	6	4	**05970**
0.2354	0.472	0.906	1.102	2.520	0.236	6	4	**05980**
0.2358	0.472	0.906	1.102	2.520	0.236	6	4	**05990**
0.2362	0.472	0.906	1.102	2.520	0.236	6	4	**06000**
0.2366	0.472	0.906	1.102	2.520	0.236	6	4	**06010**
0.2370	0.472	0.906	1.102	2.520	0.236	6	4	**06020**
0.2374	0.472	0.906	1.102	2.520	0.236	6	4	**06030**
0.2378 - 0.2382	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx**[1]
0.2386 - 0.3134	0.630	1.142	1.535	2.953	0.315	8	6	**xxxxx**[1]
0.3138	0.630	1.142	1.535	2.953	0.315	8	6	**07970**
0.3142	0.630	1.142	1.535	2.953	0.315	8	6	**07980**
0.3146	0.630	1.142	1.535	2.953	0.315	8	6	**07990**
0.3150	0.630	1.142	1.535	2.953	0.315	8	6	**08000**
0.3154	0.630	1.142	1.535	2.953	0.315	8	6	**08010**
0.3157	0.630	1.142	1.535	2.953	0.315	8	6	**08020**
0.3161	0.630	1.142	1.535	2.953	0.315	8	6	**08030**
0.3165 - 0.3169	0.630	1.142	1.535	2.953	0.315	8	6	**xxxxx**[1]

P	●
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K	●
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H	○
O	

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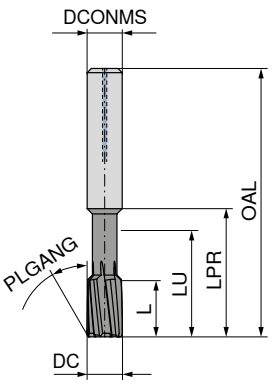

DBG-U

51P.57

Left Hand Helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

40 489 ...

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	
0.3173 - 0.3921	0.630	1.378	1.575	3.150	0.394	10	6	**xxxxx**[1]
0.3925	0.630	1.378	1.575	3.150	0.394	10	6	**09970**
0.3929	0.630	1.378	1.575	3.150	0.394	10	6	**09980**
0.3933	0.630	1.378	1.575	3.150	0.394	10	6	**09990**
0.3937	0.630	1.378	1.575	3.150	0.394	10	6	**10000**
0.3941	0.630	1.378	1.575	3.150	0.394	10	6	**10010**
0.3945	0.630	1.378	1.575	3.150	0.394	10	6	**10020**
0.3949	0.630	1.378	1.575	3.150	0.394	10	6	**10030**
0.3953 - 0.3957	0.630	1.378	1.575	3.150	0.394	10	6	**xxxxx**[1]
0.3961 - 0.4709	0.787	1.575	1.772	3.543	0.472	12	6	**xxxxx**[1]
0.4713	0.787	1.575	1.772	3.543	0.472	12	6	**11970**
0.4717	0.787	1.575	1.772	3.543	0.472	12	6	**11980**
0.4720	0.787	1.575	1.772	3.543	0.472	12	6	**11990**
0.4724	0.787	1.575	1.772	3.543	0.472	12	6	**12000**
0.4728	0.787	1.575	1.772	3.543	0.472	12	6	**12010**
0.4732	0.787	1.575	1.772	3.543	0.472	12	6	**12020**
0.4736	0.787	1.575	1.772	3.543	0.472	12	6	**12030**
0.4740 - 0.4744	0.787	1.575	1.772	3.543	0.472	12	6	**xxxxx**[1]
0.4748 - 0.5532	0.787	1.575	1.772	3.543	0.551	14	6	**xxxxx**[1]
0.5535 - 0.6283	0.787	1.575	1.772	3.661	0.630	16	6	**xxxxx**[1]
0.6287 - 0.6319	0.787	1.575	1.772	3.661	0.630	16	8	**xxxxx**[1]
0.6323 - 0.7106	0.787	1.850	2.047	3.937	0.709	18	8	**xxxxx**[1]
0.7110 - 0.7894	0.787	1.850	2.047	4.016	0.787	20	8	**xxxxx**[1]

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H	○
O	

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ v_c Page 80

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø .5000" ±.0005")

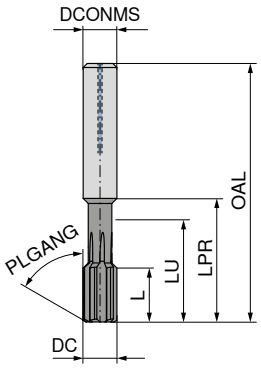
→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Fullmax – High-performance machine reamers, short

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialized geometry and coating for universal use

UNI

DBG-U



51M.57

straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

40 481 ...

DC $_{H7}$ mm	L mm	LU mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	
4	12	17	22	50	4	4	**04000**
5	12	23	28	64	6	4	**05000**
6	12	23	28	64	6	4	**06000**
7	16	29	39	75	8	6	**07000**
8	16	29	39	75	8	6	**08000**
9	16	35	40	80	10	6	**09000**
10	16	35	40	80	10	6	**10000**
11	20	40	45	90	12	6	**11000**
12	20	40	45	90	12	6	**12000**
16	20	40	45	93	16	8	**16000**

P	●
M	●
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S	○
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→ v_c Page 80

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Fullmax – High-performance machine reamers, short

▲ extremely irregular pitch
▲ designed for high-speed machining
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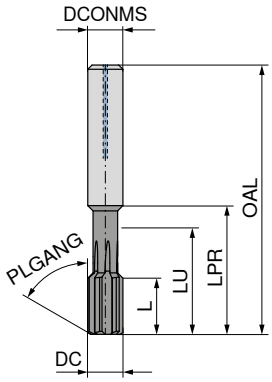
UNI

DBG-U



51M.57

straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

40 488 ...

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	
0.1165 - 0.1559	0.472	0.669	0.866	1.969	0.157	4	4	**xxxxx**[1]
0.1563	0.472	0.669	0.866	1.969	0.157	4	4	**03970**
0.1567	0.472	0.669	0.866	1.969	0.157	4	4	**03980**
0.1571	0.472	0.669	0.866	1.969	0.157	4	4	**03990**
0.1575	0.472	0.669	0.866	1.969	0.157	4	4	**04000**
0.1579	0.472	0.669	0.866	1.969	0.157	4	4	**04010**
0.1583	0.472	0.669	0.866	1.969	0.157	4	4	**04020**
0.1587	0.472	0.669	0.866	1.969	0.157	4	4	**04030**
0.1591 - 0.1594	0.472	0.669	0.866	1.969	0.157	4	4	**xxxxx**[1]
0.1598 - 0.1953	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx**[1]
0.1957	0.472	0.906	1.102	2.520	0.236	6	4	**04970**
0.1961	0.472	0.906	1.102	2.520	0.236	6	4	**04980**
0.1965	0.472	0.906	1.102	2.520	0.236	6	4	**04990**
0.1969	0.472	0.906	1.102	2.520	0.236	6	4	**05000**
0.1972	0.472	0.906	1.102	2.520	0.236	6	4	**05010**
0.1976	0.472	0.906	1.102	2.520	0.236	6	4	**05020**
0.1980	0.472	0.906	1.102	2.520	0.236	6	4	**05030**
0.1984 - 0.2346	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx**[1]
0.2350	0.472	0.906	1.102	2.520	0.236	6	4	**05970**
0.2354	0.472	0.906	1.102	2.520	0.236	6	4	**05980**
0.2358	0.472	0.906	1.102	2.520	0.236	6	4	**05990**
0.2362	0.472	0.906	1.102	2.520	0.236	6	4	**06000**
0.2366	0.472	0.906	1.102	2.520	0.236	6	4	**06010**
0.2370	0.472	0.906	1.102	2.520	0.236	6	4	**06020**
0.2374	0.472	0.906	1.102	2.520	0.236	6	4	**06030**
0.2378 - 0.2382	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx**[1]
0.2386 - 0.3134	0.630	1.142	1.535	2.953	0.315	8	6	**xxxxx**[1]
0.3138	0.630	1.142	1.535	2.953	0.315	8	6	**07970**
0.3142	0.630	1.142	1.535	2.953	0.315	8	6	**07980**
0.3146	0.630	1.142	1.535	2.953	0.315	8	6	**07990**
0.3150	0.630	1.142	1.535	2.953	0.315	8	6	**08000**
0.3154	0.630	1.142	1.535	2.953	0.315	8	6	**08010**
0.3157	0.630	1.142	1.535	2.953	0.315	8	6	**08020**
0.3161	0.630	1.142	1.535	2.953	0.315	8	6	**08030**
0.3165 - 0.3169	0.630	1.142	1.535	2.953	0.315	8	6	**xxxxx**[1]

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→ v_c Page 80

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø .5000" ±.0005")

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

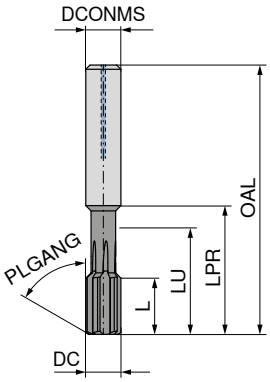
Continued on next page

Fullmax – High-performance machine reamers, short

▲ extremely irregular pitch
▲ designed for high-speed machining
▲ specialized geometry and coating for universal use

UNI

DBG-U



51M.57

straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

40 488 ...

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	
0.3173 - 0.3921	0.630	1.378	1.575	3.150	0.394	10	6	**xxxxx**[1]
0.3925	0.630	1.378	1.575	3.150	0.394	10	6	**09970**
0.3929	0.630	1.378	1.575	3.150	0.394	10	6	**09980**
0.3933	0.630	1.378	1.575	3.150	0.394	10	6	**09990**
0.3937	0.630	1.378	1.575	3.150	0.394	10	6	**10000**
0.3941	0.630	1.378	1.575	3.150	0.394	10	6	**10010**
0.3945	0.630	1.378	1.575	3.150	0.394	10	6	**10020**
0.3949	0.630	1.378	1.575	3.150	0.394	10	6	**10030**
0.3953 - 0.3957	0.630	1.378	1.575	3.150	0.394	10	6	**xxxxx**[1]
0.3961 - 0.4709	0.787	1.575	1.772	3.543	0.472	12	6	**xxxxx**[1]
0.4713	0.787	1.575	1.772	3.543	0.472	12	6	**11970**
0.4717	0.787	1.575	1.772	3.543	0.472	12	6	**11980**
0.4720	0.787	1.575	1.772	3.543	0.472	12	6	**11990**
0.4724	0.787	1.575	1.772	3.543	0.472	12	6	**12000**
0.4728	0.787	1.575	1.772	3.543	0.472	12	6	**12010**
0.4732	0.787	1.575	1.772	3.543	0.472	12	6	**12020**
0.4736	0.787	1.575	1.772	3.543	0.472	12	6	**12030**
0.4740 - 0.4744	0.787	1.575	1.772	3.543	0.472	12	6	**xxxxx**[1]
0.4748 - 0.5532	0.787	1.575	1.772	3.543	0.551	14	6	**xxxxx**[1]
0.5535 - 0.6283	0.787	1.575	1.772	3.661	0.630	16	6	**xxxxx**[1]
0.6287 - 0.6319	0.787	1.575	1.772	3.661	0.630	16	8	**xxxxx**[1]
0.6323 - 0.7106	0.787	1.850	2.047	3.937	0.709	18	8	**xxxxx**[1]
0.7110 - 0.7894	0.787	1.850	2.047	4.016	0.787	20	8	**xxxxx**[1]

P	●
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→ v_c Page 80

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø .5000" ±.0005")

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Fullmax – High-performance machine reamers, long

▲ extremely irregular pitch
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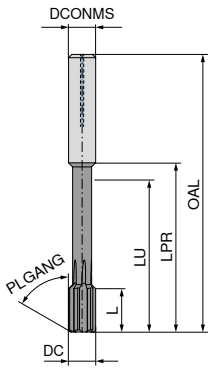

UNI	VA	ALU
DBG-U	DBQ	DBC-N
		
52P.57	52S.44	52N.17
		
Left Hand Helix	Left Hand Helix	straight flute
PLGANG 30°	PLGANG 30°	PLGANG 30°
ASG2210	ASG2231	ASG2270
Solid carbide	Solid carbide	Solid carbide
Through hole	Through hole	Through hole
40 484 ...	**40 401 ...**	**40 471 ...**

DC $_{H7}$ mm	L mm	LU mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP			
4	12	28	32	60	4	4	**04000**	**04000**	**04000**[1)]
5	12	35	40	76	6	4	**05000**	**05000**	**05000**[1)]
6	12	35	40	76	6	4	**06000**	**06000**	**06000**[1)]
7	16	60	65	101	8	6	**07000**	**07000**	**07000**[1)]
8	16	60	65	101	8	6	**08000**	**08000**	**08000**[1)]
9	16	63	68	108	10	6	**09000**	**09000**	**09000**[1)]
10	16	63	68	108	10	6	**10000**	**10000**	**10000**[1)]
11	20	80	85	130	12	6	**11000**	**11000**	**11000**[1)]
12	20	80	85	130	12	6	**12000**	**12000**	**12000**[1)]
16	20	97	102	150	16	6	**16000**	**16000**	**16000**[1)]
P							●	●	
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K							●		
N							○		●
S							○		
H							○		
O									○

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces

→ v_c Page 78+79

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Fullmax – High-performance machine reamers, long

▲ extremely irregular pitch
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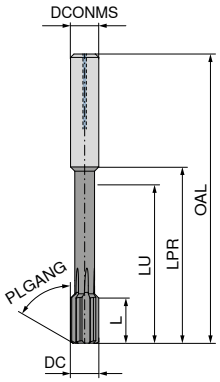
▲ specialized geometries and coatings



UNI	VA	K	ALU	H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left Hand Helix	Left Hand Helix	straight flute	straight flute	straight flute
PLGANG 30°	PLGANG 30°	PLGANG 30°	PLGANG 30°	PLGANG 30°
ASG2210	ASG2231	ASG2350	ASG2270	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Through hole	Through hole	Through hole	Through hole	Through hole
40 486 ...	**40 403 ...**	**40 477 ...**	**40 473 ...**	**40 475 ...**

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP									
0.1165 - 0.1559	0.472	1.102	1.260	2.362	0.157	4	4	xxxxx[2]		xxxxx[1]				xxxxx[1]		xxxxx[1]	
0.1165 - 0.1559	0.472	1.102	1.260	2.362	0.157	4	6					xxxxx[1]					
0.1563	0.472	1.102	1.260	2.362	0.157	4	4	03970		03970[1]				03970[1]		03970[1]	
0.1563	0.472	1.102	1.260	2.362	0.157	4	6					03970[1]					
0.1567	0.472	1.102	1.260	2.362	0.157	4	4	03980		03980[1]				03980[1]		03980[1]	
0.1567	0.472	1.102	1.260	2.362	0.157	4	6					03980[1]					
0.1571	0.472	1.102	1.260	2.362	0.157	4	4	03990		03990[1]				03990[1]		03990[1]	
0.1571	0.472	1.102	1.260	2.362	0.157	4	6					03990[1]					
0.1575	0.472	1.102	1.260	2.362	0.157	4	4	04000		04000[1]				04000[1]		04000[1]	
0.1575	0.472	1.102	1.260	2.362	0.157	4	6					04000[1]					
0.1579	0.472	1.102	1.260	2.362	0.157	4	4	04010		04010[1]				04010[1]		04010[1]	
0.1579	0.472	1.102	1.260	2.362	0.157	4	6					04010[1]					
0.1583	0.472	1.102	1.260	2.362	0.157	4	4	04020		04020[1]				04020[1]		04020[1]	
0.1583	0.472	1.102	1.260	2.362	0.157	4	6					04020[1]					
0.1587	0.472	1.102	1.260	2.362	0.157	4	4	04030		04030[1]				04030[1]		04040[1]	
0.1587	0.472	1.102	1.260	2.362	0.157	4	6					04030[1]					
0.1591 - 0.1594	0.472	1.102	1.260	2.362	0.157	4	4	xxxxx[2]		xxxxx[1]				xxxxx[1]		xxxxx[1]	
0.1591 - 0.1594	0.472	1.102	1.260	2.362	0.157	4	6					xxxxx[1]					
0.1598 - 0.1953	0.472	1.378	1.575	2.992	0.236	6	4	xxxxx[2]		xxxxx[1]				xxxxx[1]		xxxxx[1]	
0.1598 - 0.1953	0.472	1.378	1.575	2.992	0.236	6	6					xxxxx[1]					
0.1957	0.472	1.378	1.575	2.992	0.236	6	4	04970		04970[1]				04970[1]		04970[1]	
0.1957	0.472	1.378	1.575	2.992	0.236	6	6					04970[1]					
0.1961	0.472	1.378	1.575	2.992	0.236	6	4	04980		04980[1]				04980[1]		04980[1]	
0.1961	0.472	1.378	1.575	2.992	0.236	6	6					04980[1]					
0.1965	0.472	1.378	1.575	2.992	0.236	6	4	04990		04990[1]				04990[1]		04990[1]	
0.1965	0.472	1.378	1.575	2.992	0.236	6	6					04990[1]					
0.1969	0.472	1.378	1.575	2.992	0.236	6	4	05000		05000[1]				05000[1]		05000[1]	
0.1969	0.472	1.378	1.575	2.992	0.236	6	6					05000[1]					
0.1972	0.472	1.378	1.575	2.992	0.236	6	4	05010		05010[1]				05010[1]		05010[1]	
0.1972	0.472	1.378	1.575	2.992	0.236	6	6					05010[1]					
0.1976	0.472	1.378	1.575	2.992	0.236	6	4	05020		05020[1]				05020[1]		05020[1]	
0.1976	0.472	1.378	1.575	2.992	0.236	6	6					05020[1]					

