UP2DATE

Precision Thread Production

Thanks to the new performance upgrade, the MonoThread milling cutter now ensures maximum durability and value.

... ADDITIONAL PRODUCT HIGHLIGHTS

- Workpiece clamping for all small sizes: Zero point clamping system **MNG mini** takes performance to the max.
- Modular, flexible, extensive: Exchangeable head system **MaxiChange** now with grooving heads.

Welcome!

Get in touch

Customer Service Team

http://cuttingtools.ceratizit.com
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On-site technical support

Your Local Technical Sales Engineer

Your customer number

MonoThread – SFSE & SGF

The threading specialists with
a real performance boost

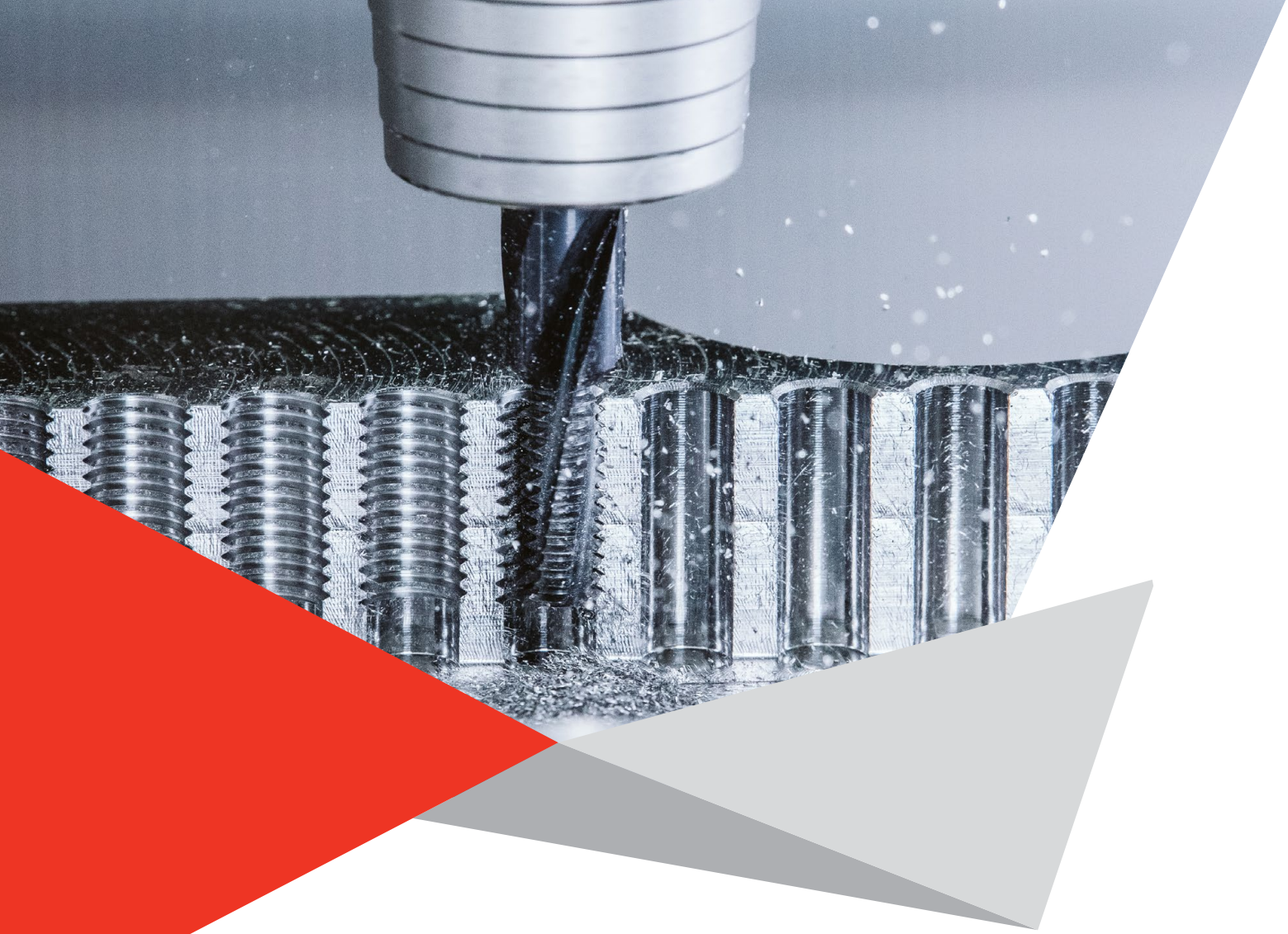
WNT

Improved thread milling cutter performance

In recent years, thread milling has become a viable alternative to tapping and thread forming or thread whirling. With the MonoThread – SGF as a shank thread milling cutter and the MonoThread – SFSE, the shank thread milling cutter with chamfer facet, CERATIZIT has launched two completely reworked tools from the Performance Line. Our tool developers placed particular focus on the performance aspect of both tools.

→ Page 12–19
You can find further information on the product here.

cts.ceratizit.com/us/en/monothread-sfg-sfse



The new editions of CERATIZIT's Performance MonoThread – SGF & SFSE thread milling cutters are making strides towards their mission:

→ Reliable increase in performance of up to 20% compared to the previous version!

The product upgrade guarantees enhanced performance:

▲ Increased number of cutting edges	→	**Quicker machining time**
▲ Optimized core rounding and taper	→	**Improved service life and dimensional accuracy**
▲ Precision grinding	→	**Significantly higher grinding quality**
▲ Thro‘ coolant from a thread size of M4	→	**Improved tool life**
▲ Advanced coating	→	**Higher wear resistance**
▲ Possible to regrind up to three times	→	**higher efficiency**

Find out more about our regrinding service here:
cts.ceratizit.com/us/en/regrinding

Material-friendly thread production

The quality of a thread often determines whether the final product is a success or a reject. As it is often produced at the very end of the entire machining process, maximum precision and process security are key. Our new Performance shank thread milling cutters are undisputed champions in this area and boast an improved service life and unbeatable price-performance ratio.

Thread milling cutter

MonoThread – SGF

- ▲ 28 different versions
- ▲ Thread types → M / MF / G
- ▲ Materials → Universal

Thread milling cutter with chamfer facet

MonoThread – SFSE

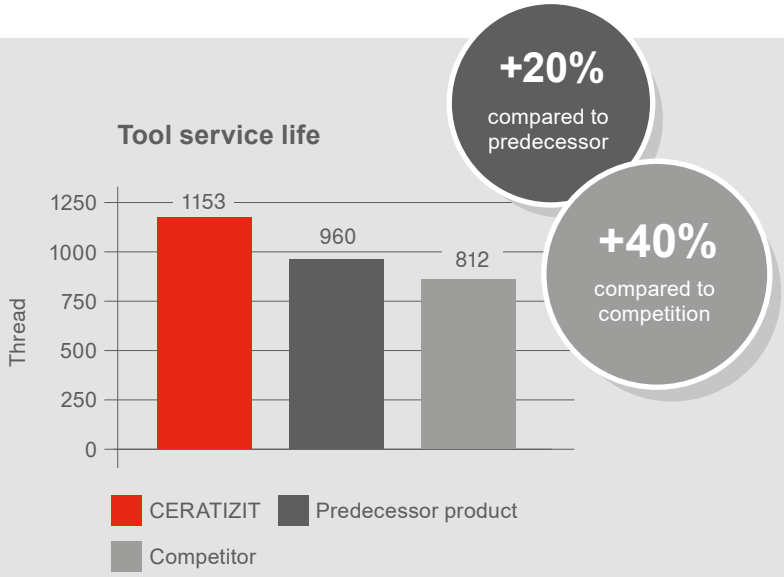
- ▲ 38 different versions
- ▲ Thread types → M / MF / G / NPT / UNC / UNF
- ▲ Materials → Universal

The new thread milling cutters are also available in different lengths as semi-standard products!

The thread milling cutter upgrade is ideal for all standardised thread profiles with all tolerances and especially for asymmetrical, thin-walled, large or very expensive workpieces. The new shank thread milling cutters can be used to machine any materials, including high-strength and tempered steels.

