CERATIZIT GROUP

02\2023

NEW DEVELOPMENTS AND PRODUCT ENHANCEMENTS

UP2DATE

BEST PERFORMANCE IN STEEL!

The application all-rounder EcoCut gets a grade update for machining ISO-P steels

... AND FURTHER PRODUCTS

- ▲ Maximum cooling right where it's needed: **MaxiLock – N-DC** turning tool holder completes the DirectCooling range
- ▲ Multiple vice **PolyClamp – Verso**: Individual clamping solutions from the modular system

TEAM CUTTING TOOLS

CUTTING SOLUTIONS BY CERATIZIT · KOMET · WNT · KLENK

CERATIZIT is a high-technology engineering group specialised in cutting tools and hard material solutions.

Tooling a Sustainable Future

www.ceratizit.com

Welcome!

Get in touch

Customer Service Team

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1-800-783-2280 (US) or 1-905-551-1743 (Canada)
customerservice.usa@ceratizit.com
customerservice.canada@ceratizit.com
techsupport.usa@ceratizit.com

On-site technical support

Your Local Technical Sales Engineer

Your customer number

Dragon strength realised in steel

More performance or
a longer tool life?
You can have both!

CUTTING SOLUTIONS BY CERATIZIT

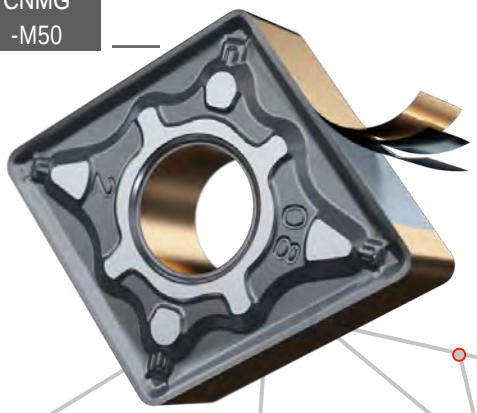
Machine steel – and do so efficiently

ISO-P steels are extremely diverse and correspondingly challenging. With the ideal range of ISO-P indexable inserts, CERATIZIT delivers high-performance solutions for the universal turning and drilling of ISO-P steels.

And much more besides

Medium machining

CNMG -M50



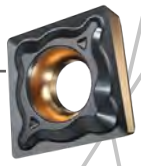
Gold-coloured indicator layer
TiN

Multilayer
Al_2O_3

Highly textured base layer
Ti (C, N)

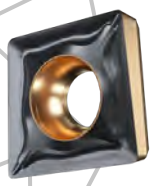
Medium machining

XCNT NEW



Fine machining

XCNT -M50Q NEW



Finishing

DNMG -F50

Advantage/benefit

- ▲ Availability of different grades for individual cutting conditions
- ▲ Special Dragonskin coating reduces friction and prevents wear
- ▲ Optimum visibility of tool wear thanks to the gold-coloured indicator layer

up to

45%

longer tool life

compared to competitors

High performance turning processes

Optimum cutting conditions with a wide range of ISO-P grades!

CUTTING SOLUTIONS BY CERATIZIT

Steel machining made easy

Thanks to the three ISO-P carbide grades, our indexable inserts are ideally matched to a wide range of turning operations.

CTCP115-P

DRAGONSKIN

CTCP125-P

DRAGONSKIN

CTCP135-P

DRAGONSKIN

CTCP115 → 10 cuts

NEW

CTCP115-P → 1 cut

Wear detection means that optimum utilisation of the multi-edged indexable insert can be identified with a quick glance at the cutting edges. Wear on the cutting edges is also easier to see and more straightforward for the machine operator to identify.

DRAGONSKIN

EcoCut receives ISO-P grade update

Best performance in steel

CUTTING SOLUTIONS BY CERATIZIT

EcoCut + ISO-P grade update guarantees even better performance in steel materials

EcoCut tools have long been a classic in the CERATIZIT range. The supplementary -P brings with it the update for machining ISO-P steels. This enables the user to either optimise their cutting data and perform machining faster, or stick to their tried and tested parameters and benefit from a longer tool life.

Your added value thanks to the update

- ▲ New EcoCut ISO-P grades → Optimum machining conditions in steel
- ▲ Gold-coloured indicator layer → Clear wear detection
- ▲ Optimised layer structure of the Dragonskin coating → Longer tool life

EcoCut ISO-P grade update

✓ Higher cutting data

✓ Reduced machining times

CTCP425-P

DRAGONSKIN

- ▲ New CVD coating
- ▲ Outstanding wear resistance
- ▲ For high cutting speeds

CTCP435-P

DRAGONSKIN

- ▲ New CVD coating
- ▲ For poor machining conditions
- ▲ Where a high degree of toughness is required

> Extensive tests have shown that the new EcoCut-P indexable inserts achieve **up to 15%** greater performance than the predecessor grades.
>
> CERATIZIT Product Manager, Paul Höckberg

Further information on the product can be found on → page 38+39

The "more is always possible" clamping solution

No matter if it's little or large – the PolyClamp Verso gets a firm grip of everything

High tension without the stress

Anyone who is regularly required to load multi-axis machines with a wide variety of workpieces will be particularly appreciative of flexible part clamping. With its comprehensive workpiece clamping range, CERATIZIT has the right solution to master every challenge. Even the trickiest of loading scenarios are overcome with ease thanks to the new PolyClamp – Verso.

Handling couldn't be easier thanks to the quick jaw change system!

The new PolyClamp – Verso multiple vice is a flexible all-rounder: No matter whether several small or extra large parts have to be clamped.
There are no limits when it comes to adapting the PolyClamp – Verso to the particular machine situation. For example, several of the 300 to 900 mm base rails can be combined with corresponding connecting elements. And when selecting the clamping jaws, importance was also placed on maximum variety – with 24 variants available.

Further information can be found on
→ Page 52–64.

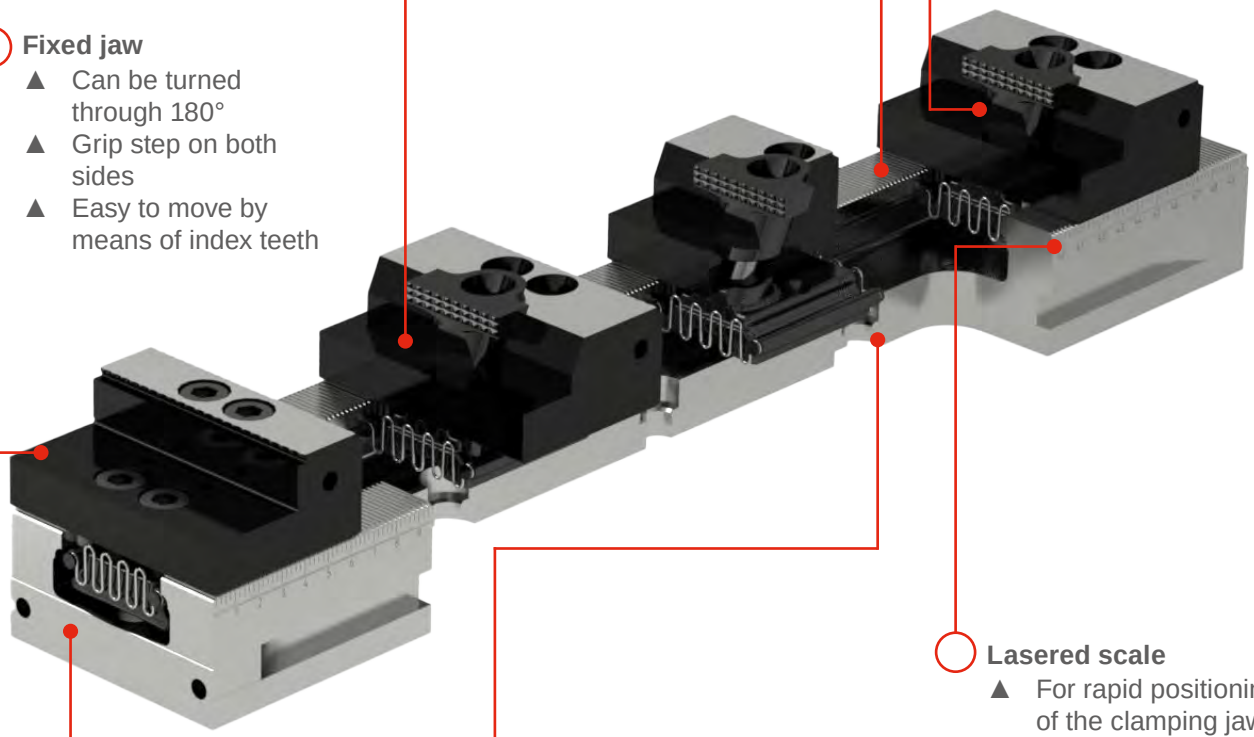
Advantage/benefit

Jaws
- ▲ Screws in and out for quick change
- ▲ Pull-down jaw 40 mm
- ▲ Parallel clamping jaws 40/65/90 mm
- ▲ Pendulum jaw grip 90 mm

Moveable jaw
- ▲ Just one screw size for the entire system
- ▲ Quick and easy handling thanks to jaw positioning from above

Teeth hardened and ground
- ▲ High precision and dimensional stability
- ▲ Protection against damage and wear

Fixed jaw
- ▲ Can be turned through 180°
- ▲ Grip step on both sides
- ▲ Easy to move by means of index teeth



Lasered scale
- ▲ For rapid positioning of the clamping jaws

Clamping
- ▲ Locating holes for grid plate
- ▲ Alignment set for T-slot tables
- ▲ Mounting holes for MNG mounting bolts

Extremely rigid clamping bar
- ▲ Width 90 mm
- ▲ Lengths from 260 mm to 650 mm

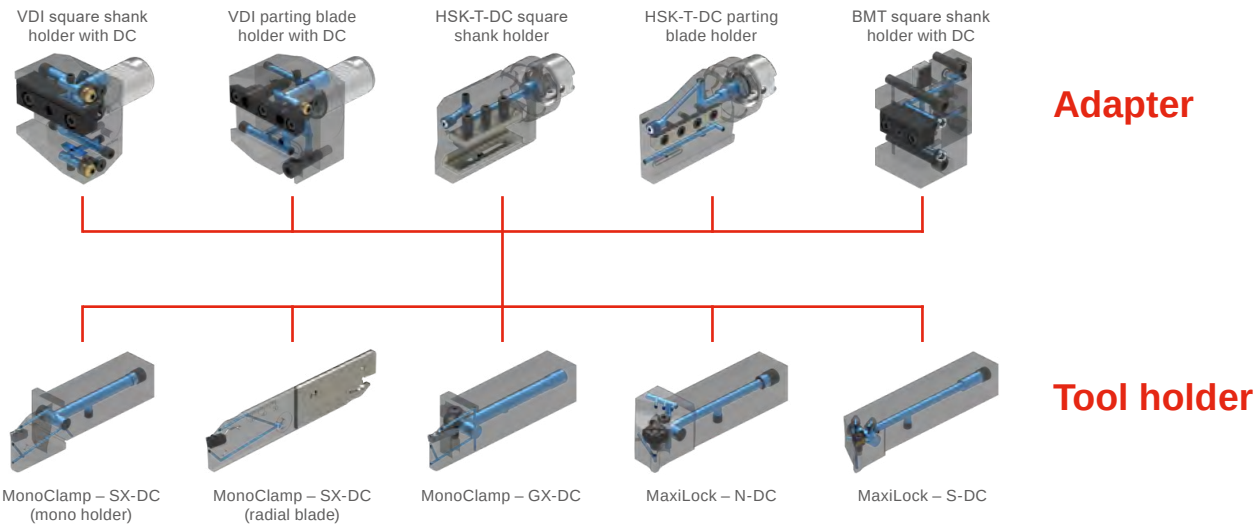
Tool holders with DirectCooling (DC)

Targeted coolant application on the cutting edge

CUTTING SOLUTIONS BY CERATIZIT

Targeted action is half the battle

When it comes to cooling lubrication, a little more may be required – but certainly not aimlessly and uncontrollably, because the efficient use of resources and sustainability make simple flood lubrication a thing of the past. The DirectCooling (DC) range from CERATIZIT offers accurate and targeted cooling rather than flood lubrication of the general area – and in doing so delivers the ultimate in precision.



Advantage/benefit

The lengths of all CERATIZIT DirectCooling holders are ideally matched to one another. As a result...

- ▲ Interference contours are eliminated
- ▲ A compact complete package is created
- ▲ Optimum stability is reached
- ▲ Unlimited flexibility is achieved

MaxiLock – N-DC turning tool holder

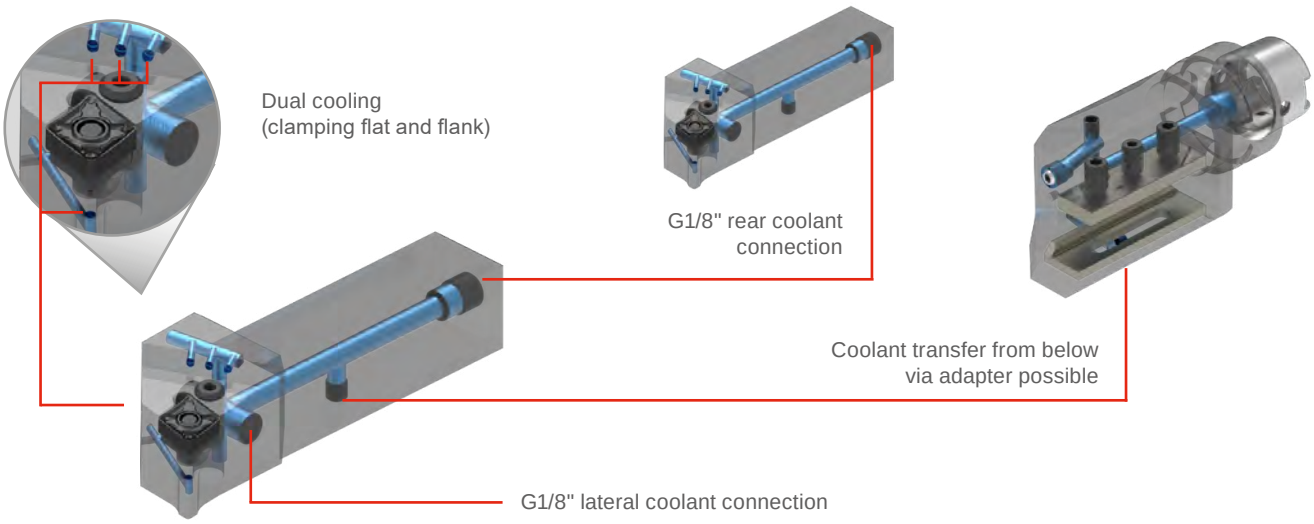
Maximum cooling right where it‘s needed

CUTTING SOLUTIONS BY CERATIZIT

Direct **DC** Cooling

- Fewer trapped chips
- Reduced wear
- Universal application

A targeted coolant supply is not simply an option for the majority of demanding machining operations: it's also an undisputed efficiency booster. One more reason for CERATIZIT to expand its DirectCooling product range with the MaxiLock-N turning tool holders with toggle clamps. Two coolant holes now aim the cooling lubricant directly at the cutting edge, preventing heat and wear and ensuring stable processes.