P	●	●			
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H	○				●
O				○	

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 pieces
2) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ v_c Page 78+79

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø .5000" ±.0005")

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Continued on next page

Fullmax – High-performance machine reamers, long

▲ extremely irregular pitch
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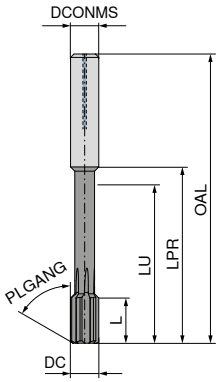
▲ specialized geometries and coatings



UNI	VA	K	ALU	H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left Hand Helix	Left Hand Helix	straight flute	straight flute	straight flute
PLGANG 30°	PLGANG 30°	PLGANG 30°	PLGANG 30°	PLGANG 30°
ASG2210	ASG2231	ASG2350	ASG2270	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Through hole	Through hole	Through hole	Through hole	Through hole
40 486 ...	**40 403 ...**	**40 477 ...**	**40 473 ...**	**40 475 ...**

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP									
0.1980	0.472	1.378	1.575	2.992	0.236	6	4	**05030**		**05030**[1]				**05030**[1]		**05030**[1]
0.1980	0.472	1.378	1.575	2.992	0.236	6	6					**05030**[1]				
0.1984 - 0.2346	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.1984 - 0.2346	0.472	1.378	1.575	2.992	0.236	6	6					**xxxxx**[1]				
0.2350	0.472	1.378	1.575	2.992	0.236	6	4	**05970**		**05970**[1]				**05970**[1]		**05970**[1]
0.2350	0.472	1.378	1.575	2.992	0.236	6	6					**05970**[1]				
0.2354	0.472	1.378	1.575	2.992	0.236	6	4	**05980**		**05980**[1]				**05980**[1]		**05980**[1]
0.2354	0.472	1.378	1.575	2.992	0.236	6	6					**05980**[1]				
0.2358	0.472	1.378	1.575	2.992	0.236	6	4	**05990**		**05990**[1]				**05990**[1]		**05990**[1]
0.2358	0.472	1.378	1.575	2.992	0.236	6	6					**05990**[1]				
0.2362	0.472	1.378	1.575	2.992	0.236	6	4	**06000**		**06000**[1]				**06000**[1]		**06000**[1]
0.2362	0.472	1.378	1.575	2.992	0.236	6	6					**06000**[1]				
0.2366	0.472	1.378	1.575	2.992	0.236	6	4	**06010**		**06010**[1]				**06010**[1]		**06010**[1]
0.2366	0.472	1.378	1.575	2.992	0.236	6	6					**06010**[1]				
0.2370	0.472	1.378	1.575	2.992	0.236	6	4	**06020**		**06020**[1]				**06020**[1]		**06020**[1]
0.2370	0.472	1.378	1.575	2.992	0.236	6	6					**06020**[1]				
0.2374	0.472	1.378	1.575	2.992	0.236	6	4	**06030**		**06030**[1]				**06030**[1]		**06030**[1]
0.2374	0.472	1.378	1.575	2.992	0.236	6	6					**06030**[1]				
0.2378 - 0.2382	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.2378 - 0.2382	0.472	1.378	1.575	2.992	0.236	6	6					**xxxxx**[1]				
0.2386 - 0.3134	0.630	2.362	2.559	3.976	0.315	8	6	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.2386 - 0.3134	0.630	2.362	2.559	3.976	0.315	8	8					**xxxxx**[1]				
0.3138	0.630	2.362	2.559	3.976	0.315	8	6	**07970**		**07970**[1]				**07970**[1]		**07970**[1]
0.3138	0.630	2.362	2.559	3.976	0.315	8	8					**07970**[1]				
0.3142	0.630	2.362	2.559	3.976	0.315	8	6	**07980**		**07980**[1]				**07980**[1]		**07980**[1]
0.3142	0.630	2.362	2.559	3.976	0.315	8	8					**07980**[1]				
0.3146	0.630	2.362	2.559	3.976	0.315	8	6	**07990**		**07990**[1]				**07990**[1]		**07990**[1]
0.3146	0.630	2.362	2.559	3.976	0.315	8	8					**07990**[1]				
0.3150	0.630	2.362	2.559	3.976	0.315	8	6	**08000**		**08000**[1]				**08000**[1]		**08000**[1]
0.3150	0.630	2.362	2.559	3.976	0.315	8	8					**08000**[1]				
0.3154	0.630	2.362	2.559	3.976	0.315	8	6	**08010**		**08010**[1]				**08010**[1]		**08010**[1]
0.3154	0.630	2.362	2.559	3.976	0.315	8	8					**08010**[1]				

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→ v_c Page 78+79

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø .5000" ±.0005")

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Continued on next page

Fullmax – High-performance machine reamers, long

▲ extremely irregular pitch
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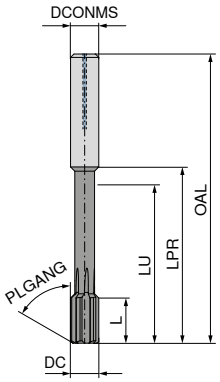
▲ specialized geometries and coatings



UNI	VA	K	ALU	H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left Hand Helix	Left Hand Helix	straight flute	straight flute	straight flute
PLGANG 30°	PLGANG 30°	PLGANG 30°	PLGANG 30°	PLGANG 30°
ASG2210	ASG2231	ASG2350	ASG2270	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Through hole	Through hole	Through hole	Through hole	Through hole
40 486 ...	**40 403 ...**	**40 477 ...**	**40 473 ...**	**40 475 ...**

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP									
0.3157	0.630	2.362	2.559	3.976	0.315	8	6	**08020**		**08020**[1]				**08020**[1]		**08020**[1]
0.3157	0.630	2.362	2.559	3.976	0.315	8	8					**08020**[1]				
0.3161	0.630	2.362	2.559	3.976	0.315	8	6	**08030**		**08030**[1]				**08030**[1]		**08030**[1]
0.3161	0.630	2.362	2.559	3.976	0.315	8	8					**08030**[1]				
0.3165 - 0.3169	0.630	2.362	2.559	3.976	0.315	8	6	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.3165 - 0.3169	0.630	2.362	2.559	3.976	0.315	8	8					**xxxxx**[1]				
0.3173 - 0.3921	0.630	2.480	2.677	4.252	0.394	10	6	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.3173 - 0.3921	0.630	2.480	2.677	4.252	0.394	10	8					**xxxxx**[1]				
0.3925	0.630	2.480	2.677	4.252	0.394	10	6	**09970**		**09970**[1]				**09970**[1]		**09970**[1]
0.3925	0.630	2.480	2.677	4.252	0.394	10	8					**09970**[1]				
0.3929	0.630	2.480	2.677	4.252	0.394	10	6	**09980**		**09980**[1]				**09980**[1]		**09980**[1]
0.3929	0.630	2.480	2.677	4.252	0.394	10	8					**09980**[1]				
0.3933	0.630	2.480	2.677	4.252	0.394	10	6	**09990**		**09990**[1]				**09990**[1]		**09990**[1]
0.3933	0.630	2.480	2.677	4.252	0.394	10	8					**09990**[1]				
0.3937	0.630	2.480	2.677	4.252	0.394	10	6	**10000**		**10000**[1]				**10000**[1]		**10000**[1]
0.3937	0.630	2.480	2.677	4.252	0.394	10	8					**10000**[1]				
0.3941	0.630	2.480	2.677	4.252	0.394	10	6	**10010**		**10010**[1]				**10010**[1]		**10010**[1]
0.3941	0.630	2.480	2.677	4.252	0.394	10	8					**10010**[1]				
0.3945	0.630	2.480	2.677	4.252	0.394	10	6	**10020**		**10020**[1]				**10020**[1]		**10020**[1]
0.3945	0.630	2.480	2.677	4.252	0.394	10	8					**10020**[1]				
0.3949	0.630	2.480	2.677	4.252	0.394	10	6	**10030**		**10030**[1]				**10030**[1]		**10030**[1]
0.3949	0.630	2.480	2.677	4.252	0.394	10	8					**10030**[1]				
0.3953 - 0.3957	0.630	2.480	2.677	4.252	0.394	10	6	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.3953 - 0.3957	0.630	2.480	2.677	4.252	0.394	10	8					**xxxxx**[1]				
0.3961 - 0.4709	0.787	3.150	3.346	5.118	0.472	12	6	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.3961 - 0.4709	0.787	3.150	3.346	5.118	0.472	12	8					**xxxxx**[1]				
0.4713	0.787	3.150	3.346	5.118	0.472	12	6	**11970**		**11970**[1]				**11970**[1]		**11970**[1]
0.4713	0.787	3.150	3.346	5.118	0.472	12	8					**11970**[1]				
0.4717	0.787	3.150	3.346	5.118	0.472	12	6	**11980**		**11980**[1]				**11980**[1]		**11980**[1]
0.4717	0.787	3.150	3.346	5.118	0.472	12	8					**11980**[1]				
0.4720	0.787	3.150	3.346	5.118	0.472	12	6	**11990**		**11990**[1]				**11990**[1]		**11990**[1]
0.4720	0.787	3.150	3.346	5.118	0.472	12	8					**11990**[1]				

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→ **Page 99**
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Continued on next page

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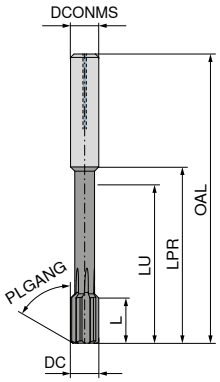

UNI	VA	K	ALU	H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left Hand Helix	Left Hand Helix	straight flute	straight flute	straight flute
PLGANG 30°	PLGANG 30°	PLGANG 30°	PLGANG 30°	PLGANG 30°
ASG2210	ASG2231	ASG2350	ASG2270	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Through hole	Through hole	Through hole	Through hole	Through hole

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	40 486 ...	40 403 ...	40 477 ...	40 473 ...	40 475 ...
0.4724	0.787	3.150	3.346	5.118	0.472	12	6	**12000**	**12000**[1]		**12000**[1]	**12000**[1]
0.4724	0.787	3.150	3.346	5.118	0.472	12	8			**12000**[1]		
0.4728	0.787	3.150	3.346	5.118	0.472	12	6	**12010**	**12010**[1]		**12010**[1]	**12010**[1]
0.4728	0.787	3.150	3.346	5.118	0.472	12	8			**12010**[1]		
0.4732	0.787	3.150	3.346	5.118	0.472	12	6	**12020**	**12020**[1]		**12020**[1]	**12020**[1]
0.4732	0.787	3.150	3.346	5.118	0.472	12	8			**12020**[1]		
0.4736	0.787	3.150	3.346	5.118	0.472	12	6	**12030**	**12030**[1]		**12030**[1]	**12030**[1]
0.4736	0.787	3.150	3.346	5.118	0.472	12	8			**12030**[1]		
0.4740 - 0.4744	0.787	3.150	3.346	5.118	0.472	12	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.4740 - 0.4744	0.787	3.150	3.346	5.118	0.472	12	8			**xxxxx**[1]		
0.4748 - 0.5532	0.787	3.150	3.346	5.118	0.551	14	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.4748 - 0.5532	0.787	3.150	3.346	5.118	0.551	14	8			**xxxxx**[1]		
0.5535 - 0.6319	0.787	3.819	4.016	5.906	0.630	16	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.5535 - 0.6319	0.787	3.819	4.016	5.906	0.630	16	8			**xxxxx**[1]		
0.6323 - 0.7106	0.787	3.819	4.016	5.906	0.709	18	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.6323 - 0.7106	0.787	3.819	4.016	5.906	0.709	18	8			**xxxxx**[1]		
0.7110 - 0.7894	0.787	4.134	4.331	6.299	0.787	20	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.7110 - 0.7894	0.787	4.134	4.331	6.299	0.787	20	8			**xxxxx**[1]		

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→ v_c Page 78+79

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→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

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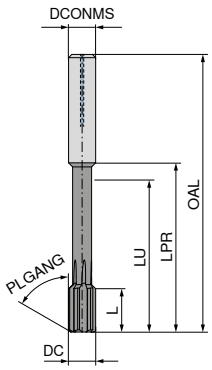

UNI	VA	ALU
DBG-U	DBQ	DBC-N
		
52M.57	52T.45	52Q.17
		
straight flute	straight flute	straight flute
PLGANG 60°	PLGANG 45°	PLGANG 60°
ASG2110	ASG2131	ASG2170
Solid carbide	Solid carbide	Solid carbide
Blind hole	Blind hole	Blind hole
40 485 ...	**40 402 ...**	**40 472 ...**

DC $_{H7}$ mm	L mm	LU mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP			
4	12	28	32	60	4	4	**04000**	**04000**	**04000**[1]
5	12	35	40	76	6	4	**05000**	**05000**	**05000**[1]
6	12	35	40	76	6	4	**06000**	**06000**	**06000**[1]
7	16	60	65	101	8	6	**07000**	**07000**	**07000**[1]
8	16	60	65	101	8	6	**08000**	**08000**	**08000**[2]
9	16	63	68	108	10	6	**09000**	**09000**	**09000**[1]
10	16	63	68	108	10	6	**10000**	**10000**	**10000**[1]
11	20	80	85	130	12	6	**11000**	**11000**	**11000**[1]
12	20	80	85	130	12	6	**12000**	**12000**	**12000**[1]
16	20	97	102	150	16	6	**16000**	**16000**	**16000**[1]

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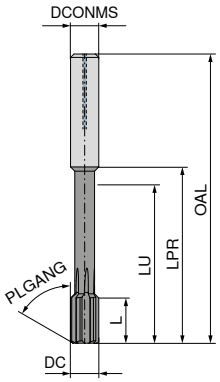

UNI	VA	K	ALU	H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
52M.57	52T.45	52K.65	52Q.17	52H.55
straight flute	straight flute	straight flute	straight flute	straight flute
PLGANG 60°	PLGANG 45°	PLGANG 30°	PLGANG 60°	PLGANG 30°
ASG2110	ASG2131	ASG2350	ASG2170	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Blind hole	Blind hole	Blind hole	Blind hole	Blind hole
40 487 ...	**40 404 ...**	**40 478 ...**	**40 474 ...**	**40 476 ...**

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP									
0.1165 - 0.1559	0.472	1.102	1.260	2.362	0.157	4	4	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.1165 - 0.1559	0.472	1.102	1.260	2.362	0.157	4	6					**xxxxx**[1]				
0.1563	0.472	1.102	1.260	2.362	0.157	4	4	**03970**		**03970**[1]				**03970**[1]		**03970**[1]
0.1563	0.472	1.102	1.260	2.362	0.157	4	6					**03970**[1]				
0.1567	0.472	1.102	1.260	2.362	0.157	4	4	**03980**		**03980**[1]				**03980**[1]		**03980**[1]
0.1567	0.472	1.102	1.260	2.362	0.157	4	6					**03980**[1]				
0.1571	0.472	1.102	1.260	2.362	0.157	4	4	**03990**		**03990**[1]				**03990**[1]		**03990**[1]
0.1571	0.472	1.102	1.260	2.362	0.157	4	6					**03990**[1]				
0.1575	0.472	1.102	1.260	2.362	0.157	4	4	**04000**		**04000**[1]				**04000**[1]		**04000**[1]
0.1575	0.472	1.102	1.260	2.362	0.157	4	6					**04000**[1]				
0.1579	0.472	1.102	1.260	2.362	0.157	4	4	**04010**		**04010**[1]				**04010**[1]		**04010**[1]
0.1579	0.472	1.102	1.260	2.362	0.157	4	6					**04010**[1]				
0.1583	0.472	1.102	1.260	2.362	0.157	4	4	**04020**		**04020**[1]				**04020**[1]		**04020**[1]
0.1583	0.472	1.102	1.260	2.362	0.157	4	6					**04020**[1]				
0.1587	0.472	1.102	1.260	2.362	0.157	4	4	**04030**		**04030**[1]				**04030**[1]		**04030**[1]
0.1587	0.472	1.102	1.260	2.362	0.157	4	6					**04030**[1]				
0.1591 - 0.1594	0.472	1.102	1.260	2.362	0.157	4	4	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.1591 - 0.1594	0.472	1.102	1.260	2.362	0.157	4	6					**xxxxx**[1]				
0.1598 - 0.1953	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx**[2]		**xxxxx**[1]				**xxxxx**[1]		**xxxxx**[1]
0.1598 - 0.1953	0.472	1.378	1.575	2.992	0.236	6	6					**xxxxx**[1]				
0.1957	0.472	1.378	1.575	2.992	0.236	6	4	**04970**		**04970**[1]				**04970**[1]		**04970**[1]
0.1957	0.472	1.378	1.575	2.992	0.236	6	6					**04970**[1]				
0.1961	0.472	1.378	1.575	2.992	0.236	6	4	**04980**		**04980**[1]				**04980**[1]		**04980**[1]
0.1961	0.472	1.378	1.575	2.992	0.236	6	6					**04980**[1]				
0.1965	0.472	1.378	1.575	2.992	0.236	6	4	**04990**		**04990**[1]				**04990**[1]		**04990**[1]
0.1965	0.472	1.378	1.575	2.992	0.236	6	6					**04990**[1]				
0.1969	0.472	1.378	1.575	2.992	0.236	6	4	**05000**		**05000**[1]				**05000**[1]		**05000**[1]
0.1969	0.472	1.378	1.575	2.992	0.236	6	6					**05000**[1]				
0.1972	0.472	1.378	1.575	2.992	0.236	6	4	**05010**		**05010**[1]				**05010**[1]		**05010**[1]
0.1972	0.472	1.378	1.575	2.992	0.236	6	6					**05010**[1]				
0.1976	0.472	1.378	1.575	2.992	0.236	6	4	**05020**		**05020**[1]				**05020**[1]		**05020**[1]
0.1976	0.472	1.378	1.575	2.992	0.236	6	6					**05020**[1]				