Test report: MonoThread – SFSE

Process	Thread milling
Product	MonoThread – SFSE M8 2xD
Thread depth	16 mm (0.0394 in)
Material	4140 Steel
Cooling	Internal coolant supply
Technology	v_c = 100 m/min f_z = 0.040 mm/tooth (0.0016 in)



One system, unlimited possibilities

Grooving heads added to the flexible MaxiChange exchangeable head system

CERATIZIT

cts.ceratizit.com/us/en/maxichange

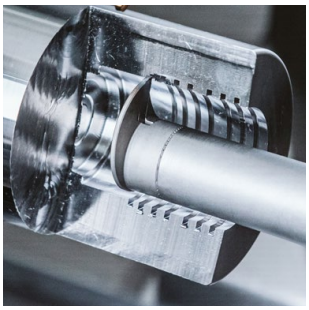
MaxiChange GX keeps a cool head during grooving

The MaxiChange exchangeable head system, with its countless base holders through to its vibration-damped boring bars, has become a flexible solution for a wide range of turning operations. Now we are expanding the product range to include the MaxiChange GX modular grooving system – which features an internal coolant supply to boot – to achieve a cool head, even under challenging conditions.

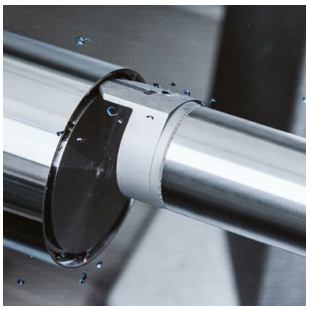
→ **Page 32+33**
You can find further information on the product here.

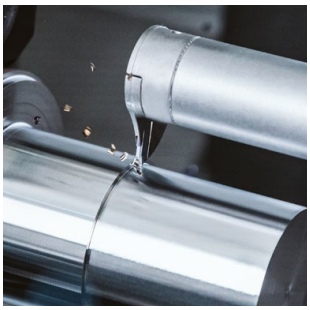
Flexible solution for a variety of applications

As the MaxiChange exchangeable head system is modular, it is extremely flexible and can be used for a variety of applications thanks to the wide selection of exchangeable heads. On top of these advantages, the MaxiChange GX also includes a grooving function for internal and external machining as well as axial and radial machining.


Internal


External


axial

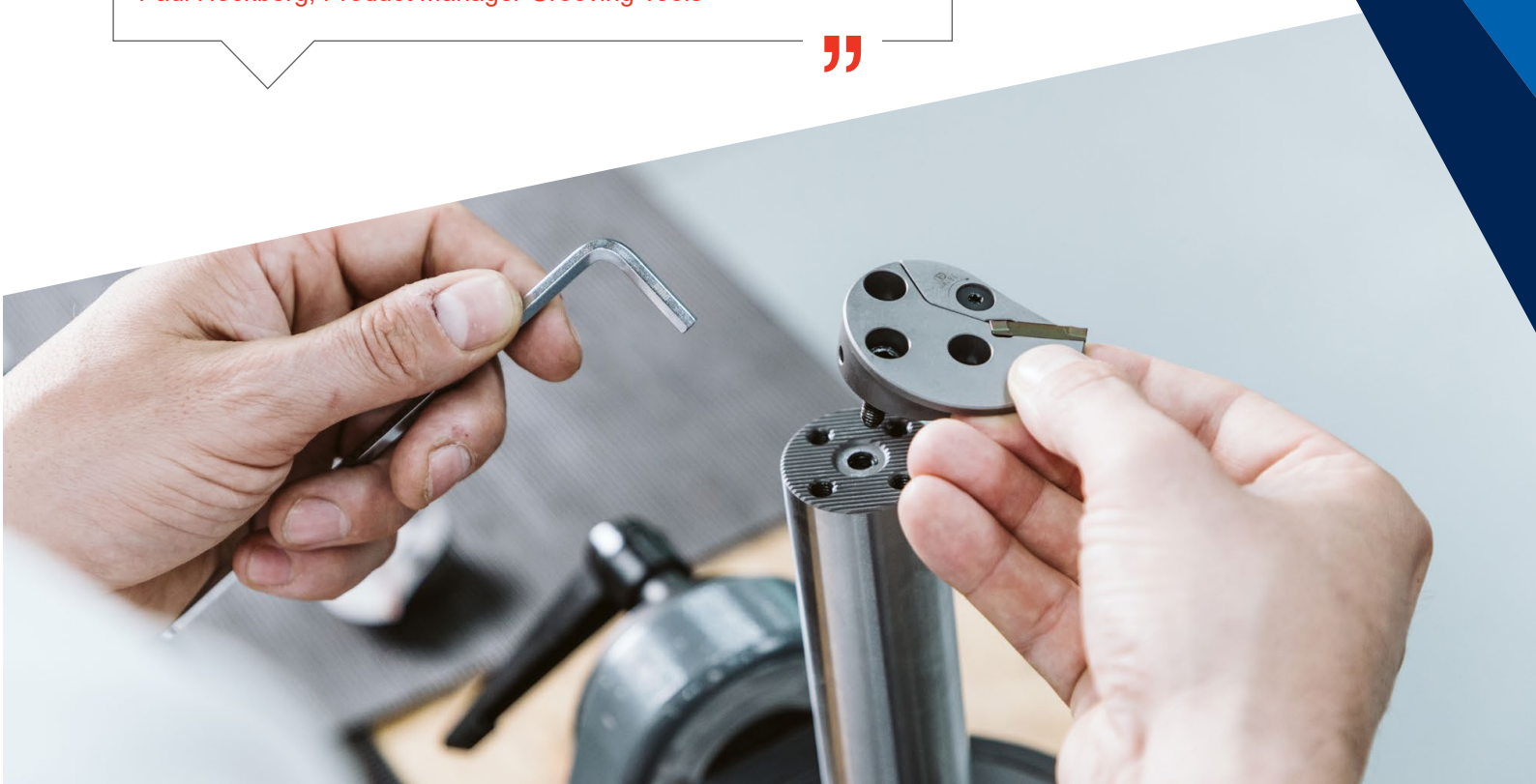

radial

Advantage/benefit

Modular → All heads and base holders are compatible with each other
Flexible → Can be used for a variety of applications
Extensive → Wide range of exchangeable heads and base holders

We have engineered the system for maximum changeover precision and exceptional stability. At the same time, the modular design means it is extremely flexible and can be used for a variety of applications thanks to its wide selection of exchangeable heads.

Paul Höckberg, Product Manager Grooving Tools



Zero point clamping system – MNG mini

For workpiece clamping in the smaller dimension range

WNT

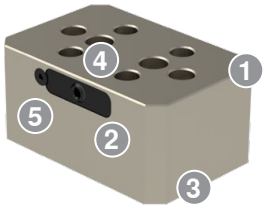
MNG mini – small zero point clamping system that delivers maxi performance

Machine reference points are indispensable when it comes to highly precise machining. Zero point clamping systems, which are used both to clamp as well as to position the workpiece, are established solutions for this.

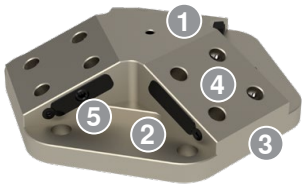
With the MNG mini, CERATIZIT is launching the little brother of the tried-and-tested MNG mechanical zero point clamping system – a stand-out product thanks to its weight-optimized consoles, pyramids and clamping towers with an integrated zero point clamping system for small clamping devices. These vices can be quickly and easily clamped manually using the four clamping bolts to increase machine runtimes while also reducing setup times.

→ **Page 36–39**
You can find further information on the product here.