> Pinpoint flank cooling makes all the difference in MaxiLock-N-DC turning tool holders: It extends the **tool life by up to 60 %** compared to cooling that is targeted exclusively at the clamping flat.
>
> CERATIZIT Product Manager, Stefan Karl

MaxiLock-N
with DirectCooling

ISO-P
Grade update

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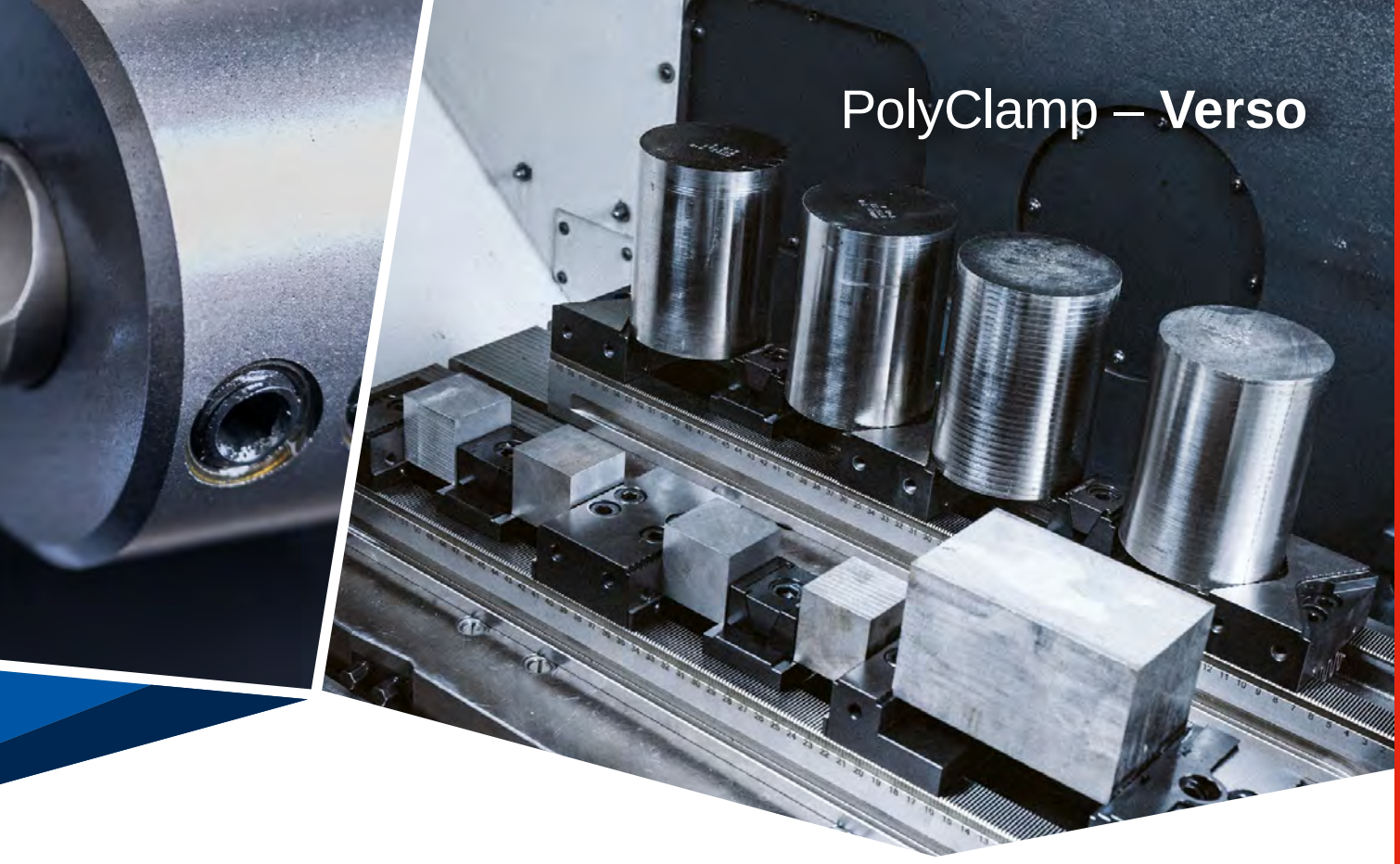

PolyClamp – **Verso**

Multifunction

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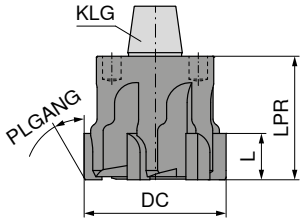
66 ZSG mini system accessories

Continue to the product pages

REAMAX TS – Replaceable reaming heads

- ▲ Up to tolerance class IT 6 with absolute process security, from the first hole
- ▲ Maximum changeover precision guaranteed
- ▲ High precision grind for maximum quality
- ▲ Can be adjusted for the smallest hole tolerances
- ▲ Interface enables head change in the machine
- ▲ Retraction from the hole at 3-4x feed rate
- ▲ KLG = Coupling size



NEW

DBG-P

75J.65
PLGANG 45°
ASG3000
HM
Through hole

40 577 ...

DC H7 mm	L mm	LPR mm	ZEFP	KLG	
18,00	6	20	6	1	18000
18,01 - 19,99	6	20	6	1	xxxx 1)
20,00	6	20	6	2	20000
20,01 - 21,99	6	20	6	2	xxxx 1)
22,00	6	20	6	3	22000
22,01 - 23,99	6	20	6	3	xxxx 1)
24,00	6	20	6	3	24000
24,01 - 24,99	6	20	6	3	xxxx 1)
25,00	6	20	6	3	25000
25,01 - 25,99	6	20	6	3	xxxx 1)
26,00	6	20	6	3	26000
26,01 - 26,99	6	20	6	3	xxxx 1)
27,00 - 27,99	6	25	6	4	xxxx 1)
28,00	6	25	6	4	28000
28,01 - 29,99	6	25	6	4	xxxx 1)
30,00	6	25	6	4	30000
30,01 - 31,79	6	25	6	4	xxxx 1)
31,80 - 31,99	6	25	8	4	xxxx 1)
32,00	6	25	8	4	32000
32,01 - 34,99	6	25	8	4	xxxx 1)
35,00	6	25	8	5	35000
35,01 - 39,99	6	25	8	5	xxxx 1)
40,00	6	25	8	5	40000
40,01 - 41,99	6	25	8	5	xxxx 1)
42,00	6	30	8	6	42000
42,01 - 49,99	6	30	8	6	xxxx 1)
50,00	6	30	8	6	50000
50,01 - 51,99	6	30	8	6	xxxx 1)
52,00 - 53,99	8	35	10	7	xxxx 1)
54,00	8	35	10	7	54000 1)
54,01 - 65,00	8	35	10	7	xxxx 1)
P					●
M					
K					●
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S					
H					
O					

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces

→ v_c Page 16

For xxxx please indicate requested Ø in H7 in the order (e.g Ø 24.12 H7 → article no. 40 577 2412)!
All other diameters and tolerance classes are also possible on request (e.g. 18.5 $^{+0.025}$ or 18 N7)!

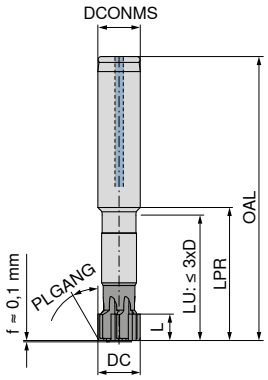
You will find assembly instructions in →Chapter 4, page 98 of the cutting tools catalogue.

Further information on chamfer geometries can be found in →Chapter 4, page 102 of the cutting tools catalogue.

Further Reamax TS reaming heads and the matching holder systems can be found in →Chapter 4, pages 8 – 11 of the cutting tools catalogue.

Monomax – High-speed reamers, short

▲ adjustable for smallest bore tolerances
▲ wear compensation within the tolerance zone
▲ retraction from the hole at 3–4 times the cutting feed rate
▲ up to tolerance class IT 5 with absolute process security, from the first hole



NEW

DBG-P

56J.65

≤ 3xD
PLGANG 45°
ASG3000
HM
Through hole

40 656 ...

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	
5,60 - 5,99	9,5	35	40	85	12	4	xxxx 1)
6,00	9,5	35	40	85	12	4	06000
6,01 - 7,99	9,5	35	40	85	12	4	xxxx 1)
8,00	9,5	35	40	85	12	4	08000
8,01 - 8,89	9,5	35	40	85	12	4	xxxx 1)
8,90 - 9,89	9,5	45	50	95	12	6	xxxx 1)
9,90 - 9,99	9,5	45	50	95	12	6	xxxx 1)
10,00	9,5	45	50	95	12	6	10000
10,01 - 11,99	9,5	45	50	95	12	6	xxxx 1)
12,00	9,5	45	50	95	12	6	12000
12,01 - 13,99	9,5	45	50	95	12	6	xxxx 1)
14,00	9,5	45	50	95	12	6	14000
14,01 - 14,99	9,5	45	50	95	12	6	xxxx 1)
15,00	9,5	45	50	95	12	6	15000
15,01 - 15,89	9,5	45	50	95	12	6	xxxx 1)
15,90 - 15,99	9,5	45	50	100	16	6	xxxx 1)
16,00	9,5	45	50	100	16	6	16000
16,01 - 17,99	9,5	45	50	100	16	6	xxxx 1)
18,00	9,5	45	50	100	16	6	18000
18,01 - 18,89	9,5	45	50	100	16	6	xxxx 1)
18,90 - 19,99	9,5	55	60	120	20	6	xxxx 1)
20,00	9,5	55	60	120	20	6	20000
20,01 - 25,89	9,5	55	60	120	20	6	xxxx 1)

P	●
M	
K	●
N	
S	
H	
O	

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces

→ v_c Page 17

Do not heat shrink tools !

For xxxx please indicate requested Ø in H7 in the order (e.g. 15.89 H7 → article no. 40 656 1589)!
All other diameters and tolerance classes are also possible on request (e.g. 18.5 $^{+0.025}$ or 18 N7).

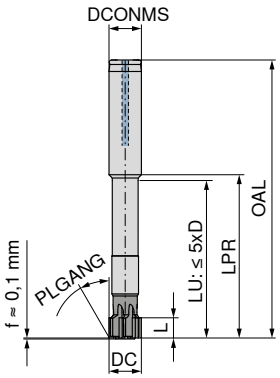
Detailed adjustment instructions for the item are available to download in the online shop.

Further information on chamfer geometries can be found in →Chapter 4, page 102 of the cutting tools catalogue.

Further information on Monomax reamers can be found in →Chapter 4, pages 19 – 22 of the cutting tools catalogue.

Monomax – High-speed reamers, long

- ▲ adjustable for the smallest bore tolerances
- ▲ wear compensation within the tolerance zone
- ▲ retraction from the hole at 3–4 times the cutting feed rate
- ▲ up to tolerance class IT 5 with absolute process security, from the first hole



NEW

DBG-P

56R.65

≤ 5xD
PLGANG 45°
ASG3000
HM
Through hole

40 666 ...

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	
5,60 - 5,99	9,5	80	85	130	12	4	xxxx 1)
6,00	9,5	80	85	130	12	4	06000
6,01 - 7,99	9,5	80	85	130	12	4	xxxx 1)
8,00	9,5	80	85	130	12	4	08000
8,01 - 8,89	9,5	80	85	130	12	4	xxxx 1)
8,90 - 9,89	9,5	80	85	130	12	6	xxxx 1)
9,90 - 9,99	9,5	110	115	160	12	6	xxxx 1)
10,00	9,5	110	115	160	12	6	10000
10,01 - 11,99	9,5	110	115	160	12	6	xxxx 1)
12,00	9,5	110	115	160	12	6	12000
12,01 - 13,99	9,5	110	115	160	12	6	xxxx 1)
14,00	9,5	110	115	160	12	6	14000
14,01 - 14,99	9,5	110	115	160	12	6	xxxx 1)
15,00	9,5	110	115	160	12	6	15000
15,01 - 15,89	9,5	110	115	160	12	6	xxxx 1)
15,90 - 15,99	9,5	125	130	180	16	6	xxxx 1)
16,00	9,5	125	130	180	16	6	16000
16,01 - 17,99	9,5	125	130	180	16	6	xxxx 1)
18,00	9,5	125	130	180	16	6	18000
18,01 - 18,89	9,5	125	130	180	16	6	xxxx 1)
18,90 - 19,99	9,5	135	140	200	20	6	xxxx 1)
20,00	9,5	135	140	200	20	6	20000
20,01 - 25,89	9,5	135	140	200	20	6	xxxx 1)