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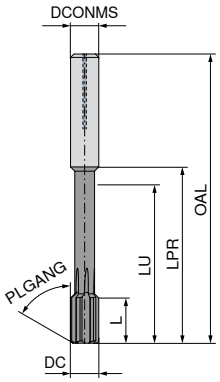
▲ specialized geometries and coatings



UNI	VA	K	ALU	H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
straight flute	straight flute	straight flute	straight flute	straight flute
PLGANG 60°	PLGANG 45°	PLGANG 30°	PLGANG 60°	PLGANG 30°
ASG2110	ASG2131	ASG2350	ASG2170	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Blind hole	Blind hole	Blind hole	Blind hole	Blind hole

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	40 487 ...	40 404 ...	40 478 ...	40 474 ...	40 476 ...
0.1980	0.472	1.378	1.575	2.992	0.236	6	4	**05030**	**05030**[1]		**05030**[1]	**05030**[1]
0.1980	0.472	1.378	1.575	2.992	0.236	6	6			**05030**[1]		
0.1984 - 0.2346	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.1984 - 0.2346	0.472	1.378	1.575	2.992	0.236	6	6			**xxxxx**[1]		
0.2350	0.472	1.378	1.575	2.992	0.236	6	4	**05970**	**05970**[1]		**05970**[1]	**05970**[1]
0.2350	0.472	1.378	1.575	2.992	0.236	6	6			**05970**[1]		
0.2354	0.472	1.378	1.575	2.992	0.236	6	4	**05980**	**05980**[1]		**05980**[1]	**05980**[1]
0.2354	0.472	1.378	1.575	2.992	0.236	6	6			**05980**[1]		
0.2358	0.472	1.378	1.575	2.992	0.236	6	4	**05990**	**05990**[1]		**05990**[1]	**05990**[1]
0.2358	0.472	1.378	1.575	2.992	0.236	6	6			**05990**[1]		
0.2362	0.472	1.378	1.575	2.992	0.236	6	4	**06000**	**06000**[1]		**06000**[1]	**06000**[1]
0.2362	0.472	1.378	1.575	2.992	0.236	6	6			**06000**[1]		
0.2366	0.472	1.378	1.575	2.992	0.236	6	4	**06010**	**06010**[1]		**06010**[1]	**06010**[1]
0.2366	0.472	1.378	1.575	2.992	0.236	6	6			**06010**[1]		
0.2370	0.472	1.378	1.575	2.992	0.236	6	4	**06020**	**06020**[1]		**06020**[1]	**06020**[1]
0.2370	0.472	1.378	1.575	2.992	0.236	6	6			**06020**[1]		
0.2374	0.472	1.378	1.575	2.992	0.236	6	4	**06030**	**06030**[1]		**06030**[1]	**06030**[1]
0.2374	0.472	1.378	1.575	2.992	0.236	6	6			**06030**[1]		
0.2378 - 0.2382	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.2378 - 0.2382	0.472	1.378	1.575	2.992	0.236	6	6			**xxxxx**[1]		
0.2386 - 0.3134	0.630	2.362	2.559	3.976	0.315	8	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.2386 - 0.3134	0.630	2.362	2.559	3.976	0.315	8	8			**xxxxx**[1]		
0.3138	0.630	2.362	2.559	3.976	0.315	8	6	**07970**	**07970**[1]		**07970**[1]	**07970**[1]
0.3138	0.630	2.362	2.559	3.976	0.315	8	8			**07970**[1]		
0.3142	0.630	2.362	2.559	3.976	0.315	8	6	**07980**	**07980**[1]		**07980**[1]	**07980**[1]
0.3142	0.630	2.362	2.559	3.976	0.315	8	8			**07980**[1]		
0.3146	0.630	2.362	2.559	3.976	0.315	8	6	**07990**	**07990**[1]		**07990**[1]	**07990**[1]
0.3146	0.630	2.362	2.559	3.976	0.315	8	8			**07990**[1]		
0.3150	0.630	2.362	2.559	3.976	0.315	8	6	**08000**	**08000**[1]		**08000**[1]	**08000**[1]
0.3150	0.630	2.362	2.559	3.976	0.315	8	8			**08000**[1]		
0.3154	0.630	2.362	2.559	3.976	0.315	8	6	**08010**	**08010**[1]		**08010**[1]	**08010**[1]
0.3154	0.630	2.362	2.559	3.976	0.315	8	8			**08010**[1]		

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K	●		●		
N	○			●	
S	○				
H	○				●
O				○	

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→ v_c Page 78+79

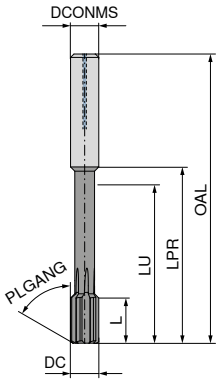
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø .5000" ±.0005")

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Continued on next page

Fullmax – High-performance machine reamers, long

▲ extremely irregular pitch
▲ designed for high-speed machining
▲ specialized geometries and coatings



UNI	VA	K	ALU	H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
straight flute	straight flute	straight flute	straight flute	straight flute
PLGANG 60°	PLGANG 45°	PLGANG 30°	PLGANG 60°	PLGANG 30°
ASG2110	ASG2131	ASG2350	ASG2170	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Blind hole	Blind hole	Blind hole	Blind hole	Blind hole
40 487 ...	**40 404 ...**	**40 478 ...**	**40 474 ...**	**40 476 ...**

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	40 487 ...	40 404 ...	40 478 ...	40 474 ...	40 476 ...
0.3157	0.630	2.362	2.559	3.976	0.315	8	6	08020	08020[1]		08020[1]	08020[1]
0.3157	0.630	2.362	2.559	3.976	0.315	8	8			08020[1]		
0.3161	0.630	2.362	2.559	3.976	0.315	8	6	08030	08030[1]		08030[1]	08030[1]
0.3161	0.630	2.362	2.559	3.976	0.315	8	8			08030[1]		
0.3165 - 0.3169	0.630	2.362	2.559	3.976	0.315	8	6	xxxxx[2]	xxxxx[1]		xxxxx[1]	xxxxx[1]
0.3165 - 0.3169	0.630	2.362	2.559	3.976	0.315	8	8			xxxxx[1]		
0.3173 - 0.3921	0.630	2.480	2.677	4.252	0.394	10	6	xxxxx[2]	xxxxx[1]		xxxxx[1]	xxxxx[1]
0.3173 - 0.3921	0.630	2.480	2.677	4.252	0.394	10	8			xxxxx[1]		
0.3925	0.630	2.480	2.677	4.252	0.394	10	6	09970	09970[1]		09970[1]	09970[1]
0.3925	0.630	2.480	2.677	4.252	0.394	10	8			09970[1]		
0.3929	0.630	2.480	2.677	4.252	0.394	10	6	09980	09980[1]		09980[1]	09980[1]
0.3929	0.630	2.480	2.677	4.252	0.394	10	8			09980[1]		
0.3933	0.630	2.480	2.677	4.252	0.394	10	6	09990	09990[1]		09990[1]	09990[1]
0.3933	0.630	2.480	2.677	4.252	0.394	10	8			09990[1]		
0.3937	0.630	2.480	2.677	4.252	0.394	10	6	10000	10000[1]		10000[1]	10000[1]
0.3937	0.630	2.480	2.677	4.252	0.394	10	8			10000[1]		
0.3941	0.630	2.480	2.677	4.252	0.394	10	6	10010	10010[1]		10010[1]	10010[1]
0.3941	0.630	2.480	2.677	4.252	0.394	10	8			10010[1]		
0.3945	0.630	2.480	2.677	4.252	0.394	10	6	10020	10020[1]		10020[1]	10020[1]
0.3945	0.630	2.480	2.677	4.252	0.394	10	8			10020[1]		
0.3949	0.630	2.480	2.677	4.252	0.394	10	6	10030	10030[1]		10030[1]	10030[1]
0.3949	0.630	2.480	2.677	4.252	0.394	10	8			10030[1]		
0.3953 - 0.3957	0.630	2.480	2.677	4.252	0.394	10	6	xxxxx[2]	xxxxx[1]		xxxxx[1]	xxxxx[1]
0.3953 - 0.3957	0.630	2.480	2.677	4.252	0.394	10	8			xxxxx[1]		
0.3961 - 0.4709	0.787	3.150	3.346	5.118	0.472	12	6	xxxxx[2]	xxxxx[1]		xxxxx[1]	xxxxx[1]
0.3961 - 0.4709	0.787	3.150	3.346	5.118	0.472	12	8			xxxxx[1]		
0.4713	0.787	3.150	3.346	5.118	0.472	12	6	11970	11970[1]		11970[1]	11970[1]
0.4713	0.787	3.150	3.346	5.118	0.472	12	8			11970[1]		
0.4717	0.787	3.150	3.346	5.118	0.472	12	6	11980	11980[1]		11980[1]	11980[1]
0.4717	0.787	3.150	3.346	5.118	0.472	12	8			11980[1]		
0.4720	0.787	3.150	3.346	5.118	0.472	12	6	11990	11990[1]		11990[1]	11990[1]
0.4720	0.787	3.150	3.346	5.118	0.472	12	8			11990[1]		

P	●	●			
M	●	●			
K	●		●		
N	○			●	
S	○				
H	○				●
O				○	

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→ v_c Page 78+79

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→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Continued on next page

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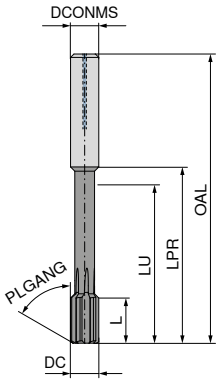
▲ specialized geometries and coatings



UNI	VA	K	ALU	H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
straight flute	straight flute	straight flute	straight flute	straight flute
PLGANG 60°	PLGANG 45°	PLGANG 30°	PLGANG 60°	PLGANG 30°
ASG2110	ASG2131	ASG2350	ASG2170	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Blind hole	Blind hole	Blind hole	Blind hole	Blind hole

DC +0.0002 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	40 487 ...	40 404 ...	40 478 ...	40 474 ...	40 476 ...
0.4724	0.787	3.150	3.346	5.118	0.472	12	6	**12000**	**12000**[1]		**12000**[1]	**12000**[1]
0.4724	0.787	3.150	3.346	5.118	0.472	12	8			**12000**[1]		
0.4728	0.787	3.150	3.346	5.118	0.472	12	6	**12010**	**12010**[1]		**12010**[1]	**12010**[1]
0.4728	0.787	3.150	3.346	5.118	0.472	12	8			**12010**[1]		
0.4732	0.787	3.150	3.346	5.118	0.472	12	6	**12020**	**12020**[1]		**12020**[1]	**12020**[1]
0.4732	0.787	3.150	3.346	5.118	0.472	12	8			**12020**[1]		
0.4736	0.787	3.150	3.346	5.118	0.472	12	6	**12030**	**12030**[1]		**12030**[1]	**12030**[1]
0.4736	0.787	3.150	3.346	5.118	0.472	12	8			**12030**[1]		
0.4740 - 0.4744	0.787	3.150	3.346	5.118	0.472	12	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.4740 - 0.4744	0.787	3.150	3.346	5.118	0.472	12	8			**xxxxx**[1]		
0.4748 - 0.5532	0.787	3.150	3.346	5.118	0.551	14	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.4748 - 0.5532	0.787	3.150	3.346	5.118	0.551	14	8			**xxxxx**[1]		
0.5535 - 0.6319	0.787	3.819	4.016	5.906	0.630	16	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.5535 - 0.6319	0.787	3.819	4.016	5.906	0.630	16	8			**xxxxx**[1]		
0.6323 - 0.7106	0.787	3.819	4.016	5.906	0.709	18	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.6323 - 0.7106	0.787	3.819	4.016	5.906	0.709	18	8			**xxxxx**[1]		
0.7110 - 0.7894	0.787	4.134	4.331	6.299	0.787	20	6	**xxxxx**[2]	**xxxxx**[1]		**xxxxx**[1]	**xxxxx**[1]
0.7110 - 0.7894	0.787	4.134	4.331	6.299	0.787	20	8			**xxxxx**[1]		
P								●	●			
M								●	●			
K								●		●		
N								○			●	
S								○				
H								○				●
O											○	

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→ v_c Page 78+79

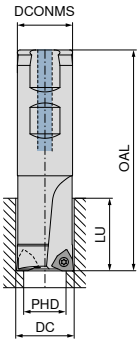
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø .5000" ±.0005")

→ **Page 99**
Here you will find more information on chamfer geometries (ASG).

Insert countersink 180°

Scope of supply:
Indexable insert countersink including clamping screws

WPS



NEW


SIG 180°

30 198 ...

DC mm	PHD mm	ZEFP	ZNF	DCONMS mm	LU mm	OAL mm	Insert	
10	5.3	1	1	16	10	80	WOEX 030204	**01000** [1]
11	6.4	1	1	16	11	80	WOEX 030204	**01100** [1]
15	8.4	1	1	16	15	80	WOEX 05T304	**01500**
18	10.4	1	1	16	18	80	WOEX 05T304	**01800**
20	13.0	1	1	25	20	100	WOEX 05T304	**02000**
24	15.0	2	2	25	24	100	WOEX 05T304	**02400**
26	17.0	2	2	25	26	100	WOEX 05T304	**02600**
30	19.0	2	2	25	30	100	WOEX 06T304	**03000**
33	21.0	2	2	25	33	100	WOEX 080404	**03300**
36	21.0	2	2	25	36	100	WOEX 080404	**03600**
40	25.0	2	2	25	40	100	WOEX 080404	**04000**
48	28.0	2	2	32	48	120	WOEX 100504	**04800**

1) Without Through Coolant


Screwdriver

80 950 ...

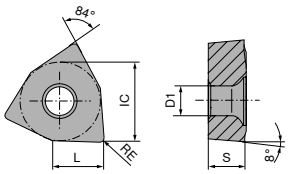

Clamping screw

10 950 ...

Spare parts DC				
10 - 11	T06 - IP	**123**	M2.0x4.3 - 06IP	**10000**
15 - 26	T08 - IP	**125**	M2.5x7.2 - 08IP	**10500**
30	T10 - IP	**127**	M3.5x7.3 - 10IP	**10600**
33 - 48	T15 - IP	**128**	M4.5x9 - 15IP	**12700**

WOEX

Designation	L	IC	S	D1
	mm	mm	mm	mm
WOEX 0302..	3.2	5	2.30	2.30
WOEX 05T3..	5.3	8	3.80	2.85
WOEX 06T3..	6.6	10	3.80	4.05
WOEX 0804..	7.9	12	4.80	4.90
WOEX 1005..	9.9	15	5.30	4.90



4

WOEX

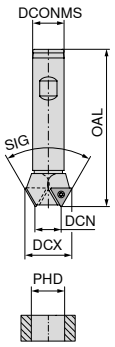
	-01 K10	-01 BK8425
		
	WOEX	WOEX
	10 821 ...	10 821 ...
ISO / RE mm		
030204 / 0.4	35301	30301
05T304 / 0.4	35501	30501
06T304 / 0.4	35601	30601
080404 / 0.4	35801	30801
100504 / 0.4	36001	31001
P		●
M		●
K		●
N	●	○
S	●	●
H		○
O	●	

→ v_c Page 91

Indexable chamfer milling 90°

Scope of supply:
Indexable insert countersink including clamping screws

WPS




SIG 90°

30 196 ...

DCX mm	DCN mm	PHD mm	ZEFP	ZNF	DCONMS mm	OAL mm	Insert	
19	7	9.5	2	2	16	100	TOHX 090204	**19000**
23	11	12.0	2	2	16	100	TOHX 090204	**23000**
26	11	12.0	1	2	16	100	TOHX 090204	**26000**
30	12	13.0	2	2	20	100	TOHX 140305	**30000**
34	16	17.0	2	2	20	100	TOHX 140305	**34000**
37	19	20.0	2	2	20	100	TOHX 140305	**37000**


TORX® Screws

62 950 ...


Screwdriver

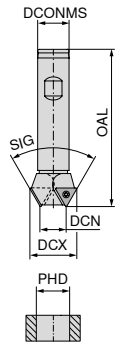
80 950 ...

Spare parts DCX				
19 - 26	M2.6x6.2 - 08IP	**09900**	T08 - IP	**125**
30 - 37	M3.5x7.3 - 10IP	**12600**	T10 - IP	**127**

Indexable chamfer milling 60°

Scope of supply:
Indexable insert countersink including clamping screws

WPS




SIG 60°

30 197 ...

DCX mm	DCN mm	PHD mm	ZEFP	ZNF	DCONMS mm	OAL mm	Insert	
16.5	8.1	8.5	1	1	16	100	TOHX 090204	**16500**
20.0	11.6	12.0	2	2	16	100	TOHX 090204	**20000**
22.0	13.6	14.0	2	2	16	100	TOHX 090204	**22000**
23.5	15.1	15.5	2	2	16	100	TOHX 090204	**23500**
25.5	17.1	17.5	2	2	16	100	TOHX 090204	**25500**


TORX® Screws

62 950 ...

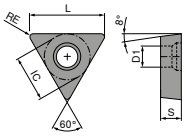

Screwdriver

80 950 ...