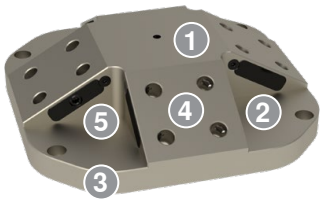
System overview



1-sided console



3-sided pyramid



4-sided pyramid

3-sided clamping tower

1 Suitable for the following clamping systems:

- ZSG 4 / 80 L-130
- ZSG mini 70 L-80
- ZSG mini 70 L-100
- ESG 5 80 L-130

2 Mechanical clamping:

- 1 clamping screw per MNG mini
- Tightening torque 30 Nm
- Insertion force 15 kN
- Width across flats 6 mm (0.2362 in)

3 Clamping options:

- Pallet and machine table
- Zero point clamping systems

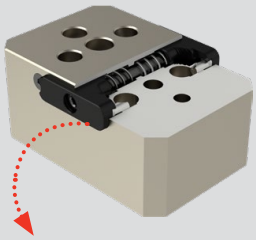
4 Centre distance:

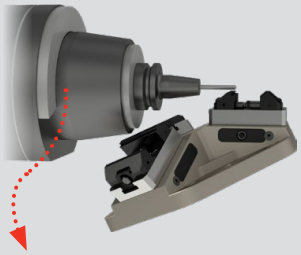
- 52 x 52 mm (2.0472 in) mounting bolt spacing
- Compatible with other manufacturers

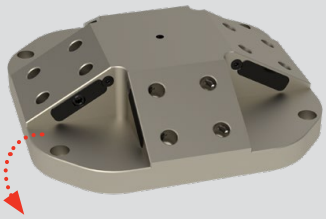
5 Integrated zero point clamping system:

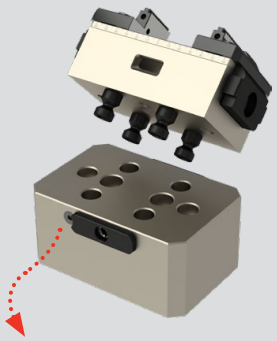
- Weight-saving
- More cost effective
- Fewer interference contours

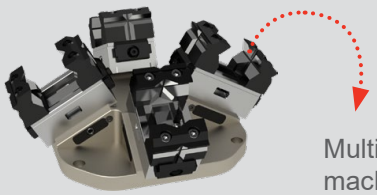
Advantage/benefit


Integrated zero point clamping system


Optimum accessibility with the machine spindle


Lightweight due to use of a high-strength, hard-anodized aluminum alloy


Quick, simple and accurate setup and retrofitting


Multi-clamping on 5-axis machines

cts.ceratizit.com/us/en/mng-mini

Exchangeable head system – MaxiChange

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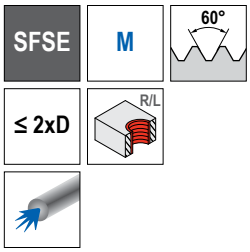
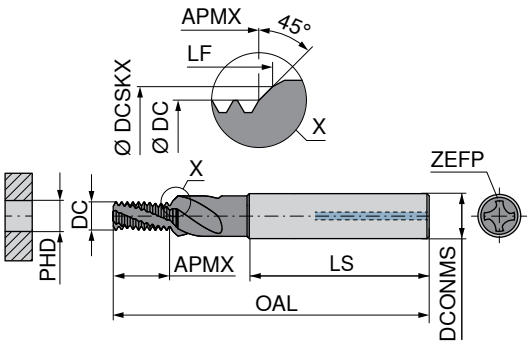
▲ Profile corrected





NEW

AlTiN

Solid carbide

50 552 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	PHD mm	
3.95	M5	0.80	55	10.05	36	6	5.3	10.60	3	4.2	**05000**
4.68	M6	1.00	62	12.56	36	8	6.3	13.20	4	5.0	**06000**
6.22	M8	1.25	74	16.99	40	10	8.3	17.76	4	6.8	**08000**
7.79	M10	1.50	79	20.41	45	12	10.3	21.30	4	8.5	**10000**
9.38	M12	1.75	89	25.57	45	14	12.3	26.60	5	10.2	**12000**
12.83	M16	2.00	102	33.27	48	18	16.3	34.42	5	14.0	**16000**

NEW

50 553 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	PHD mm	
6.22	M8x1	1.00	74	16.69	40	10	8.3	17.34	4	7.0	**08200**
7.79	M10x1	1.00	79	20.81	45	12	10.3	21.46	4	9.0	**10200**
7.79	M10x1,25	1.25	79	20.85	45	12	12.3	21.63	4	8.8	**10300**
9.38	M12x1,25	1.25	89	24.72	45	14	12.3	25.49	5	10.8	**12300**
9.38	M12x1,5	1.50	89	25.02	45	14	12.3	25.92	5	10.5	**12400**
10.92	M14x1	1.00	102	29.06	48	16	14.3	29.71	5	13.0	**14200**
10.92	M14x1,5	1.50	102	29.65	48	16	14.3	30.55	5	12.5	**14400**
12.82	M16x1,5	1.50	102	32.67	48	18	14.3	33.57	5	14.5	**16400**

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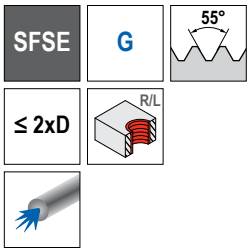
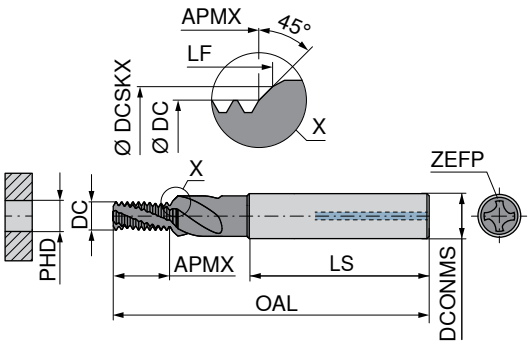
→ v_c/f_z Page 19

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used.

MonoThread – Thread Milling Cutter with Chamfer Facet

▲ Profile corrected





NEW

AlTiN

Solid carbide

50 551 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	PHD mm	
7.79	G 1/8-28	0.907	79	20.59	45	12	10.03	21.25	4	8.80	**01800**
10.92	G 1/4-19	1.337	102	27.53	48	16	13.46	28.43	5	11.80	**01400**
13.92	G 3/8-19	1.337	102	34.34	48	18	16.96	35.24	5	15.25	**03800**
15.98	G1/2-14	1.814	127	43.27	56	25	21.25	44.45	5	19.00	**01200**

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→ v_c/f_z Page 19

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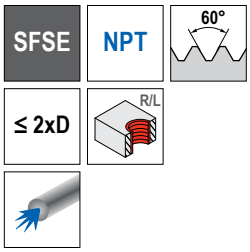
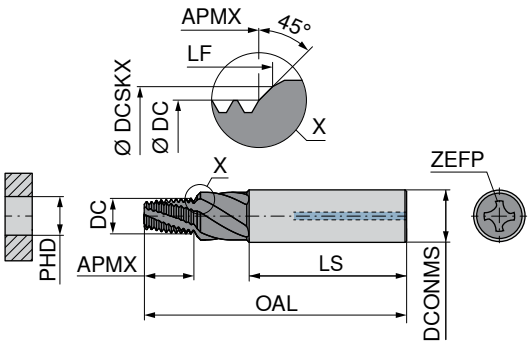
MonoThread – Thread Milling Cutter with Chamfer Facet

▲ Profile corrected





NEW

AlTiN

Solid carbide

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DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	PHD mm	
5.45	NPT 1/16-27	0.941	64	9.86	40	10	8.70	11.33	4	6.15	**11600**
7.87	NPT 1/8-27	0.941	74	9.86	45	12	11.10	11.33	4	8.50	**01800**
10.10	NPT 1/4-18	1.411	80	14.78	48	16	14.50	16.76	5	11.10	**01400**
16.42	NPT 1/2-14	1.814	94	18.98	48	18			5	17.90	**01200**[1)]

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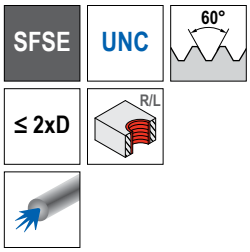
1) Chamfer section at the front of the tool

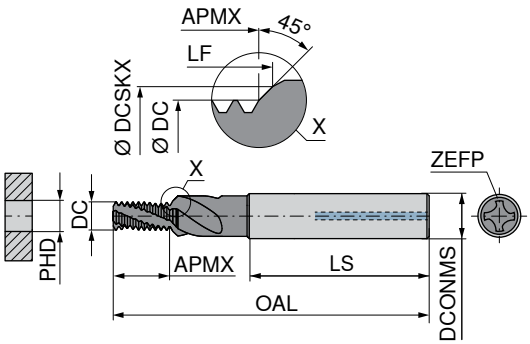
→ v_c/f_z Page 19

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used.