P	●
M	
K	●
N	
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O	

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Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength N/mm²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C	Annealed	420 N/mm² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C	Annealed	640 N/mm² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3		Tempered	840 N/mm² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C	Annealed	910 N/mm² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5		Tempered	1010 N/mm² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1		Annealed	610 N/mm² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2		Tempered	930 N/mm² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3		Tempered	1010 N/mm² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4		Tempered	1200 N/mm² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	680 N/mm² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2		Hardened and tempered	1100 N/mm² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3		Hardened and tempered	1300 N/mm² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	680 N/mm² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic	Tempered	1010 N/mm² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	610 N/mm² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic	Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)		780 N/mm² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic		350 N/mm² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)		500 N/mm² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic		540 N/mm² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic		845 N/mm² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic		440 N/mm² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic		780 N/mm² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable	Age-hardened	340 N/mm² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		250 N/mm² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable	Age-hardened	300 N/mm² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable		440 N/mm² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		375 N/mm² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn		300 N/mm² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper		340 N/mm² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	680 N/mm² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2		Age-hardened	950 N/mm² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis	Annealed	840 N/mm² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2		Age-hardened	1180 N/mm² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3		Cast	1080 N/mm² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium		400 N/mm²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys	Age-hardened	1050 N/mm² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys		1400 N/mm² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al
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		≤ 150 N/mm²				
		O.1.2	Plastics, thermoplastic		≤ 100 N/mm²				
		O.2.1	Aramid fibre-reinforced		≤ 1000 N/mm²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 1000 N/mm²				
		O.3.1	Graphite						

* Tensile strength

Cutting data standard values for REAMAX TS

Index	40 577 ...					
	75J.65 – ASG3000 / HM-DBG-P					
		Nominal Ø in mm ▸	18–21,999	22–31,799	31,8–51,999	52–65
		Reaming allowance Ø ▸	0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50
		Number of flutes ▸	6	6	8	10
	3xD	5xD				
	v_c (m/min)		f (mm/rev)			
P.1.1	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.2	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.3	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.4	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.5	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.1	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.2	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.3	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.4	150 (130–200)	120 (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
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	150 (130–220)	120 (100–150)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
K.1.2	150 (130–220)	120 (100–150)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
K.2.1	175 (150–300)	150 (130–180)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
K.2.2	120 (100–180)	120 (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
K.3.1	120 (100–180)	120 (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
K.3.2	120 (100–180)	120 (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
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	40 656 ..., 40 666 ...					
	56J.65, 56R.65 – ASG3000 / HM-DBG-P					
		Nominal Ø in mm ▸	5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899
		Reaming allowance Ø ▸	0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40
		Number of flutes ▸	4	6	6	6
	3xD	5xD				
	v_c (m/min)		f (mm/rev)			
P.1.1	150 (130–200)	120 (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.1.2	150 (130–200)	120 (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.1.3	150 (130–200)	120 (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.1.4	150 (130–200)	120 (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.1.5	150 (130–200)	120 (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.2.1	150 (130–200)	120 (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.2.2	150 (130–200)	120 (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.2.3	150 (130–200)	120 (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.2.4	60 (50–100)	60 (50–100)	0,20–0,30	0,40–0,50	0,50–0,70	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	150 (130–220)	120 (100–150)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50
K.1.2	150 (130–220)	120 (100–150)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50
K.2.1	175 (150–300)	150 (130–180)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50
K.2.2	120 (100–180)	120 (100–150)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
K.3.1	150 (130–250)	120 (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50
K.3.2	120 (100–180)	120 (100–150)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
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.

MicroKom – Precision spindle set BluFlex 2

NEW

Scope of supply:

- ▲ 1 plastic case
- ▲ 1 precision adjustment head
- ▲ 5 boring bars
  - – 62 850 00600 Ø 6 mm
  - – 62 850 01000 Ø 10 mm
  - – 62 850 01400 Ø 14 mm
  - – 62 850 01800 Ø 18 mm
  - – 62 850 02200 Ø 22 mm
- ▲ 2 insert holders
  - – 62 863 04400 Ø 25 – Ø 44 mm
  - – 62 863 12500 Ø 44 – Ø 63 mm (– Ø 125 mm)
- ▲ 1 bridge
  - – 62 860 12500 Ø 90 – Ø 125 mm
- ▲ 1 serrated body
  - – 62 861 06300 Ø 25 – Ø 63 mm
- ▲ **1 filling piece**
  - – 62 862 09300 Ø 16x35 mm
- ▲ 10 indexable inserts
  - – 2 pieces 62 600 00102 – WOHX02T001EL-G12 BK8440
  - – 4 pieces 62 601 90206 – TOGX06T102EN-14 BK60
  - – 4 pieces 62 601 70409 – TOGX090204EN-14 BK60
- ▲ 5 cylindrical screws
  - – 62 950 00000 M5x16 mm
- ▲ 5 screwdrivers
  - – 5IP, 6IP, 8IP, SW3, SW4

D_{min} - D_{max} mm	without Bluetooth 62 820 ...	with Bluetooth 62 840 ...
6 - 125	99997	99997

MicroKom – Precision spindle set hi.flex

NEW

Scope of supply:

- ▲ 1 plastic case
- ▲ 1 precision adjustment head
- ▲ 5 boring bars
  - – 62 850 00600 Ø 6 mm
  - – 62 850 01000 Ø 10 mm
  - – 62 850 01400 Ø 14 mm
  - – 62 850 01800 Ø 18 mm
  - – 62 850 02200 Ø 22 mm
- ▲ 2 insert holders
  - – 62 863 04400 Ø 25 – Ø 44 mm
  - – 62 863 12500 Ø 44 – Ø 63 mm (– Ø 125 mm)
- ▲ 1 bridge
  - – 62 860 12500 Ø 90 – Ø 125 mm
- ▲ 1 serrated body
  - – 62 861 06300 Ø 25 – Ø 63 mm
- ▲ **1 filling piece**
  - – 62 862 09300 Ø 16x35 mm
- ▲ 10 indexable inserts
  - – 2 pieces 62 600 00102 – WOHX02T001EL-G12 BK8440
  - – 4 pieces 62 601 90206 – TOGX06T102EN-14 BK60
  - – 4 pieces 62 601 70409 – TOGX090204EN-14 BK60
- ▲ 5 cylindrical screws
  - – 62 950 00000 M5x16 mm
- ▲ 5 screwdrivers
  - – 5IP, 6IP, 8IP, SW3, SW4

D_{min} - D_{max} mm	Analogue 62 800 ...	Digital 62 800 ...
6 - 125	99997	99897

MicroKom – Precision spindle set hi.flex micro

NEW

Scope of supply:

- ▲ 1 plastic case
- ▲ 1 precision adjustment head
- ▲ 1 insert holder
  - – 62 863 14400 Ø 25 – Ø 44 mm
- ▲ 3 boring bars
  - – 62 845 00800 Ø 8 mm
  - – 62 845 01400 Ø 14 mm
  - – 62 845 02000 Ø 20 mm
- ▲ 2 adapters
  - – 62 851 12499 Ø 4 mm
  - – 62 851 12699 Ø 6 mm
- ▲ 1 serrated body
  - – 62 861 04400 Ø 25 – Ø 44 mm
- ▲ **1 filling piece**
  - – 62 862 01200 Ø 12x24 mm
- ▲ 10 indexable inserts
  - – 5 pieces 62 601 90206 – TOGX06T102EN-14 BK60
  - – 5 pieces 62 601 70409 – TOGX090204EN-14 BK60
- ▲ 1 cylindrical screw
  - – 62 950 53600 M5x16 mm
- ▲ 1 screwdriver
  - – SW2,5

D_{min} - D_{max} mm	62 800 ...
8 - 60	99989

CERAsmart

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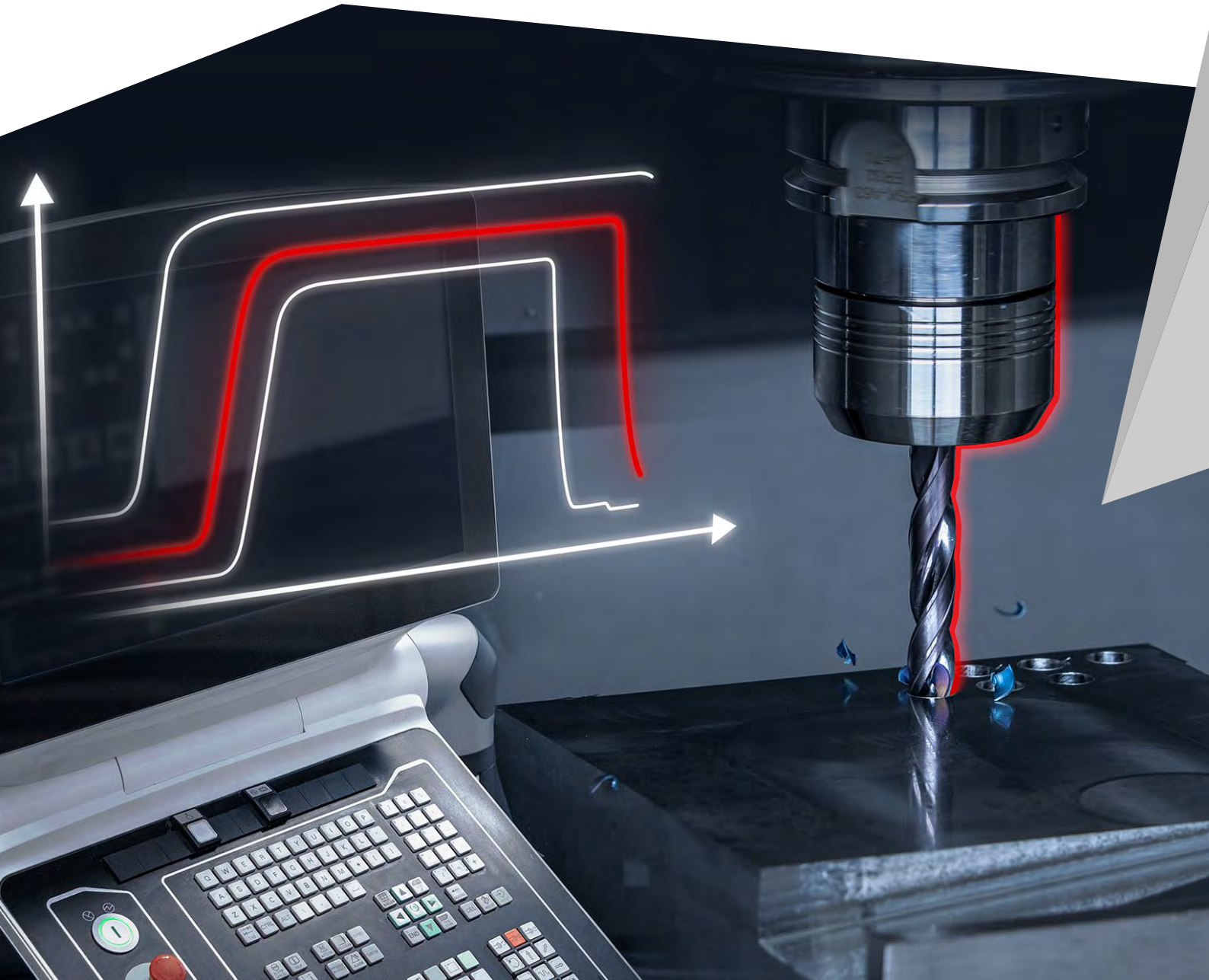
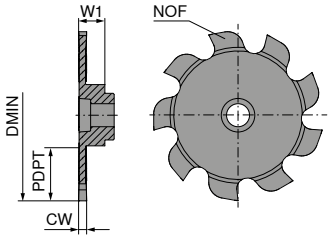


Milling insert for part-off

Polygon



NEW

Ti500

Solid carbide

51 800 ...

Size	DMIN mm	PDPT mm	CW +0,02 mm	W1 mm	NOF	
6	14	3,40	1,5	3,50	6	14000
7	22	6,40	1,5	3,86	9	22000
9	32	10,25	1,5	4,91	9	32000
10	37	11,50	1,5	4,86	9	37000

P	●
M	●
K	●
N	●
S	●
H	●
O	●

→ v_c/f_z Page 24

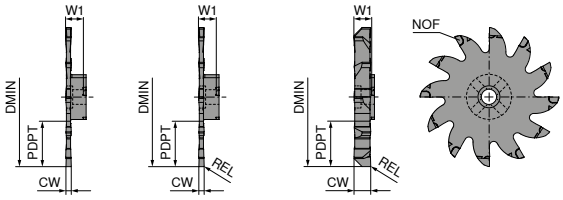
When calculating the feed for circular milling, check whether machining is taking place with the contour feed v_f or centre path feed v_{fm}. You will find details in
→ Chapter 7 of the cutting tools catalogue

ModuSet – Milling insert for slot and multipurpose milling, cross-pitched

▲ Interface with four driving slots

Mini Mill

≥ Ø 50 mm



NEW CWX500 | NEW CWX500 | NEW CWX500

							Solid carbide	Solid carbide	Solid carbide
							53 017 ...	53 017 ...	53 017 ...
Size	DMIN mm	CW +0,02 mm	PDPT mm	W1 mm	REL mm	NOF			
50	50	0,5	16,5	6,35		12	00500		
	50	1,0	16,5	6,35		12	01000		
	50	1,5	16,5	6,35	0,1	12		01500	
	50	2,0	16,5	6,35	0,2	12		02000	
	50	2,5	16,5	6,35	0,2	12		02500	
	50	3,0	16,5	6,35	0,2	12		03000	
	50	4,0	16,5	6,35	0,2	12			04000
	50	5,0	16,5	6,35	0,2	12			05000
	50	6,0	16,5	6,35	0,2	12			06000
P							●	●	●
M							●	●	●
K							●	●	●
N							●	●	●
S							○	○	○
H									
O							●	●	●

→ v_c/f_z Page 26

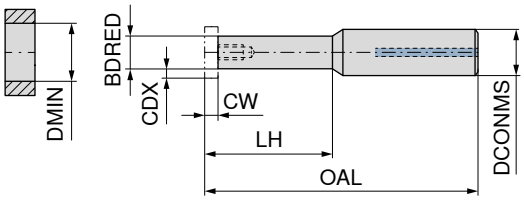
When calculating the feed for circular milling, check whether machining is taking place with the contour feed v_f or centre path feed v_{fm}. You will find details in → Chapter 7 of the cutting tools catalogue

ModuSet – Circular milling cutter

▲ Steel and carbide versions
▲ Specialised cutting point with four driving slots exclusively for cutting operations in the larger diameter range

Scope of supply:
including key

Mini Mill



NEW

HM

53 016 ...

NEW

Steel

53 016 ...