Spare parts DCX				
16.5 - 22	M2.6x5.2 - 08IP	**12000**	T08 - IP	**125**
23.5 - 25.5	M2.6x6.2 - 08IP	**09900**	T08 - IP	**125**

TOHX

Designation	L mm	IC mm	S mm	D1 mm
TOHX 0902..	9.12	5.6	2.50	2.8
TOHX 1403..	13.62	8.2	3.00	3.8



TOHX

	-G06 BK8425	-U877 BK8425	-G12 BK8425
			
	F TOHX	F TOHX	F TOHX
	62 602 ...	62 604 ...	62 603 ...
ISO / RE mm			
090204EN / 0.4		31400	31400
140305EN / 0.5	33000		
P	●	●	●
M	●	●	●
K	●	●	●
N	○	○	○
S	●	●	●
H	○	○	○
O			

→ v_c Page 91

TOHX

	-U877 K10	-G12 K10
		
	F TOHX	F TOHX
	62 604 ...	62 603 ...
ISO / RE mm		
090204EN / 0.4	51400	
090204FN / 0.4		51600
140305FN / 0.5		52800
P		
M		
K		
N	●	●
S	●	●
H		
O	●	●

→ v_c Page 91

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength lbf/in²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0.15 % C	Annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C	Annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3		Tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C	Annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5		Tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1		Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2		Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3		Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4		Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2		Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3		Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic	Tempered	117500 lbf/in² / 250 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	88500 lbf/in² / 200 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic	Tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)		113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic		88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)		127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic		78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic		122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic		63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic		113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable		49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable		43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable		63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn		43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper		49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2			137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis	Annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2			171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3		Cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium		5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys		152300 lbf/in²	3.7165	TiAl6V4		
		S.3.3	Beta alloys		203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1		Hardened and tempered	46-55 HRC				
		H.1.2		Hardened and tempered	56-60 HRC				
		H.1.3		Hardened and tempered	61-65 HRC				
		H.1.4		Hardened and tempered	66-70 HRC				
	Chilled iron	H.2.1		Cast	400 HB				
	Hardened cast iron	H.3.1		Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic		≤ 21800 lbf/in²				
		O.1.2	Plastics, thermoplastic		≤ 14500 lbf/in²				
		O.2.1	Aramid fibre-reinforced		≤ 145000 lbf/in²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 145000 lbf/in²				
		O.3.1	Graphite						

*** Tensile Strength at Rupture (Rm)**

Cutting data standard values for REAMAX TS

Index	49 586 ..., 49 585 ... 75J.65, 75H.65 – ASG3000 / HM-DBG-P						49 521 ..., 49 571 ... 75J.65, 75H.65 – ASG0106 / HM-DBG-P					
	Nominal Ø in inches ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590	Nominal Ø in inches ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016
	Number of flutes ▸		6	6	8	10	Number of flutes ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.1.2	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.1.3	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.1.4	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.1.5	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.2.1	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.2.2	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.2.3	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.2.4	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.3.1							**100** (80–160)	**100** (80–130)	.024–.035	.031–.043	.043–.059	.059–.091
P.3.2							**100** (80–160)	**100** (80–130)	.024–.035	.031–.043	.043–.059	.059–.091
P.3.3							**100** (80–160)	**100** (80–130)	.024–.035	.031–.043	.043–.059	.059–.091
P.4.1							**150** (110–200)	**130** (110–160)	.024–.035	.031–.043	.043–.059	.059–.091
P.4.2							**150** (110–200)	**130** (110–160)	.024–.035	.031–.043	.043–.059	.059–.091
M.1.1							**150** (110–200)	**130** (110–160)	.024–.035	.031–.043	.043–.059	.059–.091
M.2.1							**150** (110–200)	**130** (110–160)	.024–.035	.031–.043	.043–.059	.059–.091
M.3.1							**100** (80–160)	**100** (80–130)	.024–.035	.031–.043	.043–.059	.059–.091
K.1.1	**490** (430–720)	**390** (330–490)	.035–.051	.047–.067	.063–.091	.091–.134						
K.1.2	**490** (430–720)	**390** (330–490)	.035–.051	.047–.067	.063–.091	.091–.134						
K.2.1	**570** (490–980)	**490** (430–590)	.035–.051	.047–.067	.063–.091	.091–.134						
K.2.2	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110						
K.3.1	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110						
K.3.2	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110						
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for REAMAX TS

Index	49 534 ..., 49 535 ... 75J.71, 75H.71 – ASG3000 / TiN						49 596 ... 75J.71 – ASG4000 / TiN					
Nominal Ø in inches ▸			.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590			.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
Reaming allowance Ø ▸			.008 – .012	.008 – .012	.012 – .016	.012 – .016			.008 – .012	.008 – .012	.012 – .016	.012 – .016
Number of flutes ▸			6	6	8	10			6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.2	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.3	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.4	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.5	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.1	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110						
P.2.2	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110						
P.2.3	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110						
P.2.4	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110						
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	260 (200–430)	260 (200–390)	.035–.051	.047–.067	.063–.091	.091–.134						
K.1.2	260 (200–430)	260 (200–390)	.035–.051	.047–.067	.063–.091	.091–.134						
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	**390** (330–660)	**390** (330–660)	.035–.051	.043–.067	.059–.091	.091–.134						
N.3.2	**260** (200–490)	**260** (200–390)	.028–.043	.035–.055	.047–.075	.067–.102						
N.3.3	**390** (330–660)	**390** (330–490)	.028–.043	.035–.055	.047–.075	.067–.102						
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for REAMAX TS

Index	49 520 ..., 49 527 ... 75J.71, 75H.71 – ASG0106 / TiN						49 526 ..., 49 580 ... 75J.17, 75H.17 – ASG0706 / DBC					
	Nominal Ø in inches ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590	Nominal Ø in inches ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016
	Number of flutes ▸		6	6	8	10	Number of flutes ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4												
P.3.1	70 (50–110)	70 (50–90)	.024–.035	.031–.043	.043–.059	.059–.091						
P.3.2	70 (50–110)	70 (50–90)	.024–.035	.031–.043	.043–.059	.059–.091						
P.3.3	70 (50–110)	70 (50–90)	.024–.035	.031–.043	.043–.059	.059–.091						
P.4.1	100 (70–130)	90 (70–110)	.024–.035	.031–.043	.043–.059	.059–.091						
P.4.2	100 (70–130)	90 (70–110)	.024–.035	.031–.043	.043–.059	.059–.091						
M.1.1	100 (70–130)	90 (70–110)	.024–.035	.031–.043	.043–.059	.059–.091						
M.2.1	100 (70–130)	90 (70–110)	.024–.035	.031–.043	.043–.059	.059–.091						
M.3.1	70 (50–110)	70 (50–90)	.024–.035	.031–.043	.043–.059	.059–.091						
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1							**490** (430–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.1.2							**490** (430–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.2.1							**660** (590–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.2.2							**660** (590–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.2.3							**660** (590–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.3.1												
N.3.2												
N.3.3												
N.4.1							**490** (430–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1							820 (720–890)	820 (720–890)	.035–.051	.043–.067	.059–.091	.087–.134

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for REAMAX TS

Index	49 544 ..., 49 539 ... 75J.93, 75H.93 – ASG3000 / DST						49 597 ... 75J.93 – ASG4000 / DST					
	Nominal Ø in inches ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590	Nominal Ø in inches ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016
	Number of flutes ▸		6	6	8	10	Number of flutes ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.2	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.3	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.4	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.5	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.1	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.2	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.3	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.4	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1	**570** (490–980)	**490** (430–590)	.035–.051	.047–.067	.063–.091	.091–.134	**740** (660–980)	**590** (520–790)	.047–.063	.059–.079	.079–.106	.114–.161
K.2.2	**380** (330–490)	**330** (260–390)	.031–.043	.039–.055	.051–.075	.075–.110	**390** (330–490)	**330** (260–390)	.047–.063	.059–.079	.079–.106	.114–.161
K.3.1	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110						
K.3.2	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110	**390** (330–590)	**390** (330–490)	.039–.051	.047–.067	.067–.091	.094–.134
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	490 (430–1050)	490 (430–660)	.035–.051	.043–.067	.059–.091	.083–.122						
N.3.2	490 (430–1050)	490 (430–660)	.035–.051	.043–.067	.059–.091	.083–.122						
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for REAMAX TS

Index	49 531 ..., 49 530 ...					
	75J.21, 75H.21 – ASG03 / K10					
	Nominal Ø in inches ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016
	Number of flutes ▸		6	6	8	10
	3xD	5xD				
	v_c (ft/min)		f (inch/rev)			
P.1.1						
P.1.2						
P.1.3						
P.1.4						
P.1.5						
P.2.1						
P.2.2						
P.2.3						
P.2.4						
P.3.1						
P.3.2						
P.3.3						
P.4.1						
P.4.2						
M.1.1						
M.2.1						
M.3.1						
K.1.1						
K.1.2						
K.2.1						
K.2.2						
K.3.1						
K.3.2						
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1	**30** (20–40)	**30** (20–40)	.024–.035	.031–.047	.043–.063	.063–.094
S.3.2	**30** (20–40)	**30** (20–40)	.024–.035	.031–.047	.043–.063	.063–.094
S.3.3	**30** (20–40)	**30** (20–40)	.024–.035	.031–.047	.043–.063	.063–.094
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for REAMAX

Index	40 560 … 640.65 – ASG3000 / HM-DBG-P					40 551 … 640.65 – ASG0106 / HM-DBG-P				
Nominal Ø in inches ▸			.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748			.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748
Reaming allowance Ø ▸			.004 – .012	.008 – .016	.008 – .016			.004 – .012	.008 – .016	.008 – .016
Number of flutes ▸			6	8	8			6	8	8
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.1.2	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.1.3	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.1.4	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.1.5	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.2.1	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.2.2	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.2.3	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.2.4	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079
P.3.1						**100** (80–60)	**30** (25–40)	.028–.035	.047–.063	.047–.063
P.3.2						**100** (80–60)	**30** (25–40)	.028–.035	.047–.063	.047–.063
P.3.3						**100** (80–60)	**30** (25–40)	.028–.035	.047–.063	.047–.063
P.4.1						**45** (35–60)	**40** (35–50)	.028–.035	.047–.063	.047–.063
P.4.2						**150** (110–200)	**40** (35–50)	.028–.035	.047–.063	.047–.063
M.1.1						**100** (80–160)	**130** (110–160)	.028–.035	.047–.063	.047–.063
M.2.1						**100** (80–160)	**100** (80–160)	.028–.035	.047–.063	.047–.063
M.3.1						**100** (80–160)	**100** (80–160)	.028–.035	.047–.063	.047–.063
K.1.1	**660** (590–820)	**520** (460–660)	.039–.055	.051–.075	.051–.075					
K.1.2	**660** (590–820)	**520** (460–660)	.039–.055	.051–.075	.051–.075					
K.2.1	**740** (660–980)	**590** (520–790)	.039–.055	.051–.075	.051–.075					
K.2.2	**380** (330–490)	**330** (260–390)	.035–.047	.047–.063	.047–.063					
K.3.1	**490** (430–820)	**390** (330–660)	.035–.047	.047–.063	.047–.063					
K.3.2	**390** (330–490)	**330** (260–390)	.035–.047	.047–.063	.047–.063					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1						**130** (110–200)	**130** (110–200)	.016–.031	.024–.039	.024–.039
H.1.2						**130** (110–200)	**130** (110–200)	.016–.031	.024–.039	.024–.039
H.1.3						**100** (80–160)	**100** (80–160)	.016–.031	.024–.039	.024–.039
H.1.4										
H.2.1						**130** (110–200)	**130** (110–200)	.016–.031	.024–.039	.024–.039
H.3.1						**130** (110–200)	**130** (110–200)	.016–.031	.024–.039	.024–.039
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for REAMAX

Index	40 505 … 640.71 – ASG3000 / HM-TiN					40 570 … 640.27 – ASG0706 / HM-DBC				
Nominal Ø in inches ▸			.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748			.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748
Reaming allowance Ø ▸			.004 – .012	.008 – .016	.008 – .016			.004 – .012	.008 – .016	.008 – .016
Number of flutes ▸			6	8	8			6	8	8
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.1.2	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.1.3	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.1.4	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.1.5	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.2.1	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.2.2	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.2.3	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.2.4	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	260 (200–430)	260 (200–750)	.039–.055	.071–.094	.071–.094					
K.1.2	260 (200–430)	260 (200–750)	.039–.055	.071–.094	.071–.094					
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1						**490** (430–980)	**490** (430–660)	.039–.055	.067–.094	.067–.094
N.1.2						**660** (590–980)	**490** (430–660)	.039–.055	.067–.094	.067–.094
N.2.1						**660** (590–980)	**490** (430–660)	.039–.055	.067–.094	.067–.094
N.2.2						**660** (590–980)	**490** (430–660)	.039–.055	.067–.094	.067–.094
N.2.3										
N.3.1	**390** (330–660)	**390** (330–490)	.039–.055	.067–.094	.067–.094					
N.3.2	**390** (330–660)	**390** (330–490)	.039–.055	.067–.094	.067–.094					
N.3.3	**260** (200–490)	**260** (200–390)	.031–.047	.055–.079	.055–.079					
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1						820 (720–890)	250 (220–270)	.039–.055	.067–.094	.067–.094

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for REAMAX

Index	40 525 … 640.93 – ASG3000 / DST					40 536 … 640.93 – ASG4000 / DST				
Nominal Ø in inches ▸			.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748			.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748
Reaming allowance Ø ▸			.004 – .012	.008 – .016	.008 – .016			.004 – .012	.008 – .016	.008 – .016
Number of flutes ▸			6	8	8			6	8	8
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.1.2	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.1.3	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.1.4	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.1.5	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.2.1	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.2.2	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.2.3	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**570** (490–980)	**490** (430–590)	.039–.055	.071–.094	.071–.094	570 (490–980)	490 (430–590)	.047–.063	.059–.079	.079–.106
K.2.2	**490** (430–820)	**390** (330–520)	.039–.055	.071–.094	.071–.094	390 (330–590)	390 (330–490)	.047–.063	.059–.079	.079–.106
K.3.1	**490** (430–820)	**390** (330–520)	.039–.055	.071–.094	.071–.094					
K.3.2	**390** (330–590)	**390** (330–520)	.035–.047	.059–.079	.059–.079	390 (330–590)	390 (330–490)	.039–.051	.047–.067	.067–.091
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	490 (430–980)	490 (430–660)	.039–.055	.067–.094	.067–.094					
N.3.2	490 (430–980)	490 (430–660)	.039–.055	.067–.094	.067–.094					
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Monomax

Index	49 657 ..., 49 665 ... 56H.65, 56Q.65 – ASG3000 / DBG-P						49 597 ... 75J.93 – ASG4000 / DST					
	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016
	Number of flutes ▸		4	6	6	6	Number of flutes ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.1.2	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.1.3	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.1.4	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.1.5	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.2.1	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.2.2	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.2.3	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.2.4	**200** (160–330)	**390** (330–520)	.008–.012	.016–.020	.020–.028	0.60–0.90						
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	**490** (430–720)	**390** (330–490)	.016–.024	.028–.035	.035–.047	.043–.059	**490** (430–720)	**390** (330–490)	.016–.024	.028–.035	.035–.047	.043–.059
K.1.2	**490** (430–720)	**390** (330–490)	.016–.024	.028–.035	.035–.047	.043–.059	**490** (430–720)	**390** (330–490)	.016–.024	.028–.035	.035–.047	.043–.059
K.2.1	**570** (490–980)	**490** (430–590)	.016–.024	.028–.035	.035–.047	.043–.059	**570** (490–980)	**490** (430–590)	.016–.024	.028–.035	.035–.047	.043–.059
K.2.2	**390** (330–590)	**390** (330–490)	.012–.020	.020–.028	.028–.039	.035–.051	**390** (330–590)	**390** (330–490)	.012–.020	.020–.028	.028–.039	.035–.051
K.3.1	**490** (430–820)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.043–.059	**490** (430–820)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.043–.059
K.3.2	**390** (330–590)	**390** (330–490)	.012–.020	.020–.028	.028–.039	.035–.051	**390** (330–590)	**390** (330–490)	.012–.020	.020–.028	.028–.039	.035–.051
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Monomax

Index	49 652 ..., 49 653... 56J.65, 56R.65 – ASG0106 / DBG-P						49 656 ..., 49 661 ..., 49 660 ..., 49 664 ... 56J.71, 56R.71, 56H.71, 56Q.71 – ASG0106 / TiN					
	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016
	Number of flutes ▸		4	6	6	6	Number of flutes ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4	**200** (160–330)	**200** (160–330)	.008–.012	.016–.020	.020–.028	.024–.035						
P.3.1	**130** (110–200)	**130** (110–200)	.008–.012	.016–.020	.020–.028	.024–.035	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039
P.3.2	**130** (110–200)	**130** (110–200)	.008–.012	.016–.020	.020–.028	.024–.035	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039
P.3.3	**100** (80–160)	**100** (80–130)	.012–.016	.016–.024	.024–.031	.028–.039	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039
P.4.1	**150** (110–200)	**130** (110–160)	.012–.016	.016–.024	.024–.031	.028–.039	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039
P.4.2	**150** (110–200)	**130** (110–160)	.012–.016	.016–.024	.024–.031	.028–.039	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039
M.1.1	**330** (260–520)	**100** (80–130)	.012–.016	.016–.024	.024–.031	.028–.039	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039
M.2.1	**330** (260–520)	**100** (80–130)	.012–.016	.016–.024	.024–.031	.028–.039	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039
M.3.1	**330** (260–520)	**100** (80–130)	.012–.016	.016–.024	.024–.031	.028–.039	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Monomax