MonoThread – Thread Milling Cutter with Chamfer Facet

▲ Profile corrected





NEW

AlTiN

Solid carbide

50 555 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS h6 mm	DCSKX mm	LF mm	ZEFP	PHD mm	
4.70	UNC 1/4-20	1.270	62	14.68	36	8	6.65	15.46	4	5.1	**01400**
6.22	UNC 5/16-18	1.411	74	16.28	40	10	8.24	17.14	4	6.6	**51600**
7.34	UNC 3/8-16	1.588	79	19.98	45	12	9.83	20.92	4	8.0	**03800**
8.57	UNC 7/16-14	1.814	79	22.83	45	12	11.41	23.89	4	9.4	**71600**
9.38	UNC 1/2-13	1.954	89	26.71	45	14	13.00	27.83	5	10.8	**01200**
10.92	UNC 9/16-12	2.117	102	30.99	48	16	14.60	32.20	5	12.2	**91600**
12.50	UNC 5/8-11	2.309	102	33.72	48	18	16.18	35.03	5	13.5	**05800**
15.21	UNC 3/4-10	2.540	110	39.68	50	20	19.35	41.10	5	16.5	**03400**

NEW

50 556 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS h6 mm	DCSKX mm	LF mm	ZEFP	PHD mm	
4.70	UNF 1/4-28	0.907	62	14.24	36	8	6.65	14.84	4	5.5	**01400**
6.22	UNF 5/16-24	1.058	74	16.56	40	10	8.24	17.23	4	6.9	**51600**
7.79	UNF 3/8-24	1.058	79	19.73	45	12	9.83	20.41	4	8.5	**03800**
9.32	UNF 7/16-20	1.270	89	22.34	45	14	11.40	23.13	5	9.9	**71600**
9.38	UNF 1/2-20	1.270	89	26.57	45	14	13.00	27.36	5	11.5	**01200**
10.92	UNF 9/16-18	1.411	102	29.43	48	16	14.59	30.29	5	12.9	**91600**
12.82	UNF 5/8-18	1.411	102	33.58	48	18	16.18	34.43	5	14.5	**05800**
15.82	UNF 3/4-16	1.587	110	39.29	50	20	19.35	40.23	5	17.5	**03400**

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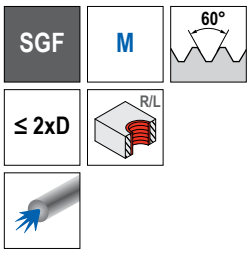
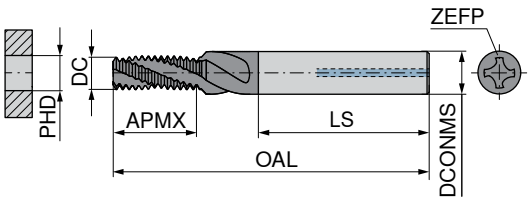
→ v_c/f_z Page 19

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used.

MonoThread – Thread Milling Cutter

▲ Profile corrected





NEW

AlTiN

Solid carbide

50 531 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	ZEFP	PHD mm	
2.44	M3	0.50	42	6.24	36	4	3	2.5	**03000**[1)]
3.14	M4	0.70	49	8.00	36	6	3	3.3	**04000**
3.95	M5	0.80	55	10.00	36	6	3	4.2	**05000**
4.68	M6	1.00	55	12.47	36	6	4	5.0	**06000**
6.22	M8	1.25	62	16.83	36	8	4	6.8	**08000**
7.79	M10	1.50	74	20.20	40	10	4	8.5	**10000**
9.38	M12	1.75	79	25.32	45	12	5	10.2	**12000**
10.92	M14	2.00	89	28.93	45	14	5	12.0	**14000**
12.83	M16	2.00	102	32.94	48	16	5	14.0	**16000**
13.93	M18	2.50	102	36.17	48	16	5	15.5	**18000**
15.83	M20	2.50	110	41.17	50	20	5	17.5	**20000**

1) Without Through Coolant

NEW

50 532 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	ZEFP	PHD mm	
3.14	M4x0,5	0.50	49	8.00	36	6	3	3.5	**04000**
3.95	M5x0,5	0.50	55	10.00	36	6	3	4.5	**05000**
4.68	M6x0,75	0.75	55	12.34	36	6	4	5.2	**06100**
6.22	M8x0,75	0.75	62	16.09	36	8	4	7.2	**08100**
6.22	M8x1	1.00	62	16.46	36	8	4	7.0	**08200**
7.79	M10x1	1.00	74	20.46	40	10	4	9.0	**10200**
9.38	M12x1	1.00	79	24.45	45	12	5	11.0	**12200**
9.38	M12x1,5	1.50	79	24.69	45	12	5	10.5	**12400**
10.92	M14x1,5	1.50	89	29.19	45	14	5	12.5	**14400**
12.82	M16x1,5	1.50	102	32.19	48	16	5	14.5	**16400**
13.93	M18x1,5	1.50	102	36.68	48	16	5	16.5	**18400**
15.83	M20x1,5	1.50	110	41.18	50	20	5	18.5	**20400**

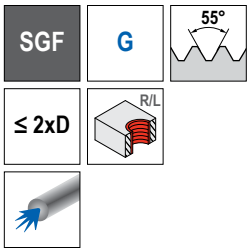
P	●
M	●
K	●
N	●
S	●
H	
O	●

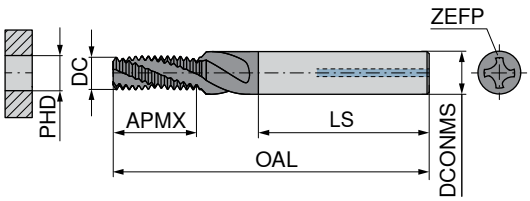
→ v_c/f_z Page 19

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used.

MonoThread – Thread Milling Cutter

▲ Profile corrected





NEW

AlTiN

Solid carbide

50 530 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	ZEFP	PHD mm	
7.79	G 1/8-28	0.907	74	20.35	40	10	4	8.80	**01800**
10.92	G 1/4-19	1.337	89	27.34	45	14	5	11.80	**01400**
13.92	G 3/8-19	1.337	102	35.36	48	16	5	15.25	**03800**
15.90	G 1-11	2.309	102	33.29	48	16	5	30.75	**10000**
15.98	G 1/2-14	1.814	110	42.51	50	20	5	19.00	**01200**

P	●
M	●
K	●
N	●
S	●
H	
O	●

→ v_c/f_z Page 19

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used.

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	Aluminum 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 aluminum 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 fiber-reinforced		≤ 145000 lbf/in²				
		O.2.2	Glass/carbon-fiber reinforced		≤ 145000 lbf/in²				
		O.3.1	Graphite						

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

Cutting data standard values

Index	50 551 …, 50 552 …, 50 553 …, 50 554 …, 50 555 …, 50 556 … / 50 530 …, 50 531 …, 50 532 …			
	SFSE SGF	AlTiN Solid carbide		
		Ø 2,4 – 5,9	Ø 6,0 – 11,9	Ø 12,0 – 20,0
	v_c (ft/min)	f_z (mm/tooth)		
P.1.1	80–150	0,015–0,04	0,04–0,08	0,08–0,15
P.1.2	80–120	0,015–0,04	0,04–0,08	0,08–0,15
P.1.3	80–120	0,015–0,04	0,04–0,08	0,08–0,15
P.1.4	80–120	0,015–0,04	0,04–0,08	0,08–0,15
P.1.5	60–100	0,01–0,04	0,04–0,06	0,04–0,10
P.2.1	80–120	0,015–0,04	0,04–0,08	0,08–0,15
P.2.2	80–100	0,015–0,04	0,04–0,08	0,08–0,15
P.2.3	80–100	0,010–0,04	0,04–0,08	0,08–0,15
P.2.4	80–100	0,010–0,04	0,04–0,08	0,08–0,15
P.3.1	70–90	0,01–0,03	0,03–0,05	0,06–0,12
P.3.2	60–80	0,006–0,02	0,02–0,04	0,04–0,06
P.3.3	50–70	0,006–0,02	0,02–0,04	0,04–0,06
P.4.1	70–90	0,006–0,02	0,02–0,04	0,04–0,06
P.4.2	60–80	0,006–0,02	0,02–0,04	0,04–0,06
M.1.1	60–100	0,01–0,04	0,04–0,08	0,08–0,10
M.2.1	60–100	0,01–0,03	0,03–0,06	0,06–0,10
M.3.1	60–100	0,01–0,03	0,03–0,06	0,06–0,10
K.1.1	80–120	0,02–0,06	0,06–0,12	0,10–0,15
K.1.2	80–120	0,02–0,05	0,05–0,10	0,10–0,12
K.2.1	80–100	0,02–0,05	0,05–0,10	0,08–0,15
K.2.2	80–100	0,02–0,05	0,05–0,10	0,08–0,12
K.3.1	80–100	0,015–0,05	0,05–0,08	0,08–0,12
K.3.2	80–100	0,015–0,03	0,03–0,08	0,08–0,12
N.1.1	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.1.2	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.2.1	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.2.2	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.2.3	100–250	0,04–0,09	0,08–0,15	0,12–0,20
N.3.1	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.3.2	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.3.3	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.4.1	100–400	0,04–0,09	0,08–0,15	0,12–0,20
S.1.1	40–100	0,01–0,04	0,04–0,07	0,07–0,12
S.1.2				
S.2.1				
S.2.2				
S.2.3				
S.3.1	40–100	0,01–0,04	0,04–0,07	0,07–0,15
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	100–400	0,03–0,08	0,08–0,15	0,15–0,20
O.1.2	100–400	0,03–0,08	0,08–0,15	0,15–0,20
O.2.1	50–80	0,03–0,08	0,08–0,15	0,15–0,20
O.2.2	50–80	0,03–0,08	0,08–0,15	0,15–0,20
O.3.1				