Size	DCONMS h6 mm	BDRED mm	OAL mm	LH mm	DMIN mm	CW mm	CDX mm	torque moment Nm	HM	Steel
50	16		125	60	50	≤6	16,5	7,0	06000	
	16		155	90	50	≤6	16,5	7,0	09000	
	16		185	120	50	≤6	16,5	7,0	12000	
	20	16	100	32	50	≤6	16,5	7,0		23200

Key D

80 950 ...

Clamping screw

73 082 ...

Spare parts

Size				
50	T20	114	M5	006

When calculating the feed for circular milling, check whether machining is taking place with the contour feed v_f or centre path feed v_{fm}. You will find details in
→ Chapter 7 of the cutting tools catalogue

Material examples for cutting data tables

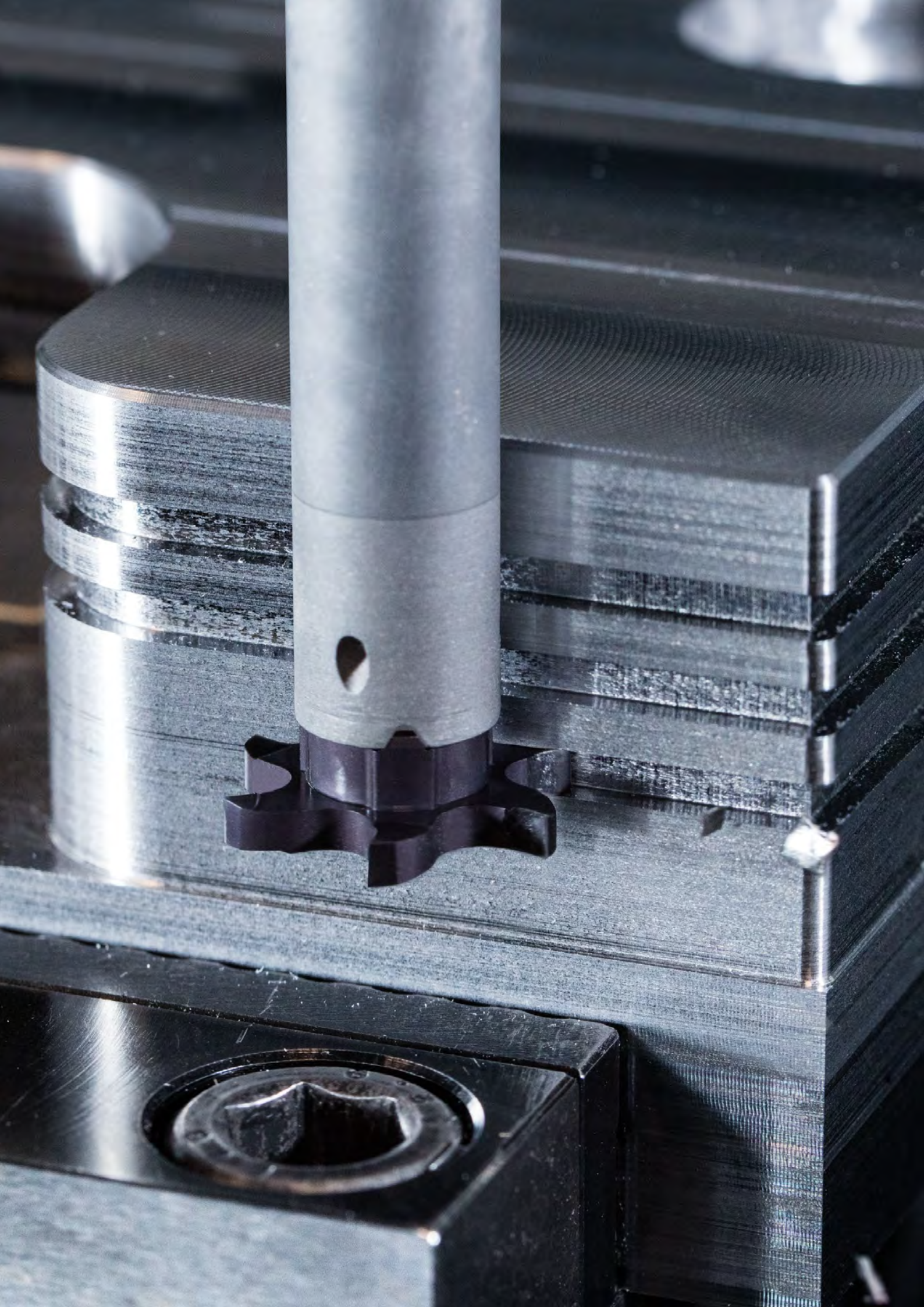
	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength N/mm²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C	Annealed	420 N/mm² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C	Annealed	640 N/mm² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3		Tempered	840 N/mm² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C	Annealed	910 N/mm² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5		Tempered	1010 N/mm² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1		Annealed	610 N/mm² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2		Tempered	930 N/mm² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3		Tempered	1010 N/mm² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4		Tempered	1200 N/mm² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	680 N/mm² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2		Hardened and tempered	1100 N/mm² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3		Hardened and tempered	1300 N/mm² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	680 N/mm² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic	Tempered	1010 N/mm² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	610 N/mm² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic	Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)		780 N/mm² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic		350 N/mm² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)		500 N/mm² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic		540 N/mm² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic		845 N/mm² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic		440 N/mm² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic		780 N/mm² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable	Age-hardened	340 N/mm² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		250 N/mm² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable	Age-hardened	300 N/mm² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable		440 N/mm² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		375 N/mm² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn		300 N/mm² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper		340 N/mm² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	680 N/mm² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2		Age-hardened	950 N/mm² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis	Annealed	840 N/mm² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2		Age-hardened	1180 N/mm² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3		Cast	1080 N/mm² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium		400 N/mm²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys	Age-hardened	1050 N/mm² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys		1400 N/mm² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al
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		≤ 150 N/mm²				
		O.1.2	Plastics, thermoplastic		≤ 100 N/mm²				
		O.2.1	Aramid fibre-reinforced		≤ 1000 N/mm²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 1000 N/mm²				
		O.3.1	Graphite						

* Tensile strength

Cutting data standard values

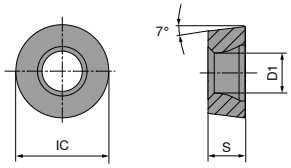
Index	51 800 ...		53 017 ...	
	Polygon	Multipurpose milling	Mini Mill	Parting (multipurpose milling)
	v_c (m/min)	f_z (mm/tooth)	v_c (m/min)	f_z (mm/tooth)
P.1.1	220	0,03-0,10	120 (80–200)	0,015–0,05
P.1.2	220	0,03-0,10	110 (70–190)	0,015–0,05
P.1.3	190	0,03-0,10	90 (60–150)	0,015–0,05
P.1.4	160	0,03-0,09	90 (60–150)	0,015–0,04
P.1.5	160	0,03-0,09	70 (50–120)	0,015–0,04
P.2.1	150	0,03-0,10	90 (60–150)	0,015–0,05
P.2.2	120	0,03-0,09	70 (50–120)	0,015–0,04
P.2.3	100	0,03-0,09	60 (40–110)	0,015–0,035
P.2.4	90	0,03-0,09	60 (40–100)	0,015–0,035
P.3.1	100	0,03-0,10	60 (40–100)	0,015–0,05
P.3.2	90	0,03-0,08	50 (30–80)	0,015–0,035
P.3.3	80	0,03-0,08	30 (20–60)	0,015–0,035
P.4.1	70	0,03-0,08	80 (50–130)	0,015–0,04
P.4.2	60	0,03-0,08	60 (40–110)	0,015–0,035
M.1.1	130	0,03-0,08	90 (60–150)	0,015–0,035
M.2.1	120	0,03-0,08	60 (40–110)	0,015–0,035
M.3.1	120	0,03-0,08	50 (30–90)	0,015–0,035
K.1.1	140	0,03-0,11	110 (70–190)	0,015–0,05
K.1.2	100	0,03-0,10	80 (50–140)	0,015–0,05
K.2.1	140	0,03-0,11	70 (50–120)	0,015–0,05
K.2.2	120	0,03-0,10	60 (40–100)	0,015–0,05
K.3.1	140	0,03-0,11	110 (70–190)	0,015–0,05
K.3.2	100	0,03-0,10	90 (60–160)	0,015–0,05
N.1.1	700	0,04-0,15	230 (150–390)	0,02–0,075
N.1.2	400	0,04-0,15	220 (140–370)	0,02–0,075
N.2.1	400	0,04-0,15	190 (120–320)	0,02–0,075
N.2.2	300	0,04-0,15	160 (110–270)	0,02–0,075
N.2.3	200	0,04-0,15	90 (60–160)	0,02–0,075
N.3.1	160	0,04-0,15	170 (110–280)	0,02–0,075
N.3.2	160	0,04-0,15	140 (90–240)	0,02–0,075
N.3.3	160	0,04-0,15	120 (80–210)	0,02–0,075
N.4.1	160	0,04-0,15	170 (110–280)	0,02–0,075
S.1.1	100	0,01-0,11	60 (40–100)	0,02–0,075
S.1.2	80	0,01-0,11	40 (30–70)	0,02–0,075
S.2.1	60	0,01-0,11	60 (40–100)	0,02–0,075
S.2.2	40	0,01-0,11	50 (30–80)	0,02–0,075
S.2.3	40	0,01-0,11	30 (20–60)	0,02–0,075
S.3.1	100	0,01-0,11	60 (40–100)	0,02–0,075
S.3.2	80	0,01-0,11	30 (20–60)	0,02–0,075
S.3.3	60	0,01-0,11	30 (20–50)	0,02–0,075
H.1.1	60	0,01-0,06	50 (30–90)	0,02–0,037
H.1.2	50	0,01-0,06		
H.1.3	40	0,01-0,06		
H.1.4	30	0,01-0,06		
H.2.1	60	0,01-0,06		
H.3.1	50	0,01-0,06	40 (30–70)	0,015–0,05
O.1.1	180	0,04-0,15	180 (120–310)	0,02–0,037
O.1.2	220	0,04-0,15	170 (110–280)	0,02–0,037
O.2.1	120	0,04-0,15	140 (90–230)	0,02–0,037
O.2.2	120	0,04-0,15	100 (70–170)	0,02–0,037
O.3.1	800	0,04-0,15	140 (90–230)	0,0025–0,025

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.



RCMT

Designation	S mm	D1 mm	IC mm
RCMT 10T3..	3,97	4,4	10
RCMT 1204..	4,76	4,9	12
RCMT 1606..	6,35	5,3	16
RCMT 2006..	6,35	6,5	20



RCMT

		NEW	NEW
		-M23 CTCP115-P	-M23 CTCP125-P
		DRAGONSKIN	DRAGONSKIN
		M	M
		RCMT	RCMT
		74 121 ...	74 121 ...
ISO designation	RE mm		
RCMT 10T3M0SN	5	21400	
RCMT 1204M0SN	6	22600	62600
RCMT 1606M0SN	8	23800	63800
RCMT 2006M0SN	10		65000
P		●	●
M			
K		○	○
N			
S			
H			
O			

Suitable holders can be found on page 36, and in chapter 9 of the catalogue and the online store.

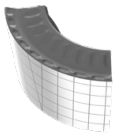
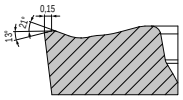
Cutting data standard values

	Material sub-group	Index	Tensile strength (N/mm²)/Hardness (HRC, HB...)	DRAGONSKIN CTCP115-P	DRAGONSKIN CTCP125-P
				v_c (m/min)	
P	Non alloyed steel	P.1.1	420 N/mm² / 125 HB	370	295
		P.1.2	640 N/mm² / 190 HB	315	250
		P.1.3	840 N/mm² / 250 HB	270	210
		P.1.4	910 N/mm² / 270 HB	250	200
		P.1.5	1010 N/mm² / 300 HB	230	180
	Low alloyed steel	P.2.1	610 N/mm² / 180 HB	325	260
		P.2.2	930 N/mm² / 275 HB	250	195
		P.2.3	1010 N/mm² / 300 HB	230	180
		P.2.4	1200 N/mm² / 375 HB	170	130
	High-alloy steel and high-alloy tool steel	P.3.1	680 N/mm² / 200 HB	200	170
		P.3.2	1100 N/mm² / 300 HB	140	105
		P.3.3	1300 N/mm² / 400 HB	85	40
	Stainless steel	P.4.1	680 N/mm² / 200 HB	200	170
		P.4.2	1010 N/mm² / 300 HB	170	135
M	Stainless steel	M.1.1	610 N/mm² / 180 HB		
		M.2.1	300 HB		
		M.3.1	780 N/mm² / 230 HB		
K	Grey cast iron	K.1.1	350 N/mm² / 180 HB	255	170
		K.1.2	500 N/mm² / 260 HB	235	160
	Spherulitic graphite cast iron	K.2.1	540 N/mm² / 160 HB	270	180
		K.2.2	845 N/mm² / 250 HB	205	160
	Malleable iron	K.3.1	440 N/mm² / 130 HB	250	200
		K.3.2	780 N/mm² / 230 HB	210	160
N	Aluminum alloys,	N.1.1	60 HB		
		N.1.2	340 N/mm² / 100 HB		
	Cast aluminum alloy	N.2.1	250 N/mm² / 75 HB		
		N.2.2	300 N/mm² / 90 HB		
		N.2.3	440 N/mm² / 130 HB		
	Copper and copper alloys (Bronze, Brass)	N.3.1	375 N/mm² / 110 HB		
		N.3.2	300 N/mm² / 90 HB		
		N.3.3	340 N/mm² / 100 HB		
	Magnesium alloys	N.4.1	70 HB		
S	Heat-resistant alloys	S.1.1	680 N/mm² / 200 HB		
		S.1.2	950 N/mm² / 280 HB		
		S.2.1	840 N/mm² / 250 HB		
		S.2.2	1180 N/mm² / 350 HB		
		S.2.3	1080 N/mm² / 320 HB		
	Titanium alloys	S.3.1	400 N/mm²		
		S.3.2	1050 N/mm² / 320 HB		
		S.3.3	1400 N/mm² / 410 HB		
H	Hardened steel	H.1.1	46–55 HRC		
		H.1.2	56–60 HRC		
		H.1.3	61–65 HRC		
		H.1.4	66–70 HRC		
	Chilled iron	H.2.1	400 HB		
	Hardened cast iron	H.3.1	55 HRC		
O	Non-metal materials	O.1.1	≤ 150 N/mm²		
		O.1.2	≤ 100 N/mm²		
		O.2.1	≤ 1000 N/mm²		
		O.2.2	≤ 1000 N/mm²		
		O.3.1			

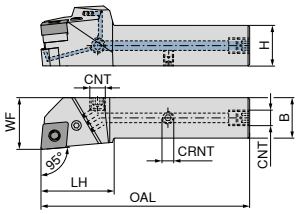
* Tensile strength

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.