Index	49 605 ..., 49 606 ..., 49 684 ..., 49 685 ... 56J.71, 56R.71, 56H.71, 56Q.71 – ASG3000 / TiN						49 688 ..., 49 689 ... 56J.71, 56R.71 – ASG4000 / TiN					
	Nominal Ø in inch ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø in inch ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 – .016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 – .016
	Number of flutes ▸		4	6	6	6	Number of flutes ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.2	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.3	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.4	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.5	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.1	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051						
P.2.2	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051						
P.2.3	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051						
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	260 (200–430)	260 (200–390)	.016–.024	.028–.035	.035–.047	.043–.059						
K.1.2	260 (200–430)	260 (200–390)	.016–.024	.028–.035	.035–.047	.043–.059						
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	**390** (330–660)	**390** (330–490)	.016–.024	.024–.035	.031–.047	.043–.059						
N.3.2	**390** (330–660)	**390** (330–490)	.016–.024	.024–.035	.031–.047	.043–.059						
N.3.3	**260** (200–490)	**260** (200–390)	.016–.024	.024–.035	.031–.047	.043–.059						
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Monomax

Index	49 656 ..., 49 661 ..., 49 660 ..., 49 664 ... 56J.71, 56R.71, 56H.71, 56Q.71 – ASG0106 / TiN						49 648 ..., 49 649 ..., 49 640 ..., 49 641 ... 56J.17, 56R.17, 56H.17, 56Q.17 – ASG0706 / DBC					
	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016
	Number of flutes ▸		4	6	6	6	Number of flutes ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4												
P.3.1	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039						
P.3.2	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039						
P.3.3	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039						
P.4.1	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039						
P.4.2	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039						
M.1.1	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039						
M.2.1	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039						
M.3.1	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039						
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1							**490** (430–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.1.2							**490** (430–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.2.1							**660** (590–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.2.2							**660** (590–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.2.3							**660** (590–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1							820 (720–890)	820 (720–890)	.016–.024	.016–.024	.031–.047	.031–.059

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Monomax

Index	49 625 ..., 49 626 ..., 49 680 ..., 49 681 ... 56J.93, 56R.93, 56H.93, 56Q.93 – ASG3000 / DST						49 648 ..., 49 649 ..., 49 640 ..., 49 641 ... 56J.93, 56R.93 – ASG4000 / DST					
	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 – .016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 – .016
	Number of flutes ▸		4	6	6	6	Number of flutes ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.2	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.3	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.4	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.5	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.1	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.2	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.3	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1	**570** (490–980)	**490** (430–590)	.016–.024	.028–.035	.035–.047	.043–.059	570 (490–980)	490 (430–590)	.016–.024	.028–.035	.035–.047	.043–.059
K.2.2	**390** (330–490)	**330** (260–390)	.012–.020	.020–.028	.028–.039	.035–.051	390 (330–590)	390 (330–490)	.012–.020	.020–.028	.028–.039	.035–.051
K.3.1	**490** (430–820	**390** (330–660)	.016–.024	.028–.035	.035–.047	.043–.059	390 (330–590)	390 (330–490)	.012–.020	.020–.028	.028–.039	.035–.051
K.3.2	**390** (330–590)	**390** (330–490)	.012–.020	.020–.028	.028–.039	.035–.051	390 (330–590)	390 (330–490)	.012–.020	.020–.028	.028–.039	.035–.051
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	490 (430–980)	490 (430–660)	.016–.024	.024–.035	.031–.047	.043–.059						
N.3.2	490 (430–980)	490 (430–660)	.016–.024	.024–.035	.031–.047	.043–.059						
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Monomax

Index	49 672 ..., 49 673 ..., 49 668 ..., 49 669 ...					
	56J.21, 56Q.21, 56H.21, 56R.21 – ASG03 / K10					
	Nominal Ø in inches ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016
	Number of flutes ▸		4	6	6	6
	3xD	5xD				
	v_c (ft/min)		f (inch/rev)			
P.1.1						
P.1.2						
P.1.3						
P.1.4						
P.1.5						
P.2.1						
P.2.2						
P.2.3						
P.2.4						
P.3.1						
P.3.2						
P.3.3						
P.4.1						
P.4.2						
M.1.1						
M.2.1						
M.3.1						
K.1.1						
K.1.2						
K.2.1						
K.2.2						
K.3.1						
K.3.2						
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1	**30** (20–40)	**30** (20–40)	.012–.016	.016–.024	.024–.031	.031–.043
S.3.2	**30** (20–40)	**30** (20–40)	.012–.016	.016–.024	.024–.031	.031–.043
S.3.3	**30** (20–40)	**30** (20–40)	.012–.016	.016–.024	.024–.031	.031–.043
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Fullmax, long

Index	UNI	40 484 …, 40 485 …, 40 486 …, 40 487 … Type UNI											
	Ø range (inch) ▸	Ø .1169 – .1595		Ø .1596 – .2380		Ø .2381 – .2970		Ø .2971 – .4745		Ø .4746 – .6320		Ø .6321 – .7895	
	Number of flutes ▸	4		4		6		6		6		6	
	v_c (ft/min)	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø
P.1.1	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.1.2	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.1.3	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.1.4	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.1.5	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.2.1	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.2.2	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.2.3	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.2.4	**260** (230–390)	.016–.020	.004–.008	.016–.024	.004–.008	.035–.043	.008	.039–.047	.008	.039–.051	.008–.012	.051–.059	.012
P.3.1	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
P.3.2	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
P.3.3	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
P.4.1	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
P.4.2	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
M.1.1	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
M.2.1	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
M.3.1	**50** (30–10)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
K.1.1	**390** (330–590)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.051–.063	.008	.063–.079	.008–.012	.075–.087	.012
K.1.2	**390** (330–590)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.051–.063	.008	.063–.079	.008–.012	.075–.087	.012
K.2.1	**660** (590–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.051–.063	.008	.063–.079	.008–.012	.075–.087	.012
K.2.2	**390** (330–490)	.020–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.039–.051	.008	.051–.063	.008–.012	.059–.071	.012
K.3.1	**660** (590–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.051–.063	.008	.063–.079	.008–.012	.075–.087	.012
K.3.2	**390** (330–490)	.020–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.039–.051	.008	.051–.063	.008–.012	.059–.071	.012
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	490 (430–820)	.020–.031	.004–.008	.028–.035	.004–.008	.051–.055	.008	.055–.067	.008	.063–.075	.008–.012	.075–.087	.012
N.3.2	330 (260–490)	.016–.024	.004–.008	.024–.031	.004–.008	.039–.051	.008	.047–.055	.008	.051–.063	.008–.012	.063–.071	.012
N.3.3													
N.4.1													
S.1.1													
S.1.2													
S.2.1	130 (100–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.2.2	130 (100–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.2.3													
S.3.1	100 (80–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.3.2	100 (80–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.3.3													
H.1.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008	.047–.071	.008
H.1.2	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008	.047–.071	.008
H.1.3	100 (80–160)	.020–.028	.004–.008	.028–.039	.004–.008	.047–.067	.008	.051–.067	.008	.051–.079	.008	.051–.079	.008
H.1.4													
H.2.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008–.012	.047–.071	.012
H.3.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008–.012	.047–.071	.012
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Fullmax, long

Index	K	40 477 …, 40 478 …					
		Type K					
	Ø range (inch) ▸	Ø .1169 – .1595	Ø .1596 – .2385	Ø .2386 – .2975	Ø .2976 – .4745	Ø .4746 – .6320	Ø .6321 – .7895
	Reaming allowance Ø ▸	.004–.008	.004–.008	.008	.008	.008–.012	.012
	Number of flutes ▸	6	6	8	8	8	8
	v_c (ft/min)	f (inch/rev)					
K.1.1	**660** (590–820)	.031–.039	.035–.047	.059–.075	.059–.075	.071–.091	.087–.102
K.1.2	**660** (590–820)	.031–.039	.035–.047	.059–.075	.059–.075	.071–.091	.087–.102
K.2.1	**740** (660–980)	.031–.039	.035–.047	.059–.075	.059–.075	.071–.091	.087–.102
K.2.2	**390** (330–490)	.024–.035	.028–.039	.047–.063	.047–.063	.059–.075	.071–.087
K.3.1	**740** (660–980)	.031–.039	.035–.047	.059–.075	.059–.075	.071–.091	.087–.102
K.3.2	**390** (330–490)	.024–.035	.028–.039	.047–.063	.047–.063	.059–.075	.071–.087

Index	VA	40 401 …, 40 402 …, 40 403 …, 40 404 …					
		Type VA					
	Ø range (inch) ▸	Ø .1169 – .1595	Ø .1596 – .2385	Ø .2386 – .2975	Ø .2976 – .4745	Ø .4746 – .6320	Ø .6321 – .7895
	Reaming allowance Ø ▸	.004–.008	.004–.008	.008	.008	.008–.012	.012
	Number of flutes ▸	4	4	6	6	6	6
	v_c (ft/min)	f (inch/rev)					
P.3.1	70 (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
P.3.2	70 (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
P.3.3	70 (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
P.4.1	**70** (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
P.4.2	**70** (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
M.1.1	**70** (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
M.2.1	**50** (30–100)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
M.3.1	**50** (30–100)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028

Index	ALU	40 471 …, 40 472 …, 40 473 …, 40 474 …					
		Type ALU					
	Ø range (inch) ▸	Ø .1169 – .1595	Ø .1596 – .2385	Ø .2386 – .2975	Ø .2976 – .4745	Ø .4746 – .6320	Ø .6321 – .7895
	Reaming allowance Ø ▸	.004–.008	.004–.008	.008	.008	.008–.012	.012
	Number of flutes ▸	4	4	6	6	6	6
	v_c (ft/min)	f (inch/rev)					
N.1.1	**660** (590–980)	.020–.024	.024–.035	.043–.063	.047–.063	.047–.071	.047–.071
N.1.2	**660** (590–980)	.020–.024	.024–.035	.043–.063	.047–.063	.047–.071	.047–.071
N.2.1	**660** (590–820)	.020–.028	.028–.039	.047–.067	.051–.067	.051–.079	.051–.079
N.2.2	**660** (590–980)	.020–.028	.028–.039	.047–.067	.051–.067	.051–.079	.051–.079
N.2.3	**660** (590–820)	.020–.028	.028–.039	.047–.067	.051–.067	.051–.079	.051–.079
O.3.1	**820** (720–890)	.020–.028	.028–.039	.047–.067	.051–.067	.051–.079	.051–.079

Index	H *	40 475 …, 40 476 …					
		Type H					
	Ø range (inch) ▸	Ø .1169 – .1595	Ø .1596 – .2385	Ø .2386 – .2975	Ø .2976 – .4745	Ø .4746 – .6320	Ø .6321 – .7895
	Reaming allowance Ø ▸	.004–.008	.004–.008	.008	.008	.008	.008
	Number of flutes ▸	4	4	6	6	6	6
	v_c (ft/min)	f (inch/rev)					
H.1.1	**130** (110–200)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.1.2	**100** (80–160)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.1.3	**100** (80–160)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.1.4	**100** (80–160)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.2.1	**130** (110–200)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.3.1	**130** (110–200)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031

* Wet machining recommended

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values for Fullmax, short

Index	UNI	40 481 …, 40 483 …, 40 488 …, 40 489 … Type UNI											
	Ø range (inch) ▸	Ø .1169 – .1595		Ø .1596 – .2385		Ø .2386 – .2975		Ø .2976 – .4745		Ø .4746 – .6290		Ø .6291 – .7895	
	Number of flutes ▸	4		4		6		6		6		6	
	v_c (ft/min)	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø
P.1.1	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.1.2	**660** (590–820)	.026–.031	.004–.008	.028–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.1.3	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.1.4	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.1.5	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.2.1	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.2.2	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.2.3	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.2.4	**210** (180–360)	.018–.020	.004–.008	.018–.024	.004–.008	.039–.043	.008	.047–.051	.008	.047–.055	.008–.012	.075–.083	.012
P.3.1	**130** (100–260)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
P.3.2	**130** (100–260)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
P.3.3	**130** (100–260)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
P.4.1	**150** (130–210)	.018–.020	.004–.008	.018–.024	.004–.008	.039–.043	.008	.047–.051	.008	.047–.055	.008–.012	.075–.083	.012
P.4.2	**150** (130–210)	.018–.020	.004–.008	.018–.024	.004–.008	.039–.043	.008	.047–.051	.008	.047–.055	.008–.012	.075–.083	.012
M.1.1	**130** (110–200)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
M.2.1	**130** (110–200)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
M.3.1	**130** (110–200)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
K.1.1	**660** (590–820)	.031–.039	.004–.008	.035–.047	.004–.008	.059–.075	.008	.059–.075	.008	.071–.091	.008–.012	.098–.114	.012
K.1.2	**660** (590–820)	.031–.039	.004–.008	.035–.047	.004–.008	.059–.075	.008	.059–.075	.008	.071–.091	.008–.012	.098–.114	.012
K.2.1	**740** (660–980)	.031–.039	.004–.008	.035–.047	.004–.008	.059–.075	.008	.059–.075	.008	.071–.091	.008–.012	.098–.114	.012
K.2.2	**390** (330–490)	.024–.035	.004–.008	.028–.039	.004–.008	.047–.063	.008	.047–.063	.008	.059–.075	.008–.012	.079–.094	.012
K.3.1	**740** (660–980)	.031–.039	.004–.008	.035–.047	.004–.008	.059–.075	.008	.059–.075	.008	.071–.091	.008–.012	.098–.114	.012
K.3.2	**390** (330–490)	.024–.035	.004–.008	.028–.039	.004–.008	.047–.063	.008	.047–.063	.008	.059–.075	.008–.012	.079–.094	.012
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	490 (430–820)	.020–.031	.004–.008	.028–.035	.004–.008	.051–.055	.008	.055–.067	.008	.063–.075	.008–.012	.098–.114	.012
N.3.2	330 (260–490)	.016–.024	.004–.008	.024–.031	.004–.008	.039–.051	.008	.047–.055	.008	.051–.063	.008–.012	.083–.094	.012
N.3.3													
N.4.1													
S.1.1													
S.1.2													
S.2.1	130 (100–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.2.2	130 (100–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.2.3													
S.3.1	100 (80–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.3.2	100 (80–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.3.3													
H.1.1	130 (110–200)	.008–.012	.004–.008	.008–.012	.004–.008	.016–.024	.008	.020–.024	.008	.020–.028	.008	.031–.039	.008
H.1.2	100 (80–160)	.008–.012	.004–.008	.008–.012	.004–.008	.016–.024	.008	.020–.024	.008	.020–.028	.008	.031–.039	.008
H.1.3	100 (80–160)	.008–.012	.004–.008	.008–.012	.004–.008	.016–.024	.008	.020–.024	.008	.020–.028	.008	.031–.039	.008
H.1.4													
H.2.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008–.012	.047–.071	.012
H.3.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008–.012	.047–.071	.012
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Cutting Ring

Index	49 836 … 300.65 – ASG3000 / DBG-P					49 835 … 300.65 – ASG0106 / DBG-P				
Nominal Ø in inches ▸			2.3858–3.1338	3.1339–3.9605	3.9606–4.3543			2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
Reaming allowance Ø ▸			.012 – .020	.012 – .020	.012 – .020			.012 – .020	.012 – .020	.012 – .020
Number of flutes ▸			6	8	10			6	8	10
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.1.2	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.1.3	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.1.4	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.1.5	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.2.1	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.2.2	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.2.3	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.2.4	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.3.1						**100** (80–160)	**100** (80–130)	.035–.051	.047–.071	.059–.091
P.3.2						**100** (80–160)	**100** (80–130)	.035–.051	.047–.071	.059–.091
P.3.3						**100** (80–160)	**100** (80–130)	.035–.051	.047–.071	.059–.091
P.4.1						**150** (110–200)	**130** (110–160)	.035–.051	.047–.071	.059–.091
P.4.2						**150** (110–200)	**130** (110–160)	.035–.051	.047–.071	.059–.091
M.1.1						**150** (110–200)	**130** (110–160)	.035–.051	.047–.071	.059–.091
M.2.1						**150** (110–200)	**130** (110–160)	.035–.051	.047–.071	.059–.091
M.3.1						**100** (80–160)	**100** (80–130)	.035–.051	.047–.071	.059–.091
K.1.1	**490** (430–720)	**390** (330–490)	.085–.080	.073–.107	.091–.134					
K.1.2	**490** (430–720)	**390** (330–490)	.085–.080	.073–.107	.091–.134					
K.2.1	**570** (490–980)	**490** (430–590)	.085–.080	.073–.107	.091–.134					
K.2.2	**390** (330–590)	**390** (330–490)	.045–.066	.060–.088	.075–.110					
K.3.1	**390** (330–590)	**390** (330–490)	.045–.066	.060–.088	.075–.110					
K.3.2	**390** (330–590)	**390** (330–490)	.045–.066	.060–.088	.075–.110					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Cutting Ring