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.

MaxiChange – Overview of the product range

As the MaxiChange exchangeable head system is modular, it is extremely flexible and can be used for a variety of applications thanks to the wide selection of exchangeable heads. On top of these advantages, the MaxiChange GX also includes a grooving function for internal and external machining as well as axial and radial machining.

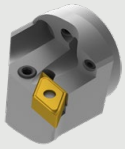
Exchangeable heads

Turning Tools

For negative inserts

PCLN 95°

PDUN 93°

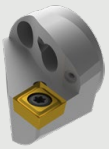


PDQN 107,5°

PWLN 95°

For positive inserts

SCLC 95°



SDUC 93°

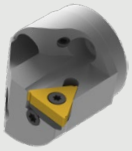
SDQC 107,5°

NEW
SVPC 117,5°

NEW
SVUC 93°

NEW
SVQC 107,5°

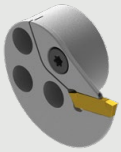
For internal thread



Grooving Tools

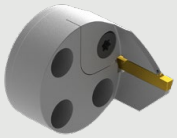
For radial grooving

NEW
GX 16

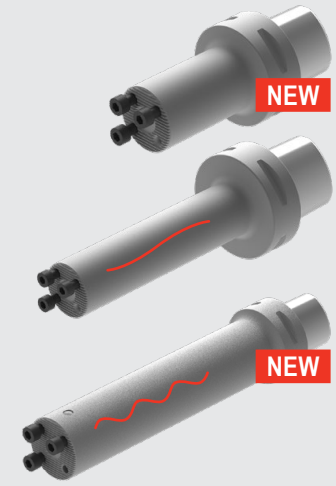


For axial grooving

NEW
GX 24



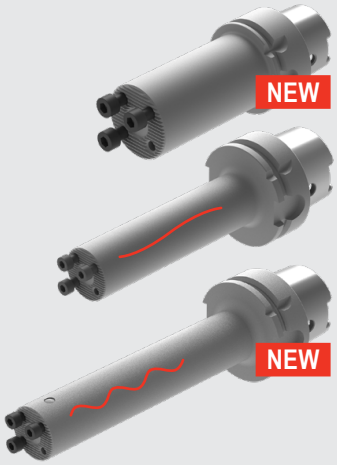
Tool holder



PSC

Vibration damped

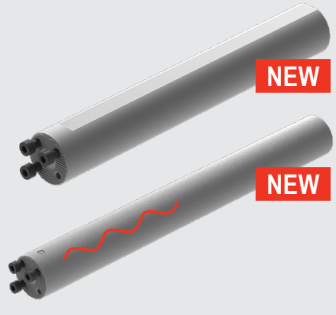
Actively vibration-damped



HSK-T

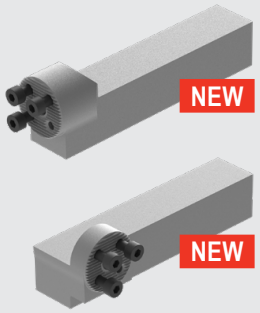
Vibration damped

Actively vibration-damped



Cylindrical shank

Actively vibration-damped

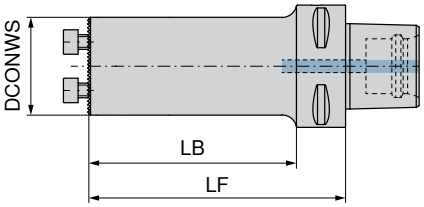


Square shank holder 0°

Square shank holder 90°

MaxiChange – Base holders for the exchangeable head system

Scope of supply:
Includes clamping screws



NEW

Adapter	LF mm	LB mm	DCONWS mm	84 192 ...
PSC 40	62	20	16	**01695**
PSC 40	72	30	20	**02095**
PSC 50	62	20	16	**01694**
PSC 50	72	30	20	**02094**
PSC 63	62	18	16	**01693**
PSC 63	72	30	20	**02093**

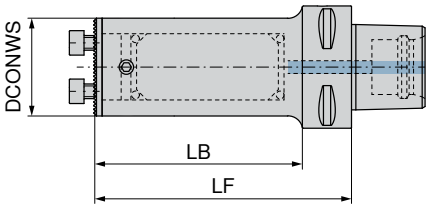
Clamping Screw

Spare parts DCONWS		84 950 ...
16	M3x10	**44800**
20	M3,5X12	**44900**

MaxiChange – Base holders for the exchangeable head system – actively vibration-damped

▲ Reduction of vibrations through actively mounted dampers
▲ Improvement in surface finish and chip evacuation

Scope of supply:
Includes clamping screws



NEW

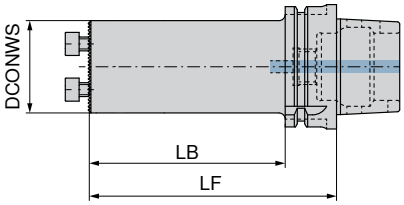
Adapter	LF mm	LB mm	DCONWS mm	84 198 ...
PSC 40	108	66	16	**31695**
PSC 40	127	80	20	**32095**
PSC 50	105	56	16	**31694**
PSC 50	129	80	20	**32094**
PSC 63	110	57	16	**31693**
PSC 63	130	78	20	**32093**

Clamping Screw

Spare parts DCONWS		84 950 ...
16	M3x10	**44800**
20	M3,5X12	**44900**

MaxiChange – Base holders for the exchangeable head system

Scope of supply:
Includes clamping screws



NEW

Adapter	LF mm	LB mm	DCONWS mm	84 193 ...
HSK-T 63	76	30	16	**01637**
HSK-T 63	100	54	20	**02037**

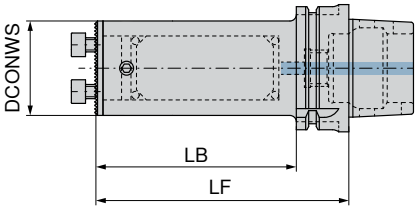

Clamping Screw

Spare parts DCONWS		84 950 ...
16	M3x10	**44800**
20	M3,5X12	**44900**

MaxiChange – Base holders for the exchangeable head system – actively vibration-damped

▲ Reduction of vibrations through actively mounted dampers
▲ Improvement in surface finish and chip evacuation

Scope of supply:
Includes clamping screws



NEW

Adapter	LF mm	LB mm	DCONWS mm	84 198 ...
HSK-T 63	110	64	16	**31637**
HSK-T 63	126	80	20	**32037**