Standard chip breakers / application notes

Positive	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration a_p mm	Sectional illustration f mm	Geometry
Main application: steel Secondary application: cast iron	-M23 ▲ Soft cutting geometry with outstanding chip breaking behaviour at low cutting depths in finish machining		CTCP115-P/CTCP125-P	CTCP125-P	CTCP125-P		RC..
			CTCP115-P/CTCP125-P	CTCP125-P	CTCP125-P		
	F					0,30–4,0	0,1–0,45
	M						

MaxiLock-N – PCLN 95° DC – Toolholder with lever clamping



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	NEW Left-hand 70 592 ...	NEW Right-hand 70 592 ...
PCLN R/L 2020 X12-T DC	20	20	109	40	25	M6	G1/8"	4	CN.. 1204	02000	02001
PCLN R/L 2525 X12-T DC	25	25	124	40	32	M6	G1/8"	4	CN.. 1204	02500	02501
PCLN R/L 3225 X12-T DC	32	25	140	40	32	M6	G1/8"	4	CN.. 1204	03200	03201
PCLN R/L 2525 X16-T DC	25	25	129	45	32	M6	G1/8"	4	CN.. 1606	12500	12501
PCLN R/L 3232 X16-T DC	32	32	145	45	40	M6	G1/8"	4	CN.. 1606	13200	13201
PCLN R/L 3232 X19-T DC	32	32	150	50	40	M6	G1/8"	8	CN.. 1906	23200	23201
PCLN R/L 4040 X19-T DC	40	40	175	50	48	M6	G1/8"	8	CN.. 1906	04000	04001
PCLN R/L 4040 X25-T DC	40	40	185	60	48	M6	G1/8"	8	CN.. 2509	14000	14001

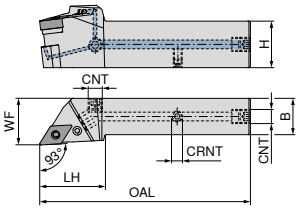
Spare parts for Article no.		Coolant screw plug 70 950 ...	Lever 70 950 ...	Clamping screw 70 950 ...	Carbide type C 70 950 ...		Grubscrew 70 950 ...
70 592 02001 / 70 592 02000	G 1/8"	294	187	209	233	M6x6	86700
70 592 02501 / 70 592 02500	G 1/8"	294	187	209	233	M6x6	86700
70 592 03201 / 70 592 03200	G 1/8"	294	187	209	233	M6x6	86700
70 592 12501 / 70 592 12500	G 1/8"	294	385	388	380	M6x6	86700
70 592 13201 / 70 592 13200	G 1/8"	294	385	388	380	M6x6	86700
70 592 23201 / 70 592 23200	G 1/8"	294	386	389	381	M6x6	86700
70 592 04001 / 70 592 04000	G 1/8"	294	386	389	381	M6x6	86700
70 592 14001 / 70 592 14000	G 1/8"	294	620	622	624	M6x6	86700

Spare parts for Article no.		Key I 70 950 ...	Shim 70 950 ...	Assembly pin 70 950 ...
70 592 02001 / 70 592 02000	SW3	176	198	192
70 592 02501 / 70 592 02500	SW3	176	198	192
70 592 03201 / 70 592 03200	SW3	176	198	192
70 592 12501 / 70 592 12500	SW3	176	391	394
70 592 13201 / 70 592 13200	SW3	176	391	394
70 592 23201 / 70 592 23200	SW4	396	392	395
70 592 04001 / 70 592 04000	SW4	396	392	395
70 592 14001 / 70 592 14000	SW5	265	621	623

Suitable indexable inserts can be found in chapter 9 of the catalogue and in the online shop.

MaxiLock-N – PDJN 93° DC – Toolholder with lever clamping

Direct Cooling



Illustrations show right-hand versions

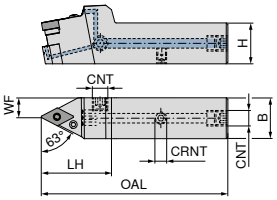
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	NEW Left-hand 70 593 ...	NEW Right-hand 70 593 ...
PDJN R/L 2020 X11-T DC	20	20	104	35	25	M6	G1/8"	3	DN.. 1104	02000	02001
PDJN R/L 2525 X11-T DC	25	25	114	45	32	M6	G1/8"	3	DN.. 1104	02500	02501
PDJN R/L 2020 X15-T DC	20	20	114	45	25	M6	G1/8"	3,2	DN.. 1506	12000	12001
PDJN R/L 2525 X15-T DC	25	25	129	45	32	M6	G1/8"	3,2	DN.. 1506	12500	12501
PDJN R/L 3225 X15-T DC	32	25	145	45	32	M6	G1/8"	3,2	DN.. 1506	03200	03201
PDJN R/L 3232 X15-T DC	32	32	145	45	40	M6	G1/8"	3,2	DN.. 1506	13200	13201

Spare parts for Article no.	Coolant screw plug 70 950 ...		Lever 70 950 ...		Clamping screw 70 950 ...		Solid Carbide Seat D 70 950 ...		Grubscrew 70 950 ...	
70 593 02001 / 70 593 02000	G 1/8"	294		121		208		120	M6x6	86700
70 593 02501 / 70 593 02500	G 1/8"	294		121		208		120	M6x6	86700
70 593 12001 / 70 593 12000	G 1/8"	294		188		209		236	M6x6	86700
70 593 12501 / 70 593 12500	G 1/8"	294		188		209		236	M6x6	86700
70 593 03201 / 70 593 03200	G 1/8"	294		188		209		236	M6x6	86700
70 593 13201 / 70 593 13200	G 1/8"	294		188		209		236	M6x6	86700

Spare parts for Article no.	Key I 70 950 ...		Shim 70 950 ...		Assembly pin 70 950 ...	
70 593 02001 / 70 593 02000	SW2,5	175		122		191
70 593 02501 / 70 593 02500	SW2,5	175		122		191
70 593 12001 / 70 593 12000	SW3	176		198		192
70 593 12501 / 70 593 12500	SW3	176		198		192
70 593 03201 / 70 593 03200	SW3	176		198		192
70 593 13201 / 70 593 13200	SW3	176		198		192

Suitable indexable inserts can be found in chapter 9 of the catalogue and in the online shop.

MaxiLock-N – PDNN 63° DC – Toolholder with lever clamping



Illustrations show right-hand versions

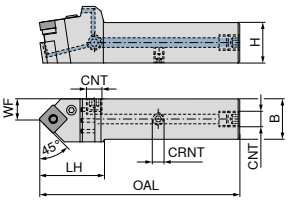
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	NEW Left-hand 70 594 ...	NEW Right-hand 70 594 ...
PDNN R/L 2525 X11-T DC	25	25	114	45	12,5	M6	G1/8"	3	DN.. 1104	02500	02501
PDNN R/L 2525 X15-T DC	25	25	119	50	12,5	M6	G1/8"	3,2	DN.. 1506	12500	12501

Spare parts for Article no.		Coolant screw plug 70 950 ...	Lever 70 950 ...	Clamping screw 70 950 ...	Solid Carbide Seat D 70 950 ...		Grubscrew 70 950 ...
70 594 02501 / 70 594 02500	G 1/8"	294	121	208	120	M6x6	86700
70 594 12501 / 70 594 12500	G 1/8"	294	188	209	236	M6x6	86700

Spare parts for Article no.		Key I 70 950 ...	Shim 70 950 ...	Assembly pin 70 950 ...
70 594 02501 / 70 594 02500	SW2,5	175	122	191
70 594 12501 / 70 594 12500	SW3	176	198	192

Suitable indexable inserts can be found in chapter 9 of the catalogue and in the online shop.

MaxiLock-N – PSDN 45° DC – Toolholder with lever clamping



NEW

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	Neutral 70 596 ...
PSDN N 2020 X12-T DC	20	20	109	40	11,5	M6	G1/8"	4	SNM. 1204	02000
PSDN N 2525 X12-T DC	25	25	124	40	13,3	M6	G1/8"	4	SNM. 1204	02500
PSDN N 2525 X15-T DC	25	25	134	50	13,7	M6	G1/8"	4	SNM. 1506	12500
PSDN N 3225 X15-T DC	32	25	150	50	13,7	M6	G1/8"	4	SNM. 1506	03200
PSDN N 3225 X19-T DC	32	25	152	52	13,7	M6	G1/8"	8	SNM. 1906	13200
PSDN N 4040 X25-T DC	40	40	190	65	22,4	M6	G1/8"	8	SNM. 2507 / 2509	04000

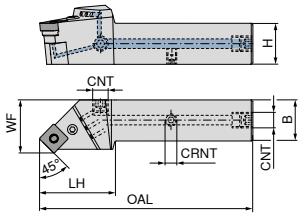
When using SN.. 2509 indexable inserts, use insert seat article no. 70 950 40100.

Spare parts for Article no.		Coolant screw plug 70 950 ...	Lever 70 950 ...	Clamping screw 70 950 ...	Solid Carbide support S 70 950 ...		Grubscrew 70 950 ...
70 596 02000	G 1/8"	294	187	209	230	M6x6	86700
70 596 02500	G 1/8"	294	187	209	230	M6x6	86700
70 596 12500	G 1/8"	294	385	388	382	M6x6	86700
70 596 03200	G 1/8"	294	385	388	382	M6x6	86700
70 596 13200	G 1/8"	294	386	389	383	M6x6	86700
70 596 04000	G 1/8"	294	620	622	27600	M6x6	86700

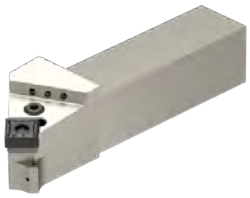
Spare parts for Article no.		Key I 70 950 ...	Shim 70 950 ...	Assembly pin 70 950 ...
70 596 02000	SW3	176	198	192
70 596 02500	SW3	176	198	192
70 596 12500	SW3	176	391	394
70 596 03200	SW3	176	391	394
70 596 13200	SW4	396	392	395
70 596 04000	SW5	265	621	623

Suitable indexable inserts can be found in chapter 9 of the catalogue and in the online shop.

MaxiLock-N – PSSN 45° DC – Toolholder with lever clamping



Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	NEW Left-hand 70 597 ...	NEW Right-hand 70 597 ...
PSSN R/L 2020 X12-T DC	20	20	111,9	42,9	25	M6	G1/8"	4	SNM. 1204	02000	02001
PSSN R/L 2525 X12-T DC	25	25	129,9	45,9	32	M6	G1/8"	4	SNM. 1204	02500	02501
PSSN R/L 3225 X12-T DC	32	25	145,9	45,9	32	M6	G1/8"	4	SNM. 1204	03200	03201
PSSN R 2525 X15-T DC	25	25	131,5	47,5	32	M6	G1/8"	4	SNM. 1506		12501
PSSN R 3232 X15-T DC	32	32	145,9	45,9	40	M6	G1/8"	4	SNM. 1506		13201
PSSN R/L 3232 X19-T DC	32	32	151,8	51,8	40	M6	G1/8"	8	SNM. 1906	13200	23201
PSSN R 4040 X25-T DC	40	40	189,6	64,6	50	M6	G1/8"	8	SNM. 2507 / 2509		04001

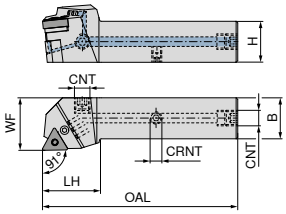
When using SN.. 2509 indexable inserts, use insert seat article no. 70 950 40100.

Spare parts for Article no.		Coolant screw plug 70 950 ...	Lever 70 950 ...	Clamping screw 70 950 ...	Solid Carbide support S 70 950 ...		Grubscrew 70 950 ...
70 597 02001 / 70 597 02000	G 1/8"	294	187	209	230	M6x6	86700
70 597 02501 / 70 597 02500	G 1/8"	294	187	209	230	M6x6	86700
70 597 03201 / 70 597 03200	G 1/8"	294	187	209	230	M6x6	86700
70 597 12501	G 1/8"	294	385	388	382	M6x6	86700
70 597 13201	G 1/8"	294	385	388	382	M6x6	86700
70 597 23201 / 70 597 13200	G 1/8"	294	386	389	383	M6x6	86700
70 597 04001	G 1/8"	294	620	622	27600	M6x6	86700

Spare parts for Article no.		Key I 70 950 ...	Shim 70 950 ...	Assembly pin 70 950 ...
70 597 02001 / 70 597 02000	SW3	176	198	192
70 597 02501 / 70 597 02500	SW3	176	198	192
70 597 03201 / 70 597 03200	SW3	176	198	192
70 597 12501	SW3	176	391	394
70 597 13201	SW3	176	391	394
70 597 23201 / 70 597 13200	SW4	396	392	395
70 597 04001	SW5	265	621	623

Suitable indexable inserts can be found in chapter 9 of the catalogue and in the online shop.