Index	49 823 … 300.05 – ASG3000 / TiN					49 824 … 300.05 – ASG0106 / TiN				
Nominal Ø in inches ▸			2.3858–3.1338	3.1339–3.9605	3.9606–4.3543			2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
Reaming allowance Ø ▸			.012 – .020	.012 – .020	.012 – .020			.012 – .020	.012 – .020	.012 – .020
Number of flutes ▸			6	8	10			6	8	10
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.1.2	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.1.3	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.1.4	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.1.5	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.2.1	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.2.2	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.2.3	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.2.4	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.3.1						**100** (80–150)	**100** (80–150)	.031–.047	.043–.063	.051–.079
P.3.2						**100** (80–150)	**100** (80–150)	.031–.047	.043–.063	.051–.079
P.3.3										
P.4.1						**100** (80–150)	**100** (80–150)	.031–.047	.043–.063	.051–.079
P.4.2						**100** (80–150)	**100** (80–150)	.031–.047	.043–.063	.051–.079
M.1.1						**100** (80–150)	**100** (80–130)	.035–.051	.047–.071	.059–.091
M.2.1						**70** (50–110)	**70** (50–110)	.035–.051	.047–.071	.059–.091
M.3.1						**70** (50–110)	**70** (50–110)	.035–.051	.047–.071	.059–.091
K.1.1	260 (200–430)	260 (200–390)	.055–.079	.075–.079	.091–.134					
K.1.2	260 (200–430)	260 (200–390)	.055–.079	.075–.079	.091–.134					
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	390 (330–660)	390 (330–660)	.047–.075	.067–.098	.083–.122					
N.3.2	390 (330–660)	390 (330–660)	.039–.059	.055–.083	.067–.102					
N.3.3	260 (200–490)	260 (200–390)	.039–.059	.055–.083	.067–.102					
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Cutting Ring

Index	49 831 … 300.05 – ASG4000 / TiN					49 839 … 300.17 – ASG0706 / DBC				
Nominal Ø in inches ▸			2.3858–3.1338	3.1339–3.9605	3.9606–4.3543			2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
Reaming allowance Ø ▸			.012 – .020	.012 – .020	.012 – .020			.012 – .020	.012 – .020	.012 – .020
Number of flutes ▸			6	8	10			6	8	10
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.1.2	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.1.3	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.1.4	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.1.5	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.2.1										
P.2.2										
P.2.3										
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1						**490** (430–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.1.2						**490** (430–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.2.1						**660** (590–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.2.2						**660** (590–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.2.3						**660** (590–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.3.1	390 (330–660)	390 (330–660)	.047–.075	.067–.098	.083–.122					
N.3.2	390 (330–660)	390 (330–660)	.039–.059	.055–.083	.067–.102					
N.3.3	260 (200–490)	260 (200–390)	.039–.059	.055–.083	.067–.102					
N.4.1						**490** (430–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Cutting Ring

Index	49 827 … 300.45 – ASG3000 / DST					49 828 … 300.45 – ASG4000 / DST				
Nominal Ø in inches ▸			2.3858–3.1338	3.1339–3.9605	3.9606–4.3543			2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
Reaming allowance Ø ▸			.012 – .020	.012 – .020	.012 – .020			.012 – .020	.012 – .020	.012 – .020
Number of flutes ▸			6	8	10			6	8	10
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.1.2	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.1.3	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.1.4	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.1.5	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.2.1	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.2.2	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.2.3	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**570** (390–980)	**490** (390–590)	.055–.079	.075–.106	.091–.134					
K.2.2	**490** (390–820)	**390** (260–490)	.043–.067	.059–.091	.075–.110					
K.3.1	**390** (330–590)	**390** (260–490)	.055–.079	.075–.106	.091–.134					
K.3.2	**390** (330–590)	**390** (260–490)	.043–.067	.059–.091	.075–.110					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	**490** (390–1050)	**490** (390–660)	.047–.075	.067–.098	.083–.122					
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Cutting Ring

Index	49 832 …				
	300.25 – ASG03 / K10				
	Nominal Ø in inches ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020
	Number of flutes ▸		6	8	10
	3xD	5xD			
	v_c (ft/min)		f (inch/rev)		
P.1.1					
P.1.2					
P.1.3					
P.1.4					
P.1.5					
P.2.1					
P.2.2					
P.2.3					
P.2.4					
P.3.1					
P.3.2					
P.3.3					
P.4.1					
P.4.2					
M.1.1					
M.2.1					
M.3.1					
K.1.1					
K.1.2					
K.2.1					
K.2.2					
K.3.1					
K.3.2					
N.1.1					
N.1.2					
N.2.1					
N.2.2					
N.2.3					
N.3.1					
N.3.2					
N.3.3					
N.4.1					
S.1.1					
S.1.2					
S.2.1					
S.2.2					
S.2.3					
S.3.1	**30** (20–40)	**30** (20–40)	.031–.043	.041–.057	.052–.072
S.3.2	**30** (20–40)	**30** (20–40)	.031–.043	.041–.057	.052–.072
S.3.3	**30** (20–40)	**30** (20–40)	.031–.043	.041–.057	.052–.072
H.1.1					
H.1.2					
H.1.3					
H.1.4					
H.2.1					
H.3.1					
O.1.1					
O.1.2					
O.2.1					
O.2.2					
O.3.1					

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Rapid Set Head

Index	49 817 … 340.65 – ASG3000 / DBG-P					49 816 … 340.65 – ASG0106 / DBG-P				
Nominal Ø in inches ▸			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
Reaming allowance Ø ▸			.004 – .012	.008 – .016	.008 – .016			.004 – .012	.008 – .016	.008 – .016
Number of flutes ▸			4	6	6			4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.1.2	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.1.3	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.1.4	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.1.5	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.2.1	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.2.2	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.2.3	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.2.4	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.3.1						**100** (80–160)	**100** (80–130)	.012–.016	.028–.039	.035–.047
P.3.2						**100** (80–160)	**100** (80–130)	.012–.016	.028–.039	.035–.047
P.3.3						**100** (80–160)	**100** (80–130)	.012–.016	.028–.039	.035–.047
P.4.1						**150** (110–200)	**130** (110–160)	.012–.016	.028–.039	.035–.047
P.4.2						**150** (110–200)	**130** (110–160)	.012–.016	.028–.039	.035–.047
M.1.1						**150** (110–200)	**130** (110–160)	.012–.016	.028–.039	.035–.047
M.2.1						**150** (110–200)	**130** (110–160)	.012–.016	.028–.039	.035–.047
M.3.1						**100** (80–160)	**100** (80–130)	.012–.016	.028–.039	.035–.047
K.1.1	**490** (430–720)	**390** (330–490)	.016–.024	.043–.059	.051–.075					
K.1.2	**490** (430–720)	**390** (330–490)	.016–.024	.043–.059	.051–.075					
K.2.1	**570** (490–980)	**490** (430–590)	.016–.024	.043–.059	.051–.075					
K.2.2	**390** (330–590)	**390** (330–490)	.012–.020	.035–.051	.043–.059					
K.3.1	**390** (330–590)	**390** (330–490)	.012–.020	.035–.051	.043–.059					
K.3.2	**390** (330–590)	**390** (330–490)	.012–.020	.035–.051	.043–.059					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Rapid Set Head

Index	49 813 … 340.93 – ASG3000 / DST					49 812 … 340.92 – ASG05 / DST				
Nominal Ø in inches ▸			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
Reaming allowance Ø ▸			.004 – .012	.008 – .016	.008 – .016			.004 – .012	.008 – .016	.008 – .016
Number of flutes ▸			4	6	6			4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.1.2	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.1.3	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.1.4	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.1.5	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.2.1	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.2.2	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.2.3	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**570** (490–980)	**570** (490–980)	.016–.024	.043–.024	.051–.075					
K.2.2	**490** (390–820)	**490** (390–820)	.016–.024	.043–.024	.051–.075					
K.3.1	**390** (330–590)	**390** (330–590)	.016–.024	.043–.024	.051–.075					
K.3.2	**390** (330–590)	**390** (330–590)	.016–.024	.043–.024	.051–.075					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	**490** (390–1050)	**490** (390–1050)	.016–.024	.043–.059	.047–.067					
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Rapid Set Head

Index	49 808 … 340.71 – ASG3000 / TiN					49 805 … 340.70 – ASG05 / TiN				
Nominal Ø in inches ▸			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
Reaming allowance Ø ▸			.004 – .012	.008 – .016	.008 – .016			.004 – .012	.008 – .016	.008 – .016
Number of flutes ▸			4	6	6			4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.1.2	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.1.3	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.1.4	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.1.5	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.2.1	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.2.2	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.2.3	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.2.4	**330** (260–460)	**260** (200–390)	.012–.020	.035–.051	.043–.059	**330** (260–460)	**260** (200–390)	.024–.031	.047–.059	.055–.075
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	**260** (200–430)	**260** (200–390)	.016–.024	.043–.059	.051–.075					
K.1.2	**260** (200–430)	**260** (200–390)	.016–.024	.043–.059	.051–.075					
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	390 (330–660)	390 (330–660)	.016–.024	.043–.059	.047–.067					
N.3.2	260 (200–490)	260 (200–490)	.012–.020	.035–.051	.039–.055					
N.3.3	260 (200–490)	260 (200–490)	.012–.020	.035–.051	.039–.055					
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Rapid Set Head

Index	49 809 … 340.71 – ASG0106 / TiN					49 800 … 340.21 – ASG03 / K10				
Nominal Ø in inches ▸			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
Reaming allowance Ø ▸			.004 – .012	.008 – .016	.008 – .016			.004 – .012	.008 – .016	.008 – .016
Number of flutes ▸			4	6	6			4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1										
P.1.2										
P.1.3										
P.1.4										
P.1.5										
P.2.1										
P.2.2										
P.2.3										
P.2.4										
P.3.1	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
P.3.2	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
P.3.3	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
P.4.1	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
P.4.2	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
M.1.1	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
M.2.1	**70** (50–110)	**70** (50–110)	.012–.016	.028–.039	.035–.047					
M.3.1	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
K.1.1										
K.1.2										
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1						**30** (20–40)	**30** (20–40)	.012–.016	.031–.043	.035–.051
S.3.2						**30** (20–40)	**30** (20–40)	.012–.016	.031–.043	.035–.051
S.3.3						**30** (20–40)	**30** (20–40)	.012–.016	.031–.043	.035–.051
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting Data Standard Values for Rapid Set Head

Index	49 804 … 340.21 – ASG02 / K10					49 801 … 340.21 – ASG3000 / K10				
Nominal Ø in inches ▸			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622			.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
Reaming allowance Ø ▸			.004 – .012	.008 – .016	.008 – .016			.004 – .012	.008 – .016	.008 – .016
Number of flutes ▸			4	6	6			4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.1.2						100 (50–150)	100 (50–150)	.012–.020	.035–.051	.043–.059
P.1.3						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.1.4						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.1.5						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.2.1						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.2.2						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.2.3						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1						50 (40–80)	50 (40–80)	.016–.024	.043–.059	.051–.075
K.1.2						50 (40–80)	50 (40–80)	.016–.024	.043–.059	.051–.075
K.2.1						40 (30–60)	40 (30–60)	.016–.024	.043–.059	.051–.075
K.2.2						40 (30–50)	40 (30–50)	.012–.020	.035–.051	.043–.059
K.3.1						40 (30–60)	40 (30–60)	.012–.020	.035–.051	.043–.059
K.3.2						40 (30–60)	40 (30–60)	.012–.020	.035–.051	.043–.059
N.1.1	**50** (30–100)	**50** (30–100)	.012–.020	.035–.051	.043–.059	50 (40–100)	50 (40–100)	.012–.020	.035–.051	.043–.059
N.1.2	**50** (30–100)	**50** (30–100)	.012–.020	.035–.051	.043–.059	50 (40–100)	50 (40–100)	.012–.020	.035–.051	.043–.059
N.2.1	**40** (30–70)	**12** (10–20)	.016–.024	.043–.059	.047–.075	50 (40–100)	50 (40–100)	.016–.024	.043–.059	.047–.075
N.2.2	**40** (30–70)	**40** (30–70)	.016–.024	.043–.059	.047–.075	50 (40–100)	50 (40–100)	.016–.024	.043–.059	.047–.075
N.2.3	**40** (30–70)	**40** (30–70)	.016–.024	.043–.059	.047–.075	40 (30–70)	40 (30–70)	.016–.024	.043–.059	.047–.075
N.3.1	**50** (30–100)	**50** (30–100)	.016–.024	.043–.059	.047–.075	50 (40–100)	50 (40–100)	.016–.024	.043–.059	.047–.067
N.3.2	**50** (30–100)	**50** (30–100)	.016–.024	.043–.059	.047–.075	40 (30–70)	40 (30–70)	.012–.020	.035–.051	.039–.055
N.3.3	**40** (30–70)	**40** (30–70)	.012–.020	.035–.051	.039–.055	40 (30–70)	40 (30–70)	.012–.020	.035–.051	.039–.055
N.4.1	**50** (30–100)	**50** (30–100)	.016–.024	.043–.059	.047–.075	50 (40–100)	50 (40–100)	.016–.024	.043–.059	.047–.075
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

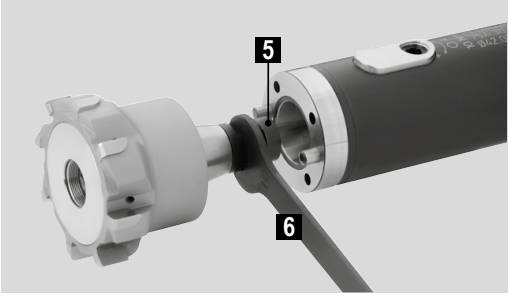
The cutting data depend extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced, inside the bracket, according to the application conditions.

Cutting data standard values indexable insert countersink

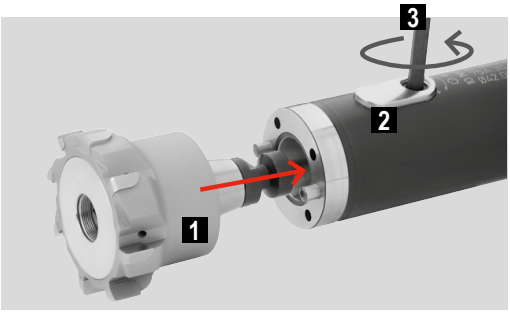
Index	30 196 ..., 30 197 ...			30 198 ...					
	Insert		Tool diameter	Insert		Tool diameter			
	BK8425	K10	Ø 16.5–37	BK8425	K10	Ø 10–15	Ø 15–20	Ø 20–30	Ø 30–48
	v_c (m/min)		f (mm/rev)	v_c (m/min)		f (mm/rev)			
P.1.1	200		0.12–0.16	260		0.06–0.12	0.12–0.20	0.15–0.25	0.20–0.30
P.1.2	200		0.20–0.30	260		0.06–0.12	0.12–0.20	0.15–0.25	0.20–0.30
P.1.3	200		0.20–0.30	270		0.06–0.12	0.12–0.20	0.25–0.40	0.25–0.40
P.1.4	180		0.20–0.30	240		0.06–0.12	0.12–0.20	0.25–0.40	0.25–0.40
P.1.5	180		0.17–0.27	230		0.04–0.08	0.15	0.20–0.30	0.20–0.35
P.2.1	160		0.20–0.30	270		0.06–0.12	0.12–0.20	0.25–0.40	0.25–0.40
P.2.2	160		0.20–0.30	260		0.04–0.08	0.15	0.20–0.30	0.20–0.35
P.2.3	160		0.15–0.20	180		0.04–0.08	0.15	0.20–0.30	0.20–0.35
P.2.4	160		0.10–0.16	150		0.04–0.08	0.15	0.20–0.30	0.20–0.35
P.3.1	140		0.10–0.15	160		0.04–0.08	0.15	0.20–0.30	0.20–0.35
P.3.2	140		0.08–0.13	130		0.04–0.08	0.15	0.20–0.30	0.20–0.35
P.3.3	140		0.06–0.12	120		0.04–0.08	0.15	0.20–0.30	0.20–0.35
P.4.1	120		0.10–0.16	180		0.08	0.15	0.16	0.18
P.4.2	120		0.06–0.12	130		0.08	0.15	0.16	0.18
M.1.1	160		0.10–0.15	150		0.08	0.15	0.16	0.18
M.2.1	140		0.10–0.15	150		0.08	0.15	0.16	0.18
M.3.1	100		0.07–0.13	130		0.08	0.15	0.16	0.18
K.1.1	180		0.40	160		0.15	0.30	0.40	0.60
K.1.2	160		0.32	120		0.15	0.30	0.40	0.60
K.2.1	140		0.30	160		0.15	0.25	0.30	0.35
K.2.2	140		0.18	100		0.12	0.20	0.25	0.35
K.3.1	120		0.20	120		0.10	0.18	0.25	0.30
K.3.2	120		0.18	100		0.10	0.18	0.25	0.30
N.1.1		250	0.20	400	250	0.05	0.12	0.15	0.20
N.1.2		250	0.20	400	250	0.05	0.12	0.15	0.20
N.2.1		250	0.30	250	250	0.06	0.16	0.20	0.25
N.2.2		250	0.30	250	250	0.06	0.16	0.20	0.25
N.2.3		250	0.25	230	250	0.10	0.20	0.25	0.30
N.3.1		230	0.30	200	230	0.05	0.10	0.12	0.15
N.3.2		230	0.32	220	230	0.05	0.10	0.12	0.15
N.3.3		230	0.22	330	230	0.05	0.10	0.12	0.15
N.4.1		230	0.30	200	230	0.05	0.10	0.12	0.15
S.1.1	60	20	0.12		20	0.05	0.10	0.12	0.15
S.1.2	50	20	0.10		20	0.05	0.10	0.12	0.15
S.2.1	60	20	0.12		20	0.05	0.10	0.12	0.15
S.2.2	50	20	0.10		20	0.05	0.10	0.12	0.15
S.2.3	30	20	0.06		20	0.05	0.10	0.12	0.15
S.3.1	100	60	0.22		60	0.05	0.10	0.12	0.15
S.3.2	80	30	0.20		30	0.05	0.10	0.12	0.15
S.3.3	50	30	0.12		30	0.05	0.10	0.12	0.15
H.1.1	100		0.10	100		0.05	0.10	0.15	0.20
H.1.2	80		0.08	80		0.05	0.10	0.15	0.20
H.1.3	50		0.05	50		0.05	0.10	0.15	0.20
H.1.4									
H.2.1	100		0.10	100		0.05	0.10	0.15	0.20
H.3.1	80		0.08	80		0.05	0.10	0.15	0.20
O.1.1		100	0.10		100	0.05	0.12	0.15	0.20
O.1.2		100	0.10		100	0.05	0.12	0.15	0.20
O.2.1									
O.2.2		100	0.03		100	0.05	0.12	0.15	0.20
O.3.1		100	0.08		100	0.05	0.12	0.15	0.20

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

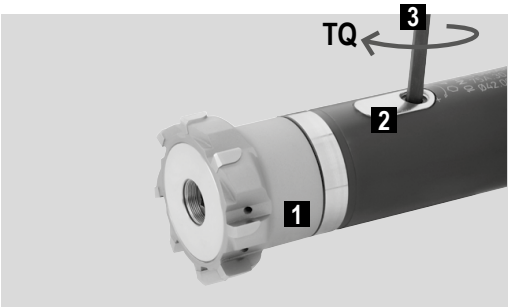
REAMAX TS – Assembly instructions



Clean the Morse taper adapter/face contact → grease-free.
Screw the pull stud (5) into the reaming head and tighten using the open-ended spanner (6).