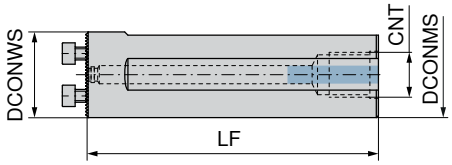

Clamping Screw

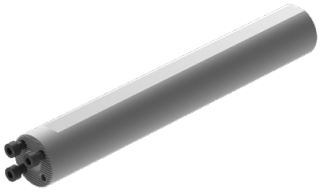
Spare parts DCONWS		84 950 ...
16	M3x10	**44800**
20	M3,5X12	**44900**

MaxiChange – Base holders for the exchangeable head system – cylindrical

▲ Connection thread for through coolant
▲ 3 clamping flats

Scope of supply:
Includes clamping screws





NEW

DCONWS mm	LF mm	DCONMS mm	CNT	84 194 ...
25	100	25	M8 x 1	**12599**
32	120	32	M8 x 1	**13299**
40	120	40	M8 x 1	**14099**

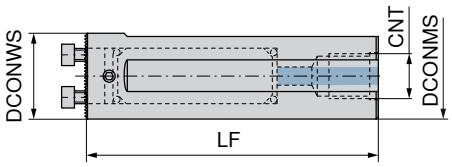
Clamping Screw

Spare parts DCONWS		84 950 ...
25	M4X12 (SW3)	**30000**
32	M5X14 (SW4)	**29900**
40	M6X16 (SW5)	**29800**

MaxiChange – Base holders for the exchangeable head system – actively vibration-damped

▲ Connection thread for thro' coolant
▲ 3 clamping flats

Scope of supply:
Includes clamping screws



NEW

DCONWS mm	LF mm	DCONMS mm	CNT	84 198 ...
16	170	16	1/4	**31699**
20	200	20	1/4	**32099**
25	255	25	1/4	**32599**
32	320	32	1/2	**33299**
40	408	40	1/2	**34099**

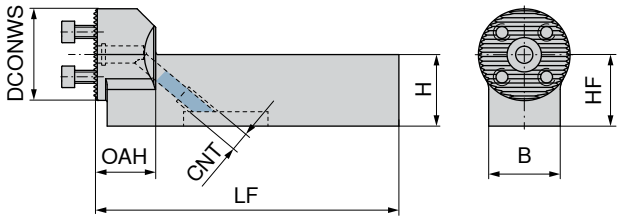
Clamping Screw

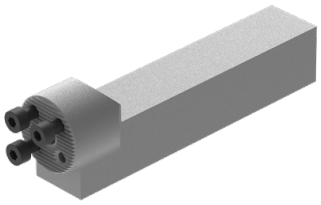
DCONWS		84 950 ...
16	M3x10	**44800**
20	M3,5X12	**44900**
25	M4X12 (SW3)	**30000**
32	M5X14 (SW4)	**29900**
40	M6X16 (SW5)	**29800**

MaxiChange – 0° base holders for the exchangeable head system

Scope of supply:
Includes clamping screws

Direct Cooling





NEW

DCONWS mm	H mm	B mm	HF mm	OAH mm	LF mm	CNT	84 185 ...
25	20	20	20	21	106	M8x1	**02500**
32	20	20	20	21	106	M8x1	**03200**
32	25	25	25	21	132	M8x1	**13200**
40	25	25	25	21	132	M8x1	**14000**


Clamping Screw

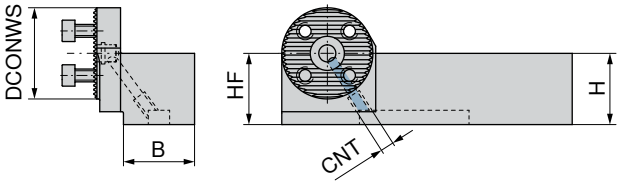
Spare parts DCONWS		84 950 ...
25	M4X12 (SW3)	**30000**
32	M5X14 (SW4)	**29900**
40	M6X16 (SW5)	**29800**

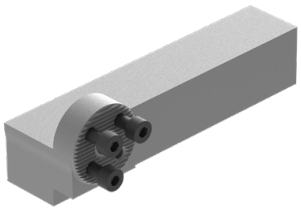
→ **Chapter 16 Adapters and accessories**
Here you will find the suitable base adaptors.

MaxiChange – 90° base holders for the exchangeable head system

Scope of supply:
Includes clamping screws

Direct Cooling





NEW

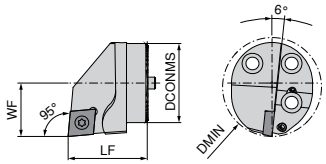
DCONWS mm	H mm	B mm	HF mm	CNT	84 184 ...
25	20	20	20	M8x1	**02500**
32	20	20	20	M8x1	**03200**
32	25	25	25	M8x1	**13200**
40	25	25	25	M8x1	**14000**

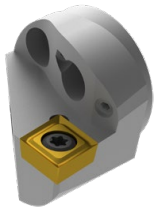
Clamping Screw

Spare parts DCONWS		84 950 ...
25	M4X12 (SW3)	**30000**
32	M4X12 (SW3)	**30000**
40	M6X16 (SW5)	**29800**

→ **Chapter 16 Adapters and accessories**
Here you will find the suitable base adaptors.

MaxiChange-S – SCLC 95° – Exchangeable cutting head with screw clamping



Illustrations show right-hand versions

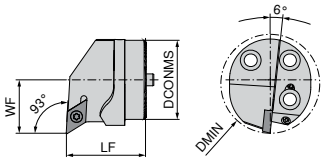
DCONMS	LF	DMIN	WF	torque moment	Insert	NEW Left-hand	NEW Right-hand
mm	mm	mm	mm	Nm		84 147 ...	84 148 ...
16	20	20	11	0.9	CC.. 0602	**01600**	**01600**
20	20	25	13	3	CC.. 09T3	**02000**	**02000**

Clamping screw

84 950 ...

Spare parts Insert	
CC.. 0602	**44700**
CC.. 09T3	**27600**

MaxiChange-S – SDUC 93° – Exchangeable cutting head with screw clamping

Illustrations show right-hand versions

DCONMS	LF	DMIN	WF	torque moment	Insert	NEW Left-hand	NEW Right-hand
mm	mm	mm	mm	Nm		84 143 ...	84 144 ...
16	20	20	11	0,9	DC.. 0702	**01600**	**01600**
20	20	25	13	3	DC.. 11T3	**02000**	**02000**

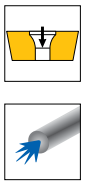
Clamping screw

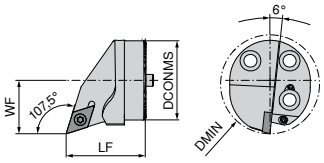
84 950 ...

Spare parts Insert	
DC.. 0702	**44700**
DC.. 11T3	**27600**

→ **Chapter 9 – Turning Tools**
Find suitable indexable inserts here.

MaxiChange-S – SDQC 107.5° – Exchangeable cutting head with screw clamping





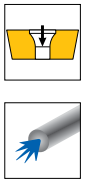
Illustrations show right-hand versions

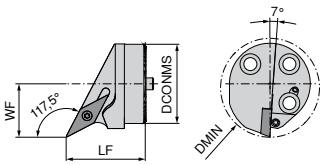
DCONMS mm	LF mm	DMIN mm	WF mm	torque moment Nm	Insert	NEW Left-hand 84 145 ...	NEW Right-hand 84 146 ...
20	20	25	13	3	DC.. 11T3	**02000**	**02000**

Clamping screw **84 950 ...**

Spare parts Insert	
DC.. 11T3	**27600**

MaxiChange-S – SVPC 117.5° – Exchangeable cutting head with screw clamping





Illustrations show right-hand versions

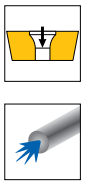
DCONMS mm	LF mm	DMIN mm	WF mm	torque moment Nm	Insert	NEW Left-hand 84 176 ...	NEW Right-hand 84 176 ...
25	35	32	17	3	VC.. 1103	**12500**	**02500**
32	35	40	22	3	VC.. 1604	**13200**	**03200**
40	40	50	27	3	VC.. 1604	**14000**	**04000**

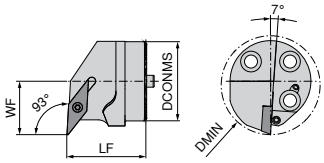
Clamping screw **84 950 ...**

Spare parts Insert	
VC.. 1103	**27600**
VC.. 1604	**27600**

→ **Chapter 9 – Turning Tools**
Find suitable indexable inserts here.