MaxiLock-N – PTGN 90° DC – Toolholder with lever clamping



Illustrations show right-hand versions

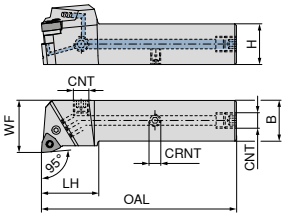
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	NEW Left-hand 70 598 ...	NEW Right-hand 70 598 ...
PTGN R/L 2020 X16-T DC	20	20	101	32	25	M6	G1/8"	3	TNM. 1604	02000	02001
PTGN R/L 2525 X16-T DC	25	25	119	35	32	M6	G1/8"	3	TNM. 1604	02500	02501
PTGN R/L 3225 X16-T DC	32	25	136	36	32	M6	G1/8"	3	TNM. 1604	03200	03201
PTGN R/L 2525 X22-T DC	25	25	122	38	32	M6	G1/8"	4	TNM. 2204	12500	12501
PTGN R/L 3232 X22-T DC	32	32	138	38	40	M6	G1/8"	4	TNM. 2204	13200	13201

Spare parts for Article no.	Coolant screw plug 70 950 ...	Lever 70 950 ...	Clamping screw 70 950 ...	Solid Carbide Seat T 70 950 ...	Grubscrew 70 950 ...
70 598 02001 / 70 598 02000	G 1/8" 294	185	208	225	M6x6 86700
70 598 02501	G 1/8" 294	185	208	225	M6x6 86700
70 598 02500	G 1/8" 294	185	208	225	M6x6 86700
70 598 03201 / 70 598 03200	G 1/8" 294	185	208	225	M6x6 86700
70 598 12501 / 70 598 12500	G 1/8" 294	187	209	226	M6x6 86700
70 598 13201 / 70 598 13200	G 1/8" 294	187	209	226	M6x6 86700

Spare parts for Article no.	Key I 70 950 ...	Shim 70 950 ...	Assembly pin 70 950 ...
70 598 02001 / 70 598 02000	SW2,5 175	197	192
70 598 02501	SW2,5 175	197	192
70 598 02500	SW2,5 175	197	191
70 598 03201 / 70 598 03200	SW2,5 175	197	192
70 598 12501 / 70 598 12500	SW3 176	198	192
70 598 13201 / 70 598 13200	SW3 176	198	192

Suitable indexable inserts can be found in chapter 9 of the catalogue and in the online shop.

MaxiLock-N – PWLN 95° DC – Toolholder with lever clamping



Illustrations show right-hand versions

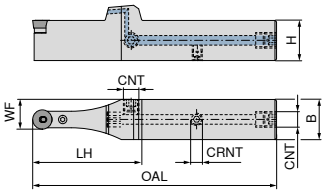
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	NEW Left-hand 70 599 ...	NEW Right-hand 70 599 ...
PWLN R/L 2020 X06-T DC	20	20	104	35	25	M6	G1/8"	3	WNMG 0604	02000	02001
PWLN R/L 2525 X06-T DC	25	25	120	35	32	M6	G1/8"	3	WNMG 0604	02500	02501
PWLN R/L 2020 X08-T DC	20	20	104	35	25	M6	G1/8"	4	WNMG 0804	12000	12001
PWLN R/L 2525 X08-T DC	25	25	120	35	32	M6	G1/8"	4	WNMG 0804	12500	12501
PWLN R/L 3225 X08-T DC	32	25	135	35	32	M6	G1/8"	4	WNMG 0804	03200	03201

Spare parts for Article no.		Coolant screw plug 70 950 ...	Lever 70 950 ...	Clamping screw 70 950 ...	Solid Carbide Seat W 70 950 ...		Grubscrew 70 950 ...
70 599 02001 / 70 599 02000	G 1/8"	294	185	208	127	M6x6	86700
70 599 02501 / 70 599 02500	G 1/8"	294	185	208	127	M6x6	86700
70 599 12001 / 70 599 12000	G 1/8"	294	187	209	235	M6x6	86700
70 599 12501 / 70 599 12500	G 1/8"	294	187	209	235	M6x6	86700
70 599 03201 / 70 599 03200	G 1/8"	294	187	209	235	M6x6	86700

Spare parts for Article no.		Key I 70 950 ...	Shim 70 950 ...	Assembly pin 70 950 ...
70 599 02001 / 70 599 02000	SW2,5	175	122	191
70 599 02501 / 70 599 02500	SW2,5	175	122	191
70 599 12001 / 70 599 12000	SW3	176	198	192
70 599 12501 / 70 599 12500	SW3	176	198	192
70 599 03201 / 70 599 03200	SW3	176	198	192

Suitable indexable inserts can be found in chapter 9 of the catalogue and in the online shop.

MaxiLock-N – PRDC 0° DC – Toolholder with lever clamping



NEW

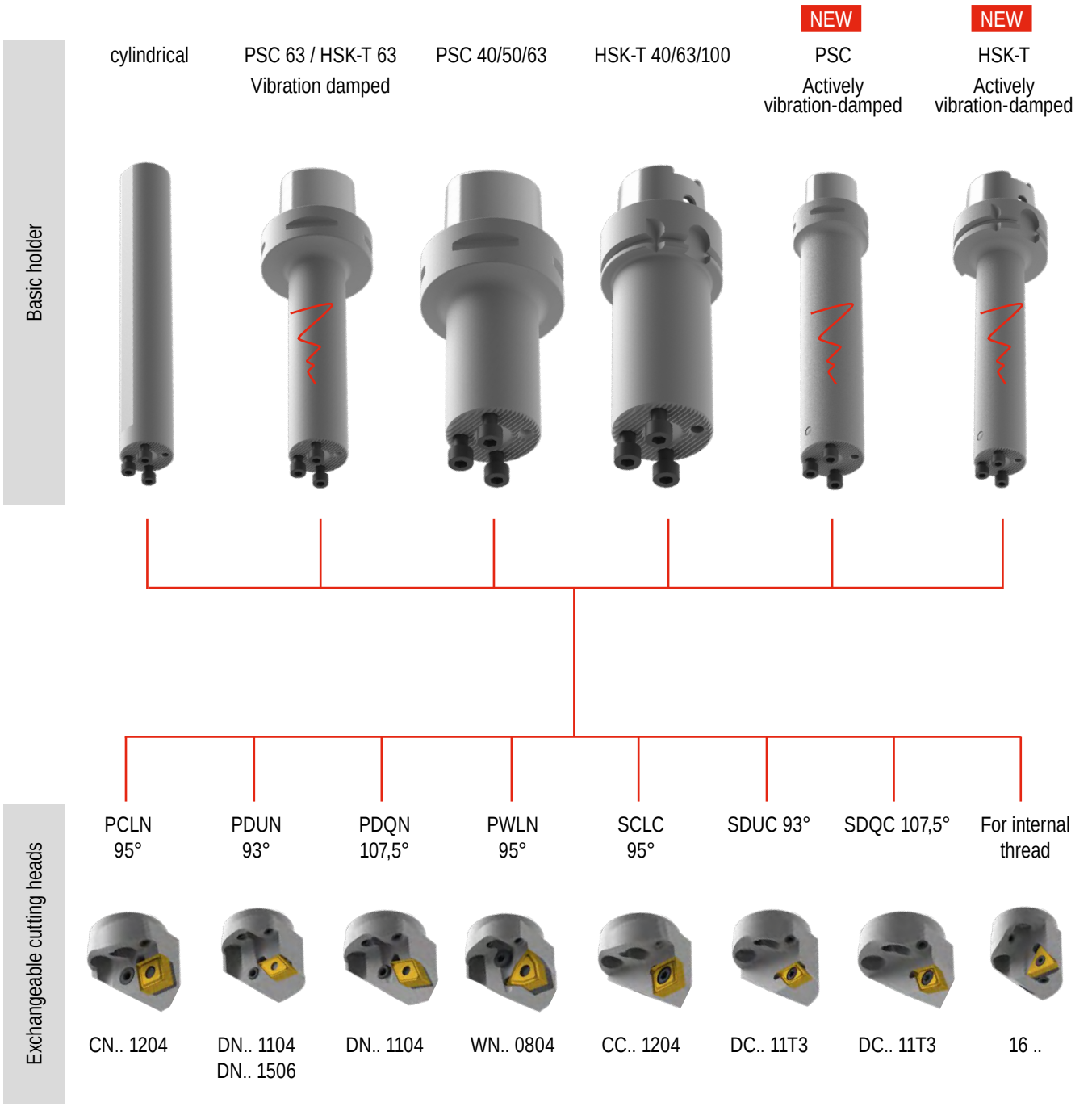
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	Neutral 70 595 ...
PRDC N 2020 X12-T DC	20	20	132	63	16,0	M6	G1/8"	3	RCMT 1204	02000
PRDC N 2525 X12-T DC	25	25	152	68	18,5	M6	G1/8"	3	RCMT 1204	02500
PRDC N 3225 X12-T DC	32	25	168	68	18,5	M6	G1/8"	3	RCMT 1204	03200
PRDC N 3225 X16-T DC	32	25	172	72	20,5	M6	G1/8"	4	RCMT 1606	13200
PRDC N 3232 X20-T DC	32	32	176	76	26,0	M6	G1/8"	5	RCMT 2006	23200
PRDC N 4040 X25-T DC	40	40	216	91	32,5	M6	G1/8"	6	RCMT 2507	04000

Spare parts for Article no.		Coolant screw plug 70 950 ...	Lever 70 950 ...	Clamping screw 70 950 ...	Solid carbide support R 70 950 ...		Grubscrew 70 950 ...
70 595 02000	G 1/8"	294	178	208	215	M6x6	86700
70 595 02500	G 1/8"	294	178	208	215	M6x6	86700
70 595 03200	G 1/8"	294	178	208	215	M6x6	86700
70 595 13200	G 1/8"	294	387	390	384	M6x6	86700
70 595 23200	G 1/8"	294	28100	28500	27400	M6x6	86700
70 595 04000	G 1/8"	294	28400	28600	27500	M6x6	86700

Spare parts for Article no.		Key I 70 950 ...	Shim 70 950 ...	Assembly pin 70 950 ...
70 595 02000	SW2,5	175	197	191
70 595 02500	SW2,5	175	197	191
70 595 03200	SW2,5	175	197	191
70 595 13200	SW2,5	175	196	192
70 595 23200	SW2	177	391	394
70 595 04000	SW4	396	392	395

Suitable indexable inserts can be found in chapter 9 of the catalogue and in the online shop.

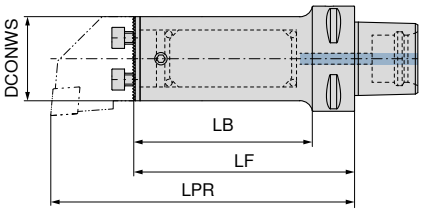
Overview of exchangeable head system



All exchangeable heads and base holders for the exchangeable head system can be found in chapter 9 of the main catalogue, and in the online shop.

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

Scope of supply:
Includes clamping screws



NEW

right / left

Adapter	LPR mm	LF mm	LB mm	DCONWS mm	84 198 ...
PSC 40	167	132	112	25	42595[1)]
PSC 40	189	154	134	32	43295[1)]
PSC 40	213	173		40	44095[1)]
PSC 50	168	133	113	25	32594[1)]
PSC 50	215	180	160	25	42594[1)]
PSC 50	189	154	134	32	33294[1)]
PSC 50	259	224	204	32	43294[1)]
PSC 50	234	194	174	40	34094[1)]
PSC 50	328	288	268	40	44094[1)]
PSC 63	167	132	110	25	32593[1)]
PSC 63	215	180	158	25	42593[1)]
PSC 63	265	230	208	25	52593[1)]
PSC 63	194	159	137	32	33293[1)]
PSC 63	259	224	202	32	43293[1)]
PSC 63	323	288	266	32	53293[1)]
PSC 63	238	198	176	40	34093[1)]
PSC 63	328	288	266	40	44093[1)]
PSC 63	408	368	346	40	54093[1)]

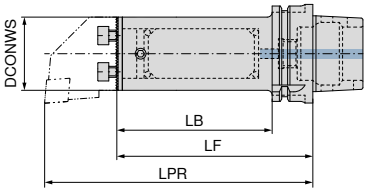
1) Not ex-stock

Clamping Screw

Spare parts for Article no.		84 950 ...
84 198 42595	M4X12 (SW3)	30000
84 198 43295	M5X14 (SW4)	29900
84 198 44095	M6X16 (SW5)	29800
84 198 32594	M4X12 (SW3)	30000
84 198 33294	M5X14 (SW4)	29900
84 198 42594	M4X12 (SW3)	30000
84 198 34094	M6X16 (SW5)	29800
84 198 43294	M5X14 (SW4)	29900
84 198 44094	M6X16 (SW5)	29800
84 198 32593	M4X12 (SW3)	30000
84 198 33293	M5X14 (SW4)	29900
84 198 42593	M4X12 (SW3)	30000
84 198 34093	M6X16 (SW5)	29800
84 198 43293	M5X14 (SW4)	29900
84 198 52593	M4X12 (SW3)	30000
84 198 53293	M5X14 (SW4)	29900
84 198 44093	M6X16 (SW5)	29800
84 198 54093	M6X16 (SW5)	29800

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

Scope of supply:
Includes clamping screws



NEW

right / left

Adapter	LPR mm	LF mm	LB mm	DCONWS mm	84 198 ...
HSK-T 63	161	126	100	25	32537 1)
HSK-T 63	186	151	125	25	42537 1)
HSK-T 63	189	154	128	32	33237 1)
HSK-T 63	221	186	160	32	43237 1)
HSK-T 63	226	186	160	40	34037 1)
HSK-T 63	266	226	200	40	44037 1)

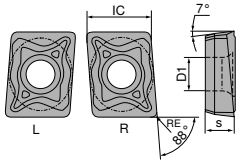
1) Not ex-stock

Clamping Screw

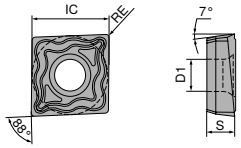
Spare parts for Article no.		84 950 ...
84 198 32537	M4X12 (SW3)	30000
84 198 42537	M4X12 (SW3)	30000
84 198 33237	M5X14 (SW4)	29900
84 198 43237	M5X14 (SW4)	29900
84 198 34037	M6X16 (SW5)	29800
84 198 44037	M6X16 (SW5)	29800

XCNT

Designation	S mm	D1 mm	IC mm
XCNT 0401..	1,80	2,10	4,5
XCNT 0502..	2,10	2,25	5,8
XCNT 0602..	2,38	2,50	6,5
XCNT 0703..	3,18	2,80	7,6
XCNT 0803..	3,18	3,40	8,5
XCNT 09T3..	3,97	3,40	9,6
XCNT 10T3..	3,97	4,40	10,6
XCNT 1304..	4,76	5,30	13,5
XCNT 1705..	5,56	5,30	17,5

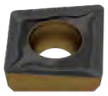
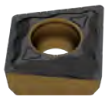


XC. T 04..



XC. T 05../06../07../08../09../10../13../17..

XCNT

	NEW	NEW	NEW
	CTCP425-P	-M50Q CTCP425-P	CTCP435-P
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
			
	M	M	M
	XCNT	XCNT	XCNT
	70 386 ...	70 386 ...	70 386 ...
ISO / RE mm			
040102EL / 0,2	72001		82001
040102ER / 0,2	72201		82201
040104EL / 0,4	70001	75001	80001
040104ER / 0,4	70201	75201	80201
050202EN / 0,2	72301		82301
050204EN / 0,4	70301	75301	80301
060202EN / 0,2	72401		82401
060204EN / 0,4	70401	75401	80401
070304EN / 0,4	70501	75501	80501
080304EN / 0,4	70601	75601	80601
09T304EN / 0,4	70701	75701	80701
10T304EN / 0,4	70801	75801	80801
10T308EN / 0,8	73801	78801	83801
130404EN / 0,4	71001	76001	81001
130408EN / 0,8	74001	79001	84001
170508EN / 0,8	71201	76201	81201
P	●	●	●
M	○	○	○
K	○	○	○
N			
S			○
H			
O			

Suitable holders can be found in chapter 10 of the main catalogue and in the online shop.