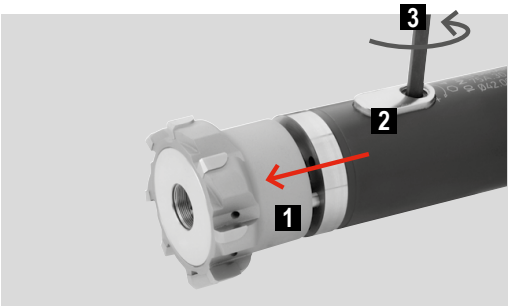


Use key (3) to open jaws (2), but do not fully release, and insert reaming head (1).

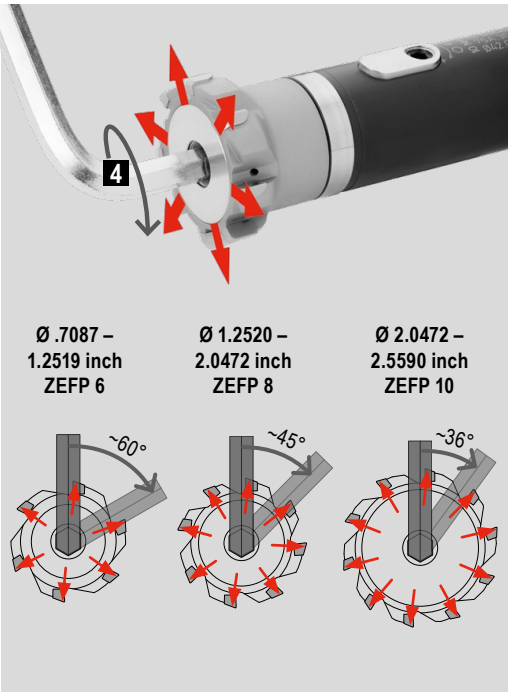


Use the key (3) to close the jaws (2), observe the recommended tightening torque.
When inserting the reaming head (1), this is pulled into its final position when the jaws (2) are closed.

Ø Range	Tightening torque (TQ)
.7087 – .7873	13 in-lbs
.7874 – .8661	22 in-lbs
.8662 – 1.0629	35 in-lbs
1.0630 – 1.3779	44 in-lbs
1.3780 – 1.6535	53 in-lbs
1.6536 – 2.0472	89 in-lbs
2.0473 – 2.7560	115 in-lbs



When removing the reamer head (1), it is pressed out of its position by the jaws (2) and can thus be easily removed from the holder:
Use key (3) to open the jaws (2) but do not fully release, and remove reamer head (1).



Expansion for wear compensation:
The smallest reaming tolerances up to IT4 can be achieved through adjustment with the hex key (4).

ZEFP = Number of effective cutting edges, around the periphery	ZEFP 6		ZEFP 8		ZEFP 10	
Pitch	~ 60°		~ 45°		~ 36°	
Turning the hex key by ~ ...°, results in an adjustment of ~ ... inch in diameter	~ 15°	~ .0002" in Ø	~ 15°	~ .0001" in Ø	~ 18°	~ .0002" in Ø
	~ 30°	~ .0005" in Ø	~ 30°	~ .0002" in Ø	~ 36°	~ .0004" in Ø
	~ 45°	~ .0007" in Ø	~ 45°	~ .0004" in Ø		
	~ 60°	~ .0009" in Ø				

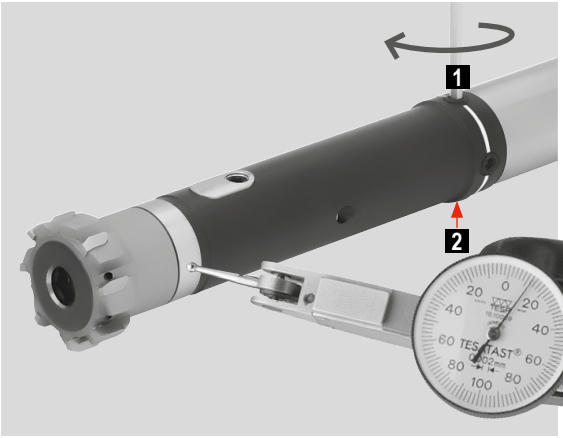
Caution: For technical reasons, all REAMAX TS reaming heads and Monomax reamers have an irregular cutting edge pitch. For this reason, the angles specified above are approximate values, to make handling easier.If the required diameter is over turned, turning back the adjustment screw is not enough! If this occurs, the reaming head/reamer must be fully released and re-set again. This adjustment facility is only intended to compensate for wear. Therefore, an adjustment of .0059 inch in diameter should not normally be exceeded! **The adjustment values given above are recommended values based on empirical values and test results. However, these may vary slightly from case to case.**

REAMAX TS – Operating instructions

Aligning the DAH Zero holder

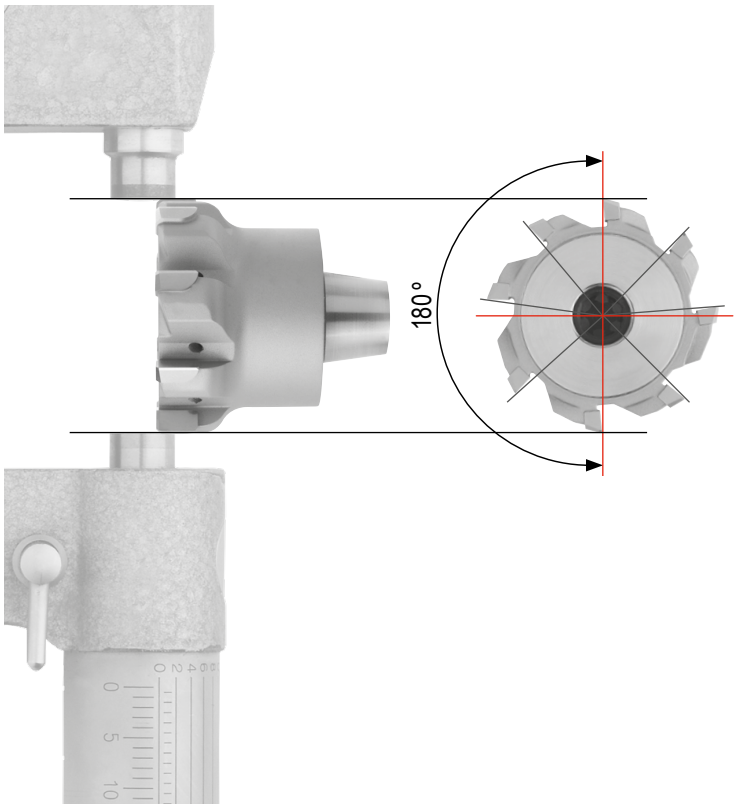
The tool is recommended for radial alignment of max. .0008".

1. Loosen all adjustment screws and pre-load with 9 in-lbs. (new tools are already supplied like this).
2. Place dial gauge with .0001" display on the ground indicating band diameter.
3. Turn the tool to determine the point with the largest runout error using the dial gauge.
4. Adjust the corresponding adjustment screw with the hex key clockwise (1) until half the runout error has been corrected. In doing so, over-tighten by approx. .0002".
5. Release the opposite adjustment screw (2) by the over-tightened amount.
6. Adjust all 4 adjustment screws until the runout is < .0001".

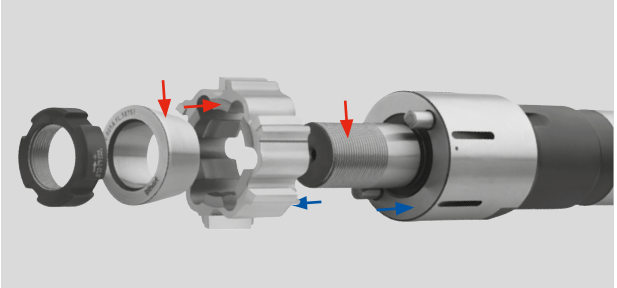


Please note:
- ▲ The run-out must be checked and if necessary, re-aligned after an adapter changeover, change of application, and after any adjustment for wear compensation, using adjustment steps 1 to 6.
- ▲ Adjustment screws must always be tightened during usage with at least 9 in-lbs.
- ▲ The max. re-adjustment torque is 40 in-lbs.

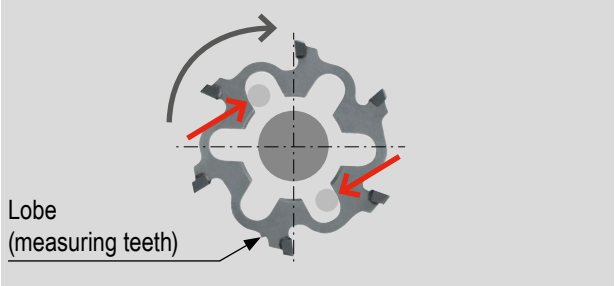
Caution!
- ▲ Unequal angle distribution!
- ▲ There are 2 cutting edges 180° opposite each other = measuring teeth
- ▲ Measure the diameter at the front on the cutting edge (due to back taper, see diagram)
- ▲ Avoid damage to the cutting edge



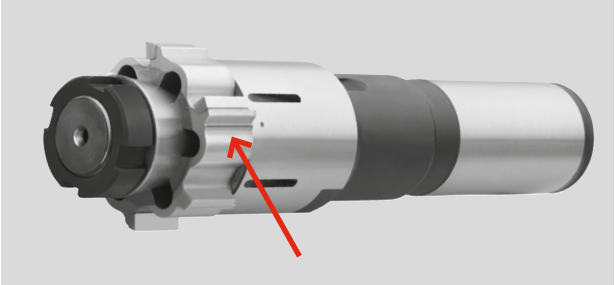
Cutting Ring – Assembly Instructions on Holder for Through Hole Machining



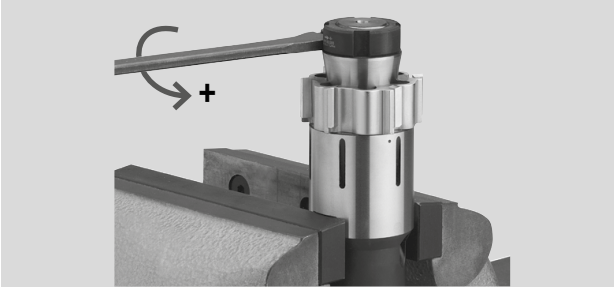
Arrow markings:
- light grease
- face surfaces on holder and cutting ring are grease-free



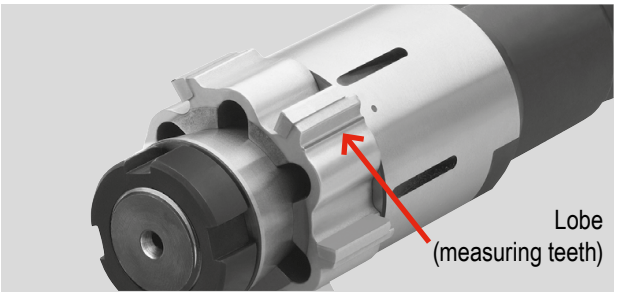
The position for the drive pins is marked with a lobe or in red. Before tightening and adjusting turn the cutting ring against the direction of machining until hitting the drive pins.



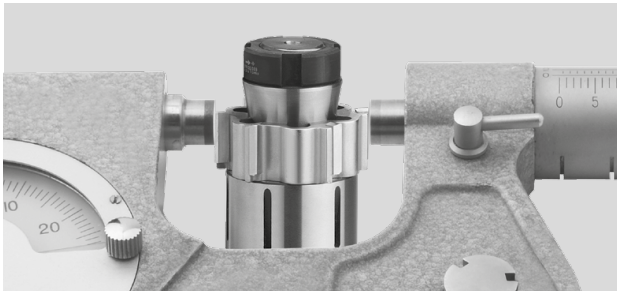
Please observe the marking on holder and cutting ring, check alignment of the coolant bores.



Adjust the diameter to the middle of the tolerance (counter-clockwise thread).

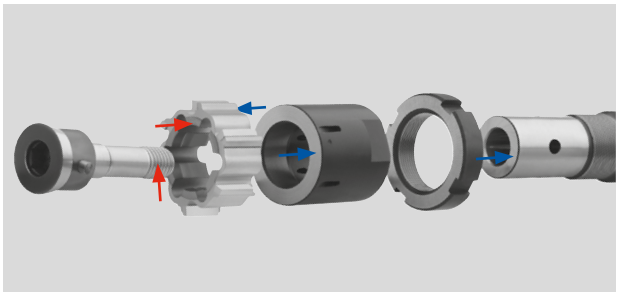


The diameter can only be measured at the marked cutting edges due to unequal angular position!

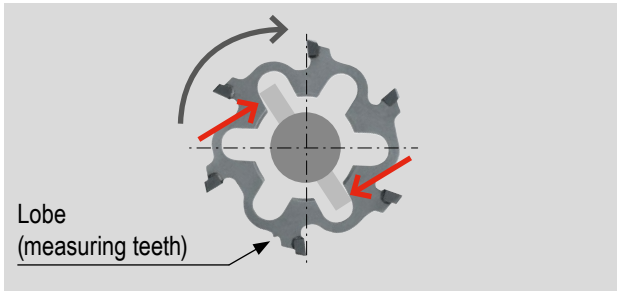


Measure the diameter. If the diameter was set too large, the conical ring must be loosened and the cutting ring readjusted.

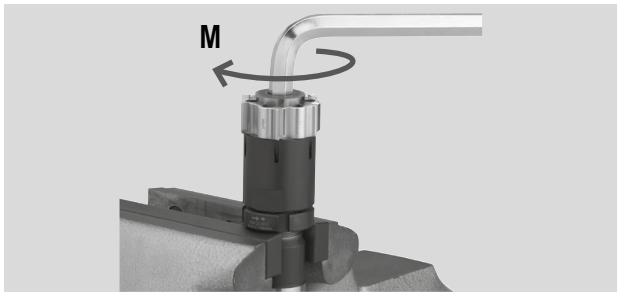
Cutting Ring – Assembly Instructions on Holder for Blind Hole Machining



Arrow markings:
- light grease
- face surfaces on holder and cutting ring are grease-free

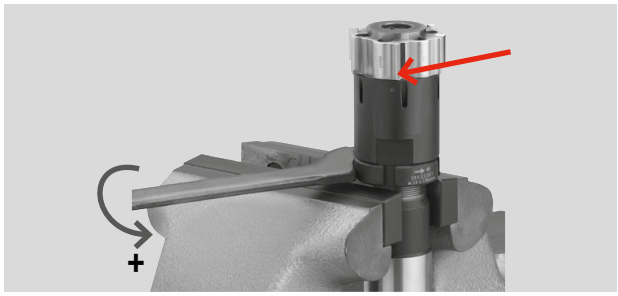


The position for the drive pins is marked with a lobe or in red. Before tightening and adjusting turn the cutting ring against the direction of machining until hitting the drive pin.

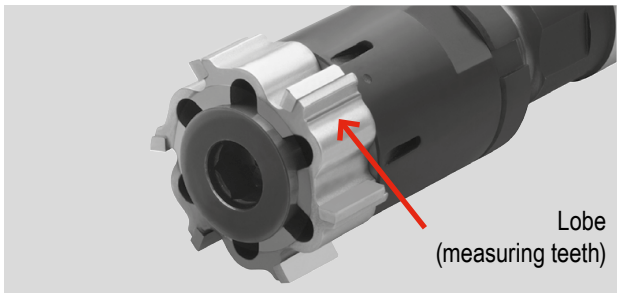


Screw the nut onto the holder with the smooth face against the bushing. Mount the cutting ring with the conical screw.
After fastening the conical screw check that there is space between bushing and ring.
Fasten conical screw according to index table.

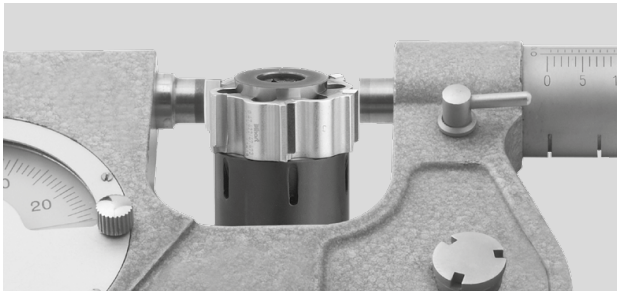
Ø range	Tightening torque (TQ)
2.3622	796 – 974 in-lbs.
2.4016 – 3.1102	1062 – 1239 in-lbs.
3.1496 – 3.9370	1593 – 1947 in-lbs.