MaxiChange-S – SVUC 93° – Exchangeable cutting head with screw clamping





Illustrations show right-hand versions

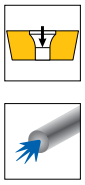
DCONMS	LF	DMIN	WF	torque moment	Insert	NEW Left-hand	NEW Right-hand
mm	mm	mm	mm	Nm		84 177 ...	84 177 ...
20	20	25	13	3	VC.. 1103	**12000**	**02000**
25	35	32	17	3	VC.. 1103	**12500**	**02500**
32	35	40	22	3	VC.. 1604	**13200**	**03200**
40	40	50	27	3	VC.. 1604	**14000**	**04000**

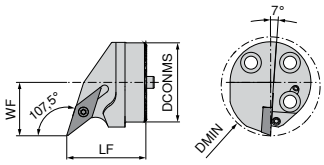
Clamping screw

84 950 ...

Spare parts Insert	
VC.. 1103	**27600**
VC.. 1604	**27600**

MaxiChange-S – SVQC 107.5° – Exchangeable cutting head with screw clamping





Illustrations show right-hand versions

DCONMS	LF	DMIN	WF	torque moment	Insert	NEW Left-hand	NEW Right-hand
mm	mm	mm	mm	Nm		84 178 ...	84 178 ...
20	20	25	13	3	VC.. 1103	**12000**	**02000**
25	35	32	17	3	VC.. 1103	**12500**	**02500**
32	35	40	22	3	VC.. 1604	**13200**	**03200**
40	40	50	27	3	VC.. 1604	**14000**	**04000**

Clamping screw

84 950 ...

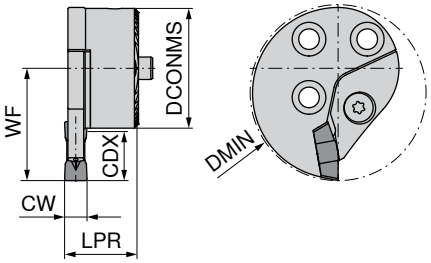
Spare parts Insert	
VC.. 1103	**27600**
VC.. 1604	**27600**

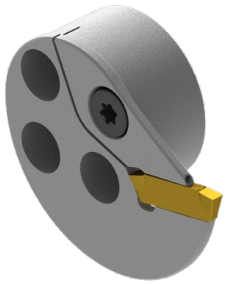
→ **Chapter 9 – Turning Tools**
Find suitable indexable inserts here.

MaxiChange-GX – GX-DC 16 exchangeable grooving head

▲ For grooving and turning

Scope of supply:
Exchangeable grooving head with clamping claw and clamping screw





Illustrations show right-hand versions

Designation	DCONMS mm	CW mm	WF mm	LPR mm	DMIN mm	CDX mm	for grooving inserts	NEW Left-hand 84 188 ...	NEW Right-hand 84 189 ...
WK25 R/L 14-DC GX 16-S2	25	2	27	16.00	41	14	GX 16-1 ..N	**22500**	**22500**
WK25 R/L 14-DC GX 16-S3	25	3	27	14.75	41	14	GX 16-2 ..N	**32500**	**32500**
WK25 R/L 14-DC GX 16-S4/5	25	4/5	27	15.75	41	14	GX 16-3 ..N	**42500**	**42500**
WK32 R/L 13-DC GX 16-S4/5	32	4/5	30	17.75	47	13	GX 16-3 ..N	**43200**	**43200**
WK32 R/L 13-DC GX 16-S6	32	6	30	19.35	47	13	GX 16-3 ..N	**63200**	**63200**

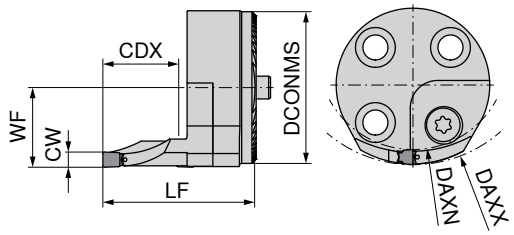
Spare parts for Article no.	 Clamping claw 84 950 ...		 O-Ring 84 950 ...		 Clamping screw 84 950 ...		 Guide pin 84 950 ...	
84 189 22500	**50400**	2x1	**50300**	M4X4/T15	**50000**	D3H6X10	**53000**	
84 188 22500	**50500**	2x1	**50300**	M4X4/T15	**50000**	D3H6X10	**53000**	
84 189 32500	**50600**	2x1	**50300**	M4X4/T15	**50000**	D3H6X10	**53000**	
84 188 32500	**50700**	2x1	**50300**	M4X4/T15	**50000**	D3H6X10	**53000**	
84 189 42500	**50800**	2x1	**50300**	M4X4/T15	**50000**	D3H6X10	**53000**	
84 188 42500	**50900**	2x1	**50300**	M4X4/T15	**50000**	D3H6X10	**53000**	
84 189 43200	**51000**	2x1	**50300**	M5X5,5/T15	**50100**	D4H6X10	**53100**	
84 188 43200	**51100**	2x1	**50300**	M5X5,5/T15	**50100**	D4H6X10	**53100**	
84 189 63200	**51200**	2x1	**50300**	M5X5,5/T15	**50100**	D4H6X10	**53100**	
84 188 63200	**51300**	2x1	**50300**	M5X5,5/T15	**50100**	D4H6X10	**53100**	

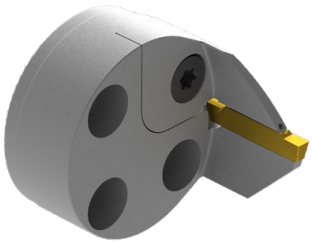
→ **Chapter 11 – Grooving tools**
Find suitable grooving inserts here.

MaxiChange-GX – GX-DC 24 axial exchangeable grooving head

▲ For axial grooving

Scope of supply:
Exchangeable grooving head with clamping claw and clamping screw





Illustrations show right-hand versions

Designation	DCONMS mm	DAXN mm	DAXX mm	CW mm	WF mm	LF mm	CDX mm	for grooving inserts	NEW Left-hand 84 186 ...	NEW Right-hand 84 187 ...
WK40 R/L 20-DC GX 24-S3 D50-70	40	50	70	3	21	40	20	GX 24-2 ..N	**34000**	**34000**
WK40 R/L 20-DC GX 24-S3 D70-100	40	70	100	3	21	40	20	GX 24-2 ..N	**34100**	**34100**
WK40 R/L 20-DC GX 24-S3 D100-150	40	100	150	3	21	40	20	GX 24-2 ..N	**34200**	**34200**
WK40 R/L 20-DC GX 24-S3 D150-300	40	150	300	3	21	40	20	GX 24-2 ..N	**34300**	**34300**
WK40 R/L 20-DC GX 24-S4 D50-70	40	50	70	4	21	40	20	GX 24-3 ..N	**44000**	**44000**
WK40 R/L 20-DC GX 24-S4 D70-100	40	70	100	4	21	40	20	GX 24-3 ..N	**44100**	**44100**
WK40 R/L 20-DC GX 24-S4 D100-150	40	100	150	4	21	40	20	GX 24-3 ..N	**44200**	**44200**
WK40 R/L 20-DC GX 24-S4 D150-300	40	150	300	4	21	40	20	GX 24-3 ..N	**44300**	**44300**

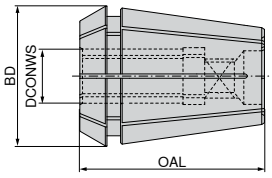
Spare parts for Article no.	 Clamping claw 84 950 ...	 O-Ring 84 950 ...		 Clamping screw 84 950 ...		Guide pin 84 950 ...
84 187 34000	**51400**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 186 34000	**51800**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 187 34100	**51500**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 186 34100	**51900**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 187 34200	**51600**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 186 34200	**52000**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 187 34300	**51700**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 186 34300	**52100**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 187 44000	**52200**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 186 44000	**52600**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 187 44100	**52300**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 186 44100	**52700**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 187 44200	**52400**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 186 44200	**52800**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 187 44300	**52500**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**
84 186 44300	**52900**	2x1	**50300**	M6x0,5X5/T25	**50200**	D4H6X12 **53200**

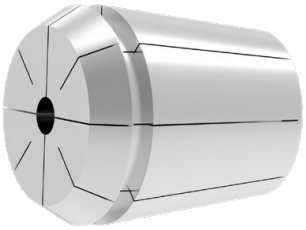
→ **Chapter 11 – Grooving tools**
Find suitable grooving inserts here.