Information on the chip breakers can be found in the main catalogue → Chapter 10, page 35.

Cutting data standard values

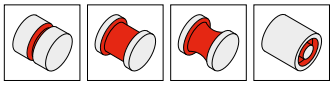
	Material sub-group	Index	Tensile strength (N/mm²)/Hardness (HRC, HB...)	DRAGONSKIN CTCP425-P	DRAGONSKIN CTCP435-P
				v_c (m/min)	
P	Non alloyed steel	P.1.1	420 N/mm² / 125 HB	270	230
		P.1.2	640 N/mm² / 190 HB	235	200
		P.1.3	840 N/mm² / 250 HB	200	165
		P.1.4	910 N/mm² / 270 HB	190	155
		P.1.5	1010 N/mm² / 300 HB	175	140
	Low alloyed steel	P.2.1	610 N/mm² / 180 HB	240	200
		P.2.2	930 N/mm² / 275 HB	185	155
		P.2.3	1010 N/mm² / 300 HB	175	140
		P.2.4	1200 N/mm² / 375 HB	130	105
	High-alloy steel and high-alloy tool steel	P.3.1	680 N/mm² / 200 HB	185	160
		P.3.2	1100 N/mm² / 300 HB	135	110
		P.3.3	1300 N/mm² / 400 HB	80	60
	Stainless steel	P.4.1	680 N/mm² / 200 HB	184	160
		P.4.2	1010 N/mm² / 300 HB	160	130
M	Stainless steel	M.1.1	610 N/mm² / 180 HB	160	160
		M.2.1	300 HB		
		M.3.1	780 N/mm² / 230 HB		
K	Grey cast iron	K.1.1	350 N/mm² / 180 HB	205	185
		K.1.2	500 N/mm² / 260 HB	205	185
	Spherulitic graphite cast iron	K.2.1	540 N/mm² / 160 HB	200	180
		K.2.2	845 N/mm² / 250 HB	200	180
	Malleable iron	K.3.1	440 N/mm² / 130 HB	195	175
		K.3.2	780 N/mm² / 230 HB	195	175
N	Aluminum alloys,	N.1.1	60 HB		
		N.1.2	340 N/mm² / 100 HB		
	Cast aluminum alloy	N.2.1	250 N/mm² / 75 HB		
		N.2.2	300 N/mm² / 90 HB		
		N.2.3	440 N/mm² / 130 HB		
	Copper and copper alloys (Bronze, Brass)	N.3.1	375 N/mm² / 110 HB		
		N.3.2	300 N/mm² / 90 HB		
		N.3.3	340 N/mm² / 100 HB		
	Magnesium alloys	N.4.1	70 HB		
S	Heat-resistant alloys	S.1.1	680 N/mm² / 200 HB		35
		S.1.2	950 N/mm² / 280 HB		30
		S.2.1	840 N/mm² / 250 HB		18
		S.2.2	1180 N/mm² / 350 HB		15
		S.2.3	1080 N/mm² / 320 HB		15
	Titanium alloys	S.3.1	400 N/mm²		85
		S.3.2	1050 N/mm² / 320 HB		40
		S.3.3	1400 N/mm² / 410 HB		30
H	Hardened steel	H.1.1	46–55 HRC		
		H.1.2	56–60 HRC		
		H.1.3	61–65 HRC		
		H.1.4	66–70 HRC		
	Chilled iron	H.2.1	400 HB		
	Hardened cast iron	H.3.1	55 HRC		
O	Non-metal materials	O.1.1	≤ 150 N/mm²		
		O.1.2	≤ 100 N/mm²		
		O.2.1	≤ 1000 N/mm²		
		O.2.2	≤ 1000 N/mm²		
		O.3.1			

* Tensile strength

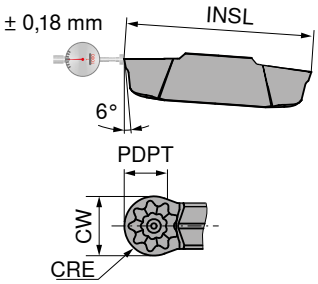
The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine.
The specified values represent guideline cutting data that can be adjusted by approx. ±20% according to the usage conditions.

Radius groove insert GX 24

▲ Suitable for machining tough and ductile materials



F	M	R
●	●	



NEW

-M33
CTCP325

DRAGONSKIN

70 365 ...

Designation	INSL mm	CW +/-0,05 mm	CRE mm	PDPT mm	for tool holder	
GX 24-2 R1.50 N	24,4	3	1,5	1,5	GX 24-2	95200
GX 24-3 R2.00 N	24,4	4	2,0	2,5	GX 24-3	95400
GX 24-3 R2.50 N	24,4	5	2,5	3,0	GX 24-3	95600
GX 24-4 R3.00 N	24,4	6	3,0	4,0	GX 24-4	95800

P	●
M	○
K	●
N	
S	○
H	
O	

Suitable holders can be found in chapter 11 of the main catalogue and in the online shop

GX-M33 – Depths of cut and feeds

Sliding Head Turning

GX-M33 Full Radius	Depth of Cut a_p in mm							
	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
Radius RE in mm	Feed rate f in mm/rev.							
1,5	0,05-0,25	0,05-0,20	0,05-0,15					
2	0,05-0,35	0,05-0,30	0,05-0,25	0,05-0,20				
2,5	0,10-0,45	0,10-0,40	0,10-0,35	0,10-0,30	0,10-0,25			
3	0,10-0,50	0,10-0,45	0,10-0,40	0,10-0,35	0,10-0,30	0,10-0,25		

Parting / Grooving

GX-M33 Full Radius
Feed rate f in mm/rev.
0,05-0,15
0,05-0,20
0,05-0,25
0,10-0,25

Cutting data standard values

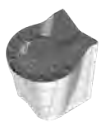
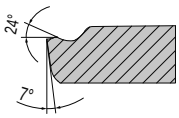
	Material sub-group	Index	Tensile strength (N/mm²)/Hardness (HRC, HB...)	DRAGONSKIN CTCP325 v_c (m/min)
P	Non alloyed steel	P.1.1	420 N/mm² / 125 HB	220
		P.1.2	640 N/mm² / 190 HB	195
		P.1.3	840 N/mm² / 250 HB	170
		P.1.4	910 N/mm² / 270 HB	165
		P.1.5	1010 N/mm² / 300 HB	150
	Low alloyed steel	P.2.1	610 N/mm² / 180 HB	200
		P.2.2	930 N/mm² / 275 HB	160
		P.2.3	1010 N/mm² / 300 HB	150
		P.2.4	1200 N/mm² / 375 HB	120
	High-alloy steel and high-alloy tool steel	P.3.1	680 N/mm² / 200 HB	150
		P.3.2	1100 N/mm² / 300 HB	95
		P.3.3	1300 N/mm² / 400 HB	45
	Stainless steel	P.4.1	680 N/mm² / 200 HB	150
		P.4.2	1010 N/mm² / 300 HB	125
M	Stainless steel	M.1.1	610 N/mm² / 180 HB	150
		M.2.1	300 HB	95
		M.3.1	780 N/mm² / 230 HB	135
K	Grey cast iron	K.1.1	350 N/mm² / 180 HB	170
		K.1.2	500 N/mm² / 260 HB	150
	Spherulitic graphite cast iron	K.2.1	540 N/mm² / 160 HB	160
		K.2.2	845 N/mm² / 250 HB	145
	Malleable iron	K.3.1	440 N/mm² / 130 HB	210
		K.3.2	780 N/mm² / 230 HB	140
N	Aluminum alloys,	N.1.1	60 HB	
		N.1.2	340 N/mm² / 100 HB	
	Cast aluminum alloy	N.2.1	250 N/mm² / 75 HB	
		N.2.2	300 N/mm² / 90 HB	
		N.2.3	440 N/mm² / 130 HB	
	Copper and copper alloys (Bronze, Brass)	N.3.1	375 N/mm² / 110 HB	
		N.3.2	300 N/mm² / 90 HB	
		N.3.3	340 N/mm² / 100 HB	
	Magnesium alloys	N.4.1	70 HB	
S	Heat-resistant alloys	S.1.1	680 N/mm² / 200 HB	35
		S.1.2	950 N/mm² / 280 HB	30
		S.2.1	840 N/mm² / 250 HB	20
		S.2.2	1180 N/mm² / 350 HB	15
		S.2.3	1080 N/mm² / 320 HB	15
	Titanium alloys	S.3.1	400 N/mm²	
		S.3.2	1050 N/mm² / 320 HB	
		S.3.3	1400 N/mm² / 410 HB	
H	Hardened steel	H.1.1	46–55 HRC	
		H.1.2	56–60 HRC	
		H.1.3	61–65 HRC	
		H.1.4	66–70 HRC	
	Chilled iron	H.2.1	400 HB	
	Hardened cast iron	H.3.1	55 HRC	
O	Non-metal materials	O.1.1	≤ 150 N/mm²	
		O.1.2	≤ 100 N/mm²	
		O.2.1	≤ 1000 N/mm²	
		O.2.2	≤ 1000 N/mm²	
		O.3.1		

* Tensile strength

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.

Chip breakers / Applications

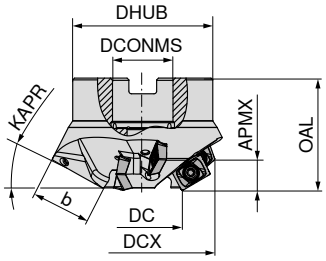
System GX

		Smooth cut	Irregular cutting depth	Interrupted cut	Model	f in mm/rev.
-M33 ▲ Radial grooves & copy turning ▲ Geometry for finishing ▲ Ideal for tough and ductile steel materials ▲ Low to medium feeds ▲ High surface quality		CTCP325	CTCP325	CTCP325		0,05 - 0,20
		CTCP325	CTCP325	CTCP325		
		CTCP325	CTCP325	CTCP325		

MaxiMill – 242 Chamfer Cutter

▲ Caution: Use only inserts with a corner radius of less than 1.6 mm
▲ ZEFP = number of inserts
▲ ZNP = tooth rows

κ = 45°



NEW

50 768 ...

KAPR	DC mm	DCX mm	ZNF	APMX mm	ZEFP	b ±0,3 mm	OAL mm	DCONMS mm	DHUB mm	ZNP	torque moment Nm	Insert	
15°	35	89,60	3	7,0	6	27,6	50	27	62,5	2	3,2	LD.. 15...	11503
30°	35	83,60	3	13,6	6	27,6	50	27	62,5	2	3,2	LD.. 15...	13003
45°	35	74,60	3	19,3	6	27,6	50	27	62,5	2	3,2	LD.. 15...	14503
60°	35	62,70	3	23,6	6	27,6	50	22	49,0	2	3,2	LD.. 15...	16003
75°	35	49,48	3	26,7	6	27,6	60	22	49,0	2	3,2	LD.. 15...	17503[1)]

1) Version with Powerscrew

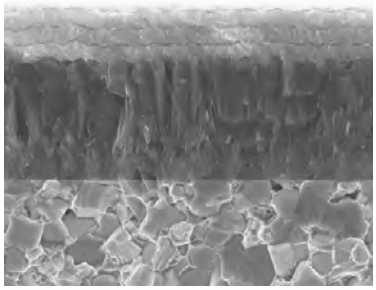
	TORX® blade	Clamping key – T	Key D	Power Screw	Molykote	Clamping screw	Torque screwdriver	clamping screw
	80 950 ...	80 397 ...	80 950 ...	70 950 ...	70 950 ...	70 950 ...	80 950 ...	83 950 ...
Spare parts KAPR								
15 - 60	036		113		303	304	192	125
75	036	050	113	154	303	304	192	

DRAGONSKIN

The coatings for the highest performance

Machining without compromise

The Dragonskin product category helps you to quickly find and identify tools with the high-performance coating technology from CERATIZIT. All products marked with the Dragonskin symbol represent previously unimaginable performance, maximum tool life and the highest process security.

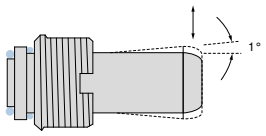


Dragonskin Coating

Coolant transfer pipe with filter screen

▲ 75 µ filter screen can be used up to 80 bar

Scope of supply:
Complete, including sealing rings and filter screen

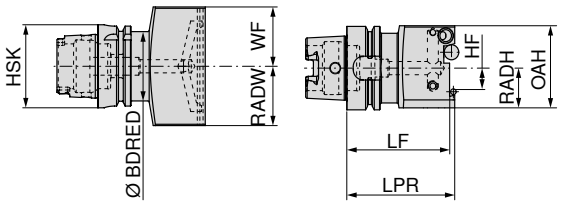


NEW

Adapter	THOD	83 760 ...
HSK 63	M18 x 1	16300
HSK 100	M24 x 1,5	20000

For usage with micro tools with thro' coolant, improved tool life due to reduced contamination of the coolant hole

MonoClamp – HSK-T Blade Holder GX/LX/FX/SX



Illustrations show right-hand versions

NEW

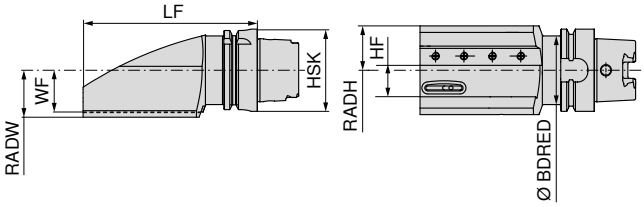
Direct Cooling

radial

74 586 ...