Please observe the marking on holder and cutting ring, check alignment of the coolant bores. Adjust the diameter to the middle of the tolerance.

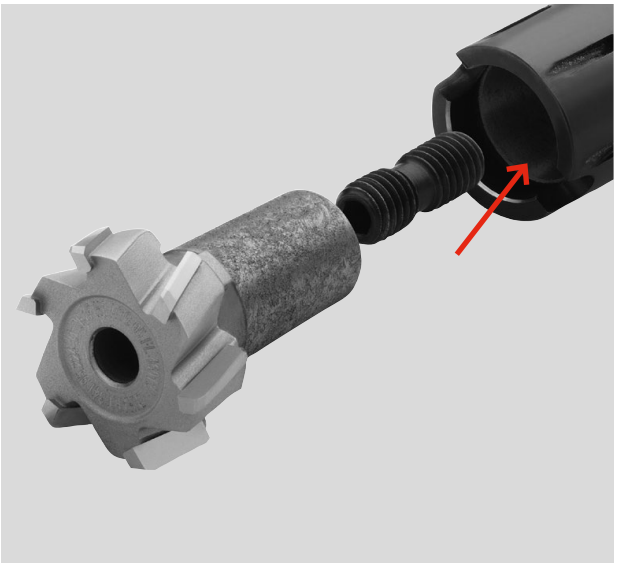


The diameter can only be measured at the marked cutting edges due to unequal angular position!

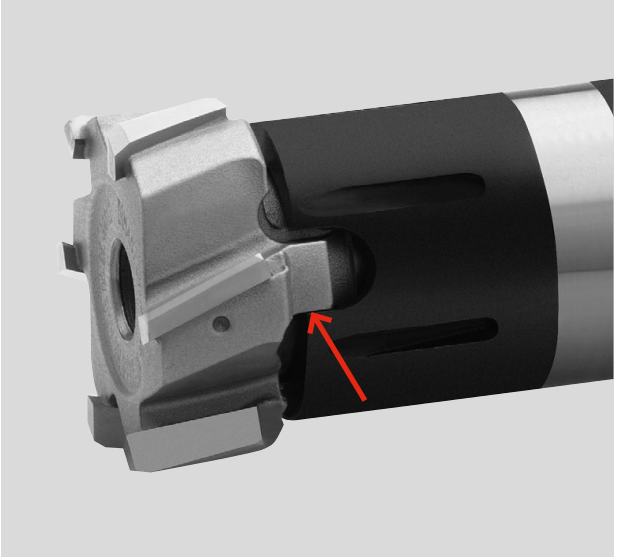


Measure the diameter. If the diameter was set too large, the nut must be loosened and the cutting ring readjusted.

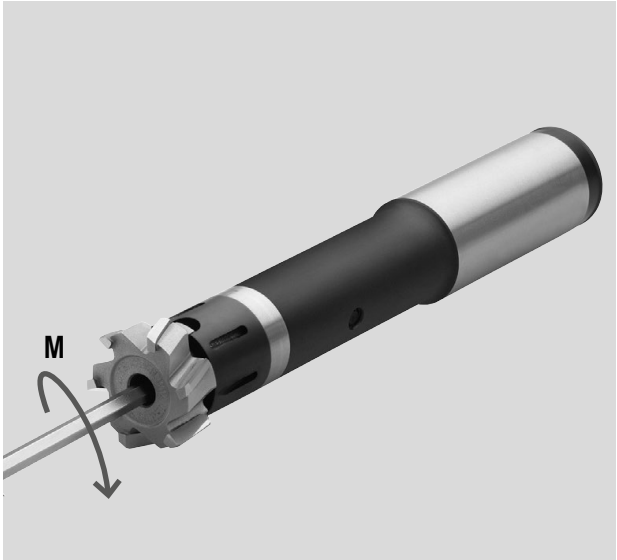
Rapid Set Head – Assembly instructions



Each rapid set head is delivered with slightly greased taper.
Do not wipe off!
Taper must be slightly greased with copper grease!
Clean taper in holder thoroughly → free of grease.
Turn the differential screw one rotation into the head (counter-clockwise thread).



Before tightening turn the drive keys of the rapid set head against the direction of machining until it hits the holder.

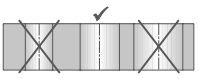


Tightening the left-/right screw.
Observe the specified tightening torque M in the index table.

Ø range	Tightening torque (TQ)
0.496 – 0.614	6 – 8 in-lbs
0.615 – 0.732	10 – 12 in-lbs
0.733 – 0.945	16 – 20 in-lbs
0.946 – 1.575	27 – 34 in-lbs
1.576 – 2.362	46 – 58 in-lbs

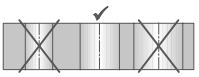
Rapid set heads up to diameter 0.496" are assembled with a clamping screw at the back of the holder. The screw has a counter-clockwise thread.

Problems / possible causes / solutions



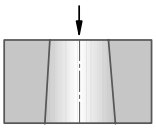
Hole too large

- ▲ Runout error for reamer in the spindle (rotating tool) → use DAH compensation system and correct runout
- ▲ Inaccurate alignment, reamer cuts at the back end (stationary tool) → correct alignment and use DPS floating holder
- ▲ Built-up edge → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant
- ▲ Reamer too large → have reamer repaired



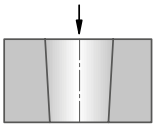
Hole too small

- ▲ Worn reamer → have reamer adjusted, replaced or repaired
- ▲ Reaming allowance too small → increase reaming allowance
- ▲ Cutting force too high → reduce feed or select other lead geometry (ASG)
- ▲ Reamer too small → have reamer adjusted, replaced or repaired



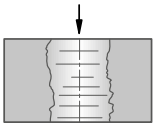
Conical hole, tapered backwards

- ▲ Inaccurate alignment → correct alignment and use DPS floating holder
- ▲ Misalignment between headstock and turret → correct turret and use DPS floating holder



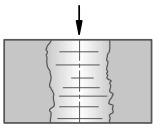
Conical hole, tapered forwards

- ▲ Poor alignment, cutting edges push at start → correct alignment and use DPS floating holder



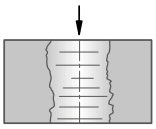
Hole is not round

- ▲ Reamer runout error too large → correct the runout with DAH compensation system
- ▲ Alignment error → correct alignment error and use DPS floating holder
- ▲ Asymmetric initial cutting through angled entry surface → countersink hole
- ▲ Workpiece deforming due to clamping → correct clamping of the workpiece
- ▲ Poor pre-machining → optimize pre-machining
- ▲ Feed too high → reduce feed



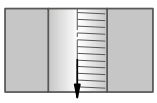
Hole exhibits chatter marks

- ▲ Cutting speed v_c too high → reduce cutting speed
- ▲ L to D ratio too high→ reduce the speed of entry, pilot the bore or select other lead geometry (ASG)



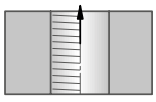
Poor surface quality

- ▲ Built-up edge → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant
- ▲ Cutting edge worn→ have cutting edge repaired or replace the tool
- ▲ Reamer runout error → correct the runout with DAH compensation system
- ▲ No or insufficient cooling, chips are getting trapped → use thru coolant supply and increase coolant pressure
- ▲ Unsuitable coolant → increase the oil content of the coolant
- ▲ Incorrect cutting data→ use data according to catalog recommendation



Grooves in the hole "Feed marks"

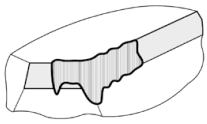
- ▲ Faulty cutting edge (edge breakage) → have reamer replaced or repaired
- ▲ Built-up edges → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant



Grooves in the hole "Retraction marks"

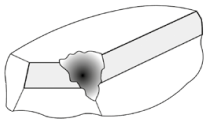
- ▲ Cutting edges moved too far out of the hole → move no more than lead length + .079" out of the hole
- ▲ Material springs back → do not retract at high speed but with increased (2-3 times) feed rate

Types of wear



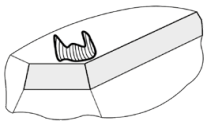
Wear on clearance face

Reduce the cutting speed and select a more wear resistant cutting material or coating.



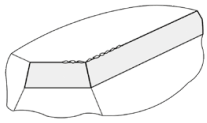
Cutting edge breakage

Reduce feed and reaming allowance. In the case of interrupted holes, use coated carbide instead of DST.



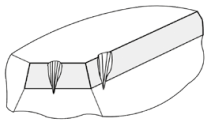
Cratering

Reduce the cutting speed and use a positive cutting edge geometry.



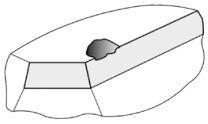
Edge breakages

Increase the cutting speed and use larger rake angle.



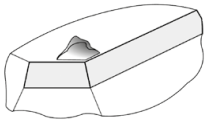
Notch wear

Reduce the cutting speed and select a more wear resistant cutting material or coating.



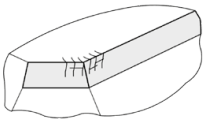
Fatigue fracture

Reduce feed, increase reamer stability.



Built-up edge

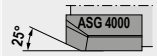
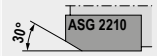
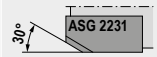
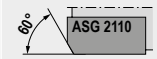
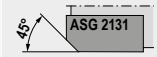
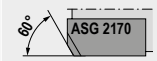
Use positive cutting edge geometry, increase the oil content of the coolant, reduce the cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material.

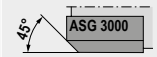
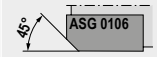
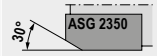
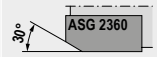


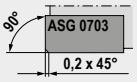
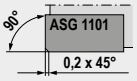
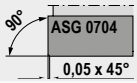
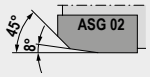
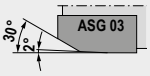
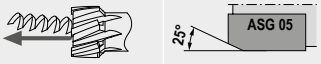
Cracks at right angles to the cutting edge

Use sufficient coolant and thru coolant, reduce the cutting speed.

Common cutting edge geometries in the performance area

Standard geometries				
Geometry	**Flute type**	**Chip flow**	**Lead angle**	
ASG4000	straight	←		Through hole
ASG2210	left-hand helix	←		
ASG2231	left-hand helix	←		
ASG2270	straight	←		
ASG2110	straight	→		Blind hole
ASG2131	straight	→		
ASG2170	straight	→		

Standard geometries				
Geometry	**Flute type**	**Chip flow**	**Lead angle**	
ASG3000	straight	↔		Through hole-Blind hole
ASG0706	straight	↔		
ASG0106	straight	↔		
ASG2350	straight	↔		
ASG2360	straight	↔		

Special geometries			
Geometry	**Flute type**	**Chip flow Comments**	**Lead angle**
ASG0703	straight	Face cutting	
ASG1101	straight	Face cutting	
ASG0704	straight	Face cutting with increased positional accuracy	
ASG09B	straight	Chip control < Ø 1.26 inch	
ASG1402	straight	Chip control > Ø 1.26 inch	
ASG02	straight	↔	
ASG03	straight	↔	
ASG05	left-handed		

Achievable surface quality

	Material group	Roughness	N11	N10	N9	N8		N7	N6		N5	N4	N3	N2	N1
		Average roughness R_a	25	12.5	6.3	3.2		1.6	0.8		0.4	0.2	0.1	0.05	0.025
		Surface roughness R_z	100	63	40	25	16	10	6.3	4	2.5	1.6	1	0.63	0.25
P	1.0 – 4.2														
M	1.1 – 3.1														
K	1.1 + 2.1 + 3.1														
	1.2 + 2.2 + 3.2														
N	1.1 – 2.3														
	3.1 – 3.3														
S	1.1 – 3.3														
H	1.1 – 1.3														

reachable ▬ conditionally reachable

This information is based on experience and may vary from case to case, depending on the prevailing conditions.
(all other surface values on request)

Tolerances

IT tolerance class DIN 7151

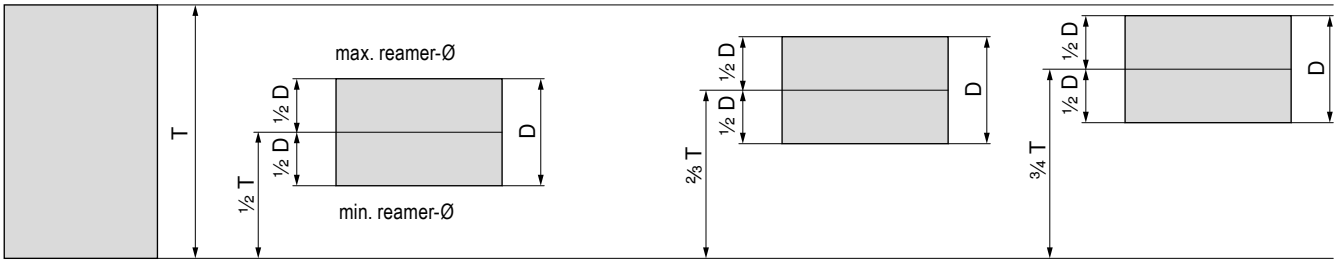
Nominal dimension range (inch)	IT tolerance class (inch)											
	IT 1	IT 2	IT 3	IT 4	IT 5	IT 6	IT 7	IT 8	IT 9	IT 10	IT 11	IT 12
.039 – .118	.00003	.00005	.00008	.00012	.00016	.00024	.00039	.00055	.00098	.00158	.00236	.00394
> .118 – .236	.00004	.00006	.00010	.00016	.00020	.00032	.00047	.00071	.00118	.00189	.00295	.00472
> .236 – .394	.00004	.00006	.00010	.00016	.00024	.00035	.00059	.00087	.00142	.00228	.00354	.00591
> .394 – .709	.00005	.00008	.00012	.00020	.00032	.00043	.00071	.00106	.00169	.00276	.00433	.00709
> .709 – 1.181	.00006	.00010	.00016	.00024	.00035	.00051	.00083	.00130	.00205	.00331	.00512	.00827
> 1.181 – 1.969	.00006	.00010	.00016	.00028	.00043	.00063	.00098	.00154	.00244	.00394	.00630	.00984
> 1.969 – 3.150	.00008	.00012	.00020	.00032	.00051	.00075	.00118	.00181	.00291	.00472	.00748	.01181
> 3.150 – 4.724	.00010	.00016	.00024	.00039	.00059	.00087	.00138	.00213	.00343	.00551	.00866	.01378
> 4.724 – 7.087	.00014	.00020	.00032	.00047	.00071	.00098	.00158	.00248	.00394	.00630	.00984	.01575
> 7.087 – 9.843	.00018	.00028	.00039	.00055	.00079	.00114	.00181	.00284	.00453	.00728	.01142	.01811
> 9.843 – 12.402	.00024	.00032	.00047	.00063	.00091	.00126	.00205	.00319	.00512	.00827	.01260	.02047

Nominal dimension range (mm)	IT tolerance class (metric) (in 0.001 mm)											
	IT 1	IT 2	IT 3	IT 4	IT 5	IT 6	IT 7	IT 8	IT 9	IT 10	IT 11	IT 12
1 – 3	0.8	1.2	2	3	4	6	10	14	25	40	60	100
> 3 – 6	1	1.5	2.5	4	5	8	12	18	30	48	75	120
> 6 – 10	1	1.5	2.5	4	6	9	15	22	36	58	90	150
> 10 – 18	1.2	2	3	5	8	11	18	27	43	70	110	180
> 18 – 30	1.5	2.5	4	6	9	13	21	33	52	84	130	210
> 30 – 50	1.5	2.5	4	7	11	16	25	39	62	100	160	250
> 50 – 80	2	3	5	8	13	19	30	46	74	120	190	300
> 80 – 120	2.5	4	6	10	15	22	35	54	87	140	220	350
> 120 – 180	3.5	5	8	12	18	25	40	63	100	160	250	400
> 180 – 250	4.5	7	10	14	20	29	46	72	115	185	290	460
> 250 – 315	6	8	12	16	23	32	52	81	130	210	320	520

Manufacturer's tolerance of the reamer

T = Hole tolerance range
D = Manufacturer's tolerance of the reamer

max. hole-Ø



min. hole-Ø

Manufacturer's tolerance of expandable reamers

The diameter of an expandable reamer is ground to the middle of hole tolerance T (REAMAX TS / Monomax).
The adjustment capability of the reamer facilitates wear compensation.

Manufacturer's tolerance of fixed reamers

The manufacturer tolerance D of fixed reamers is two thirds (REAMAX) or three quarters (Fullmax) of the hole tolerance T.

Coatings – Reaming

DBC

- Diamond-like carbon coating
- Specially for machining non-ferrous metals
- Maximum application temperature: 400 °C

DBG-P

- AlTiN Multilayer coating
- Especially for universal use in a variety of materials at high cutting speeds
- Suitable for MMS application
- Maximum application temperature: 1000 °C

TiN

- TiN coating
- Maximum application temperature: 450 °C

Grade description – Reamers

DST

- Cermet, uncoated
- ISO | **P15** | **M10** | K10
- The uncoated cermet grade for finish machining stainless and hardened steel
- Particularly wear resistant thanks to high heat resistance

PCD-U

- Polycrystalline diamond cutting material, uncoated
- Particularly wear-resistant PCD grade for process reliable machining of aluminium

K10

- Carbide, uncoated
- ISO | **K10**
- Uncoated carbide grade for machining grey cast iron or non-ferrous metals, depending on the cutting edge geometry