ER collet with internal square

- ▲ Similar DIN ISO 15488-A (old DIN 6499-A)
- ▲ 8 times slotted
- ▲ Double taper collets for holding taps on synchronized spindle machines, without compensating lengths

ER-A
15 µm





NEW

BD = 16.7
OAL = 27.5
426 E / ER16

82 695 ...

DCONWS mm	
2.8	02800
3.5	03500
4.0	04000
4.5	04500
5.0	05000
5.5	05500
6.0	06000
7.0	07000
8.0	08000
9.0	09000

From the eCatalog to the shopping basket

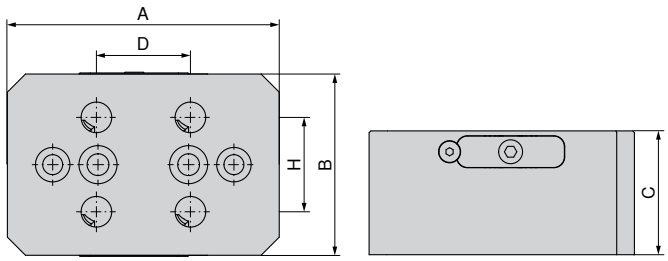
The complete cutting tool solution is available in a digital version!

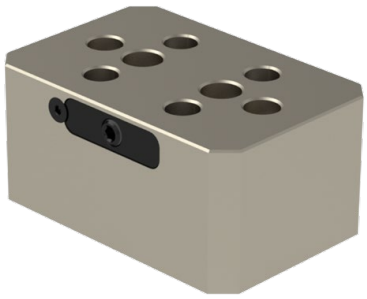
cutting.tools/us/en/digitalcatalogue

Console

- With integrated MNG mini zero point clamping system
- Order mounting bolts separately
- Material: hard-anodized aluminum

MNG mini





NEW

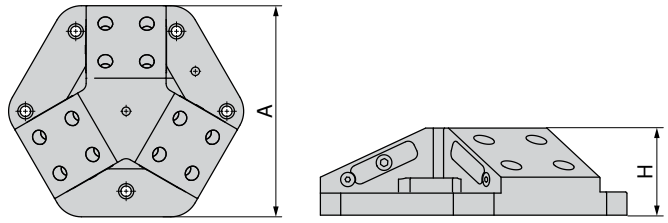
80 915 ...

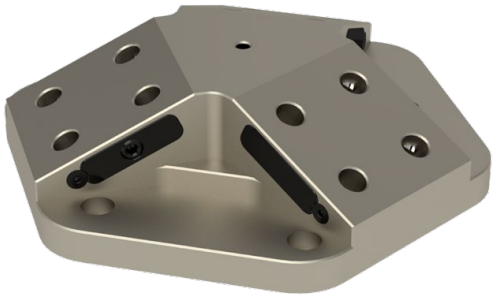
A mm	B mm	C mm	D mm	H mm	
150	100	70	52	52	**57000**

Three-sided pyramid

- Incl. 3 x MNG mini zero point clamping systems
- Order mounting bolts separately
- Material: hard-anodized aluminum

MNG mini





NEW

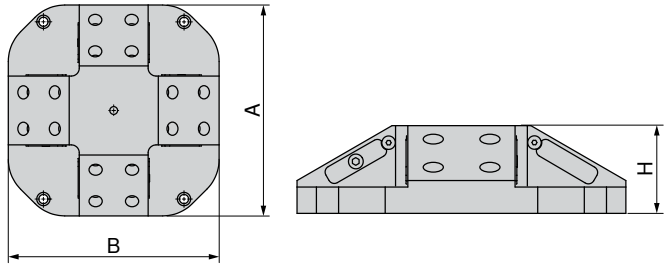
80 915 ...

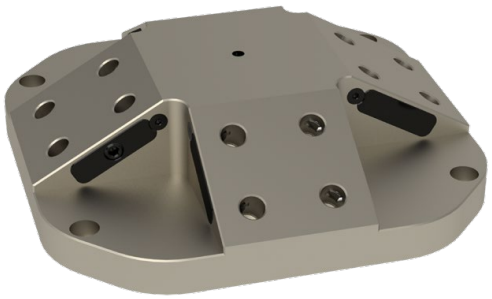
A mm	H mm	
264	75	**58000**

Four-sided pyramid

- ▲ Incl. 4 x MNG mini zero point clamping systems
- ▲ Order mounting bolts separately
- ▲ Material: hard-anodized aluminum

MNG mini





NEW

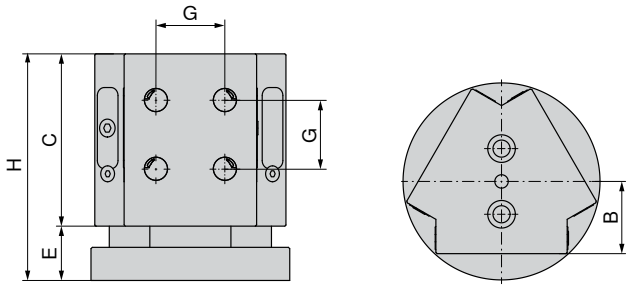
80 915 ...

A mm	B mm	H mm	
300	300	80	**57500**

Triangular tombstone

- ▲ Incl. 3 x MNG mini zero point clamping systems
- ▲ Order mounting bolts separately
- ▲ Material: hard-anodized aluminum

MNG mini



NEW

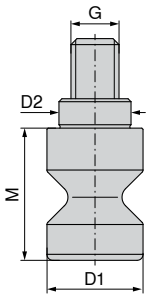
80 915 ...

B mm	C mm	E mm	G mm	H mm	
55	130	41	52	171	**51700**

MNG mini mounting bolt set

Scope of supply:
Set contains four mounting bolts

MNG mini



NEW

$D_{1\ h6}$ mm	$D_{2\ h6}$ mm	M mm	G mm	TQX Nm	Clamping force kN	80 915 ...
16	12	22	M8	18	15	**51600**

Clamping Screw Set for T-slot for MNG mini

Scope of supply:
Clamping screw and T-Nuts

MNG mini

NEW

for slot width mm	G	80 915 ...
12	M10	**61200**
14	M12	**61400**
16	M12	**61600**
18	M12	**61800**

Alignment/centering set for T-slots

▲ MNG – Mechanical Zero-point Clamping System
▲ A = groove spacing

Scope of supply:
1 Terminal block, 2 T-nuts, 2 screws, 2 washers for width 12 mm (0.4724 in), without clamping strip!

MNG mini

NEW

A mm	for slot width mm	80 915 ...
100	12	**81200**
100	14	**81400**
100	16	**81600**
100	18	**81800**

Socket

▲ Suitable for 1/2" or 3/8" square drive

MNG mini

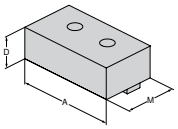
NEW

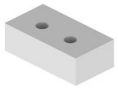
Square	DRVS mm	80 877 ...
3/8"	6	**10600**

System jaws overview

Soft jaw, steel, fixed

▲ for producing shaped jaws
▲ Price per piece

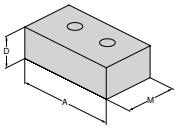


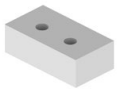


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2	NEW	
											NCG / H5G / -S / -Z / X5G-Z / -S / ESG 4 / ESG 5 / HDG 2 / ZSG 4 / ZSG mini / DSG 4 / Verso / HSG
80	80		28				48			**80 901 31800**	● ●
80	125		40				68			**80 901 31900**	● ●

Soft jaw, steel, movable

▲ for producing shaped jaws
▲ Price per piece





For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2	NEW	
											NCG / H5G / -S / -Z / X5G-Z / -S / ESG 4 / ESG 5 / HDG 2 / ZSG 4 / ZSG mini / DSG 4 / Verso / HSG
80	80		28				48			**80 878 32000**	● ● ●
125	125		40				68			**80 878 32100**	● ● ●

THE Cutting Tool Solution

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