ISO designation	Adapter	LF mm	BDRED mm	WF mm	HF mm	OAH mm	RADW mm	RADH mm	for parting blades	
ISO 12164-3 T63	HSK-T 63	80	52,6	45	25,0	68	45	34	XLCF N 32...	03237
ISO 12164-3 T63	HSK-T 63	80	52,6	45	21,4	62	45	30	XLCF N 26...	02637

MonoClamp – HSK-T Blade Holder GX/LX/FX/SX



Illustrations show right-hand versions

NEW

Direct Cooling

Left-hand

74 585 ...

NEW

Direct Cooling

Right-hand

74 584 ...

ISO designation	Adapter	LF mm	BDRED mm	WF mm	HF mm	RADW mm	RADH mm	for parting blades		
ISO 12164-3 T63	HSK-T 63	155	52,6	32	25,0	37,5	35	XLCF R/L 32...	03237	03237
ISO 12164-3 T63	HSK-T 63	155	52,6	32	21,4	36,0	34	XLCF R/L 26...	02637	02637

O-Ring

70 950 ...

O-Ring

70 950 ...

Clamping wedge

70 950 ...

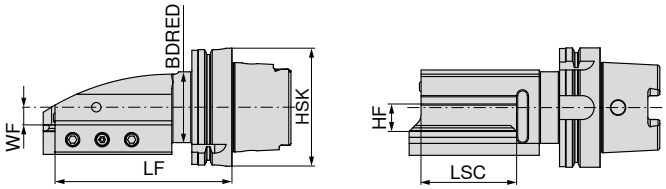
clamping screw

70 950 ...

Spare parts for parting blades							
XLCF R/L 26...	19x2,5	293	23x2,5	292	860	M6x12	861
XLCF R/L 32...	19x2,5	293	23x2,5	292	860	M6x12	861

HSK-T square shank adapter 0°

▲ Suitable for rotating tool holder HF = 20 / 25 / 32 mm
▲ These HF values can be achieved by removing the mounting adapter and clamping block

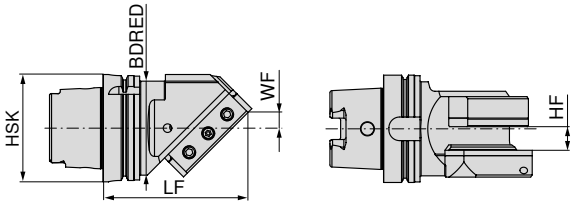


Illustrations show right-hand versions

ISO designation	Adapter	LF mm	BDRED mm	WF mm	LSC mm	HF mm	NEW Direct Cooling Left-hand 74 571 ...	NEW Direct Cooling Right-hand 74 570 ...
ISO 12164-3 T63	HSK-T 63	145	52,6	15	80	20 / 25 / 32	02537	02537
ISO 12164-3 T100	HSK-T 100	150	60,0	15	80	20 / 25 / 32	02535	02535

HSK-T square shank adapter 45°

▲ Suitable for rotating tool holder HF = 20 / 25 / 32 mm
▲ These HF values can be achieved by removing the mounting adapter and clamping block

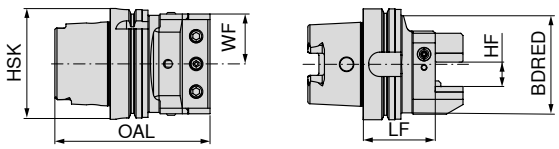


Illustrations show right-hand versions

ISO designation	Adapter	LF mm	BDRED mm	WF mm	HF mm	NEW Direct Cooling Left-hand 74 573 ...	NEW Direct Cooling Right-hand 74 572 ...
ISO 12164-3 T63	HSK-T 63	130	52,6	14,6	20 / 25 / 32	02537	02537
ISO 12164-3 T100	HSK-T 100	135	87,6	14,6	20 / 25 / 32	02535	02535

HSK-T square shank adapter 90°

▲ Suitable for rotating tool holder HF = 20 / 25 / 32 mm
▲ These HF values can be achieved by removing the mounting adapter and clamping block



NEW

Direct Cooling

Neutral

74 575 ...

ISO designation	Adapter	LF mm	BDRED mm	WF mm	OAL mm	HF mm	
ISO 12164-3 T63	HSK-T 63	60	52,6	45	117	20 / 25 / 32	02537
ISO 12164-3 T100	HSK-T 100	65	87,6	45	140	20 / 25 / 32	02535

Spare parts HSK-T square shank holders with DirectCooling

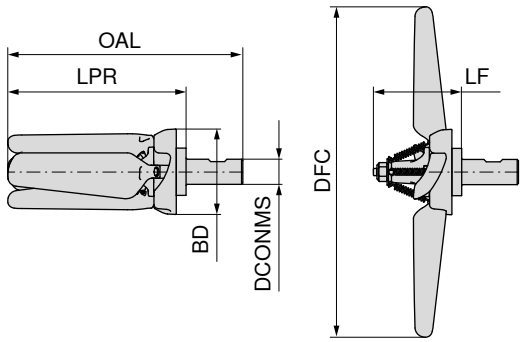
Cylindrical screw

Clamping screw

Spare parts Adapter	Cylindrical screw	83 950 ...	Clamping screw	62 950 ...
HSK-T 63	M5x5 - SW2,5	157	M12x16 - SW6	51100
HSK-T 100	M5x5 - SW2,5	157	M12x16 - SW6	51100

Cleaning propeller – small

▲ Chip and emulsion removal or drying processes via the tool spindle
▲ Simple replacement of the rotor blades



IK central

DCONMS mm	OAL mm	LPR mm	LF mm	DFC mm	BD mm	RPMX 1/min.	80 399 ...
20	135	90	70	160	68	6000 - 12000	16000

Rotor blade kit

1 rotary blade and 1 tension spring

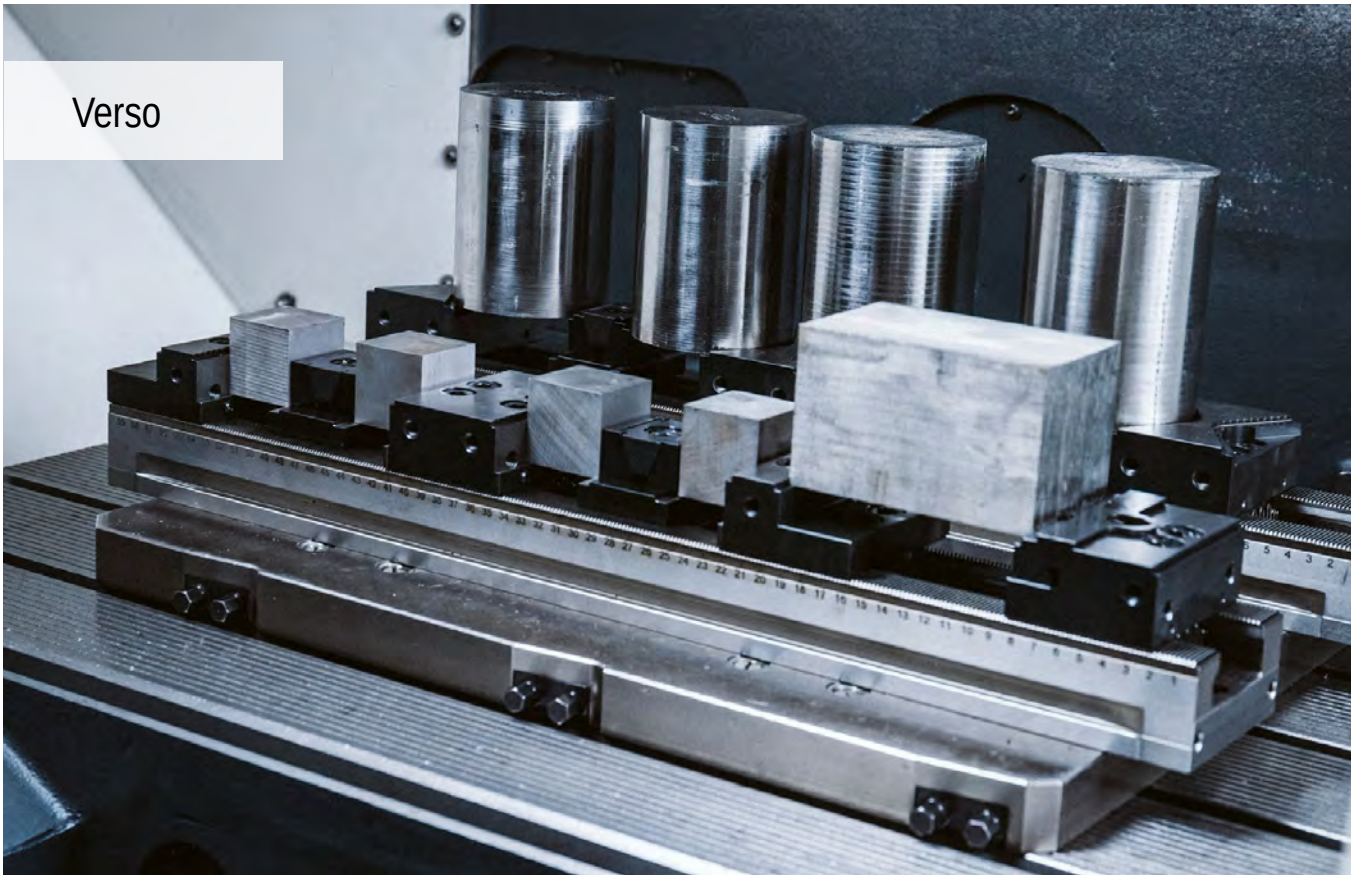
4 rotary blades and 4 tension springs

Size	80 399 ...	80 399 ...
small	36000	46000

PROJECTS IN THE BEST OF HANDS

Smart solutions for efficient machining processes

Benefit from our innovative tool concepts, many years of experience and professional advice to increase your productivity. You can rely on us to implement your project successfully!



The all-rounder for workpiece clamping

The new multiple vice enables you to easily clamp many small and large workpieces on a 3-, 4-, or 5-axis machine. Even slimmer jaws have further increased the part thickness.

Your benefits:

- ▲ Hardened and ground teeth ensure the highest level of precision and dimensional stability
- ▲ Fast jaw changeover system for fixed and adjustable jaws
- ▲ Full modular range for all types of machining centres
- ▲ Multi-clamping with wedge grip elements
- ▲ Extensive modular system jaw range
- ▲ Simple clamping bar extension with connecting element

Clamping/aligning:

Using T-slots or screws
Alignment in the T-slot (14, 16, 18 mm) with the matching alignment set for T-slots. For 12 mm T-slot: use two Ø 12 cylinder pins.

Using clamping claws
Alignment set and clamping using clamping claws attached at the side.

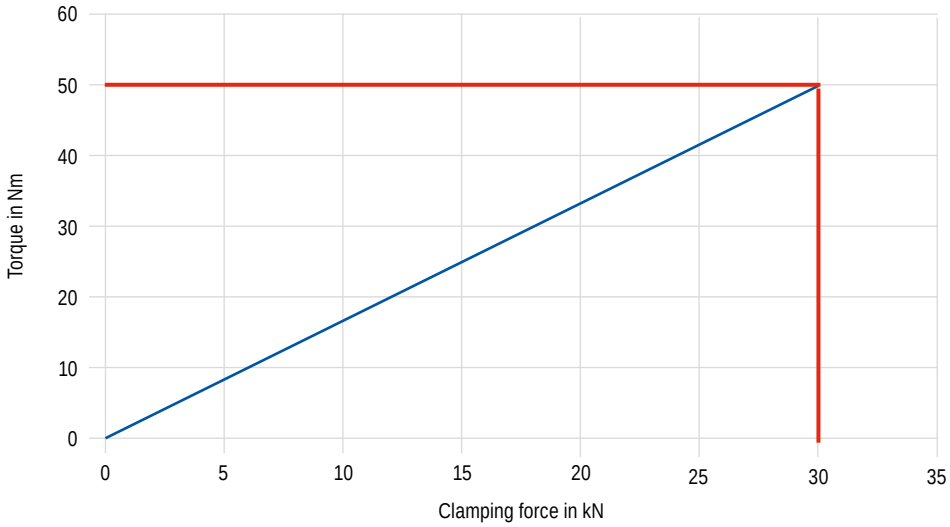
Using grid holes
Position and fasten the workpieces using two Ø12f7 / M12 dowel screws in the first and last holes of the clamping bar. Additional fastening using M12 cylindrical screws in the remaining holes.

Clamping/aligning:

With a zero point clamping system
The clamping bar is equipped with MNG interfaces that enable MNG clamping bolts to be attached (up to a base body length of 500 mm = 2 clamping bolts / from 600 mm upwards = 3 clamping bolts).

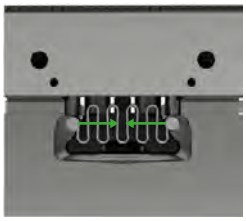
Clamping force:

Verso tightening torque/clamping force

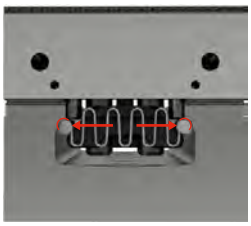


Quick jaw change for fixed and adjustable jaws

The Verso multiple vice is equipped with a quick jaw change system as standard. Simply use the two screws to release, remove or reposition the fixed and adjustable jaw. The jaws are removed in an upwards direction, allowing each jaw to be removed individually, without taking out any others. This reduces the set-up time significantly.



Release position



Clamping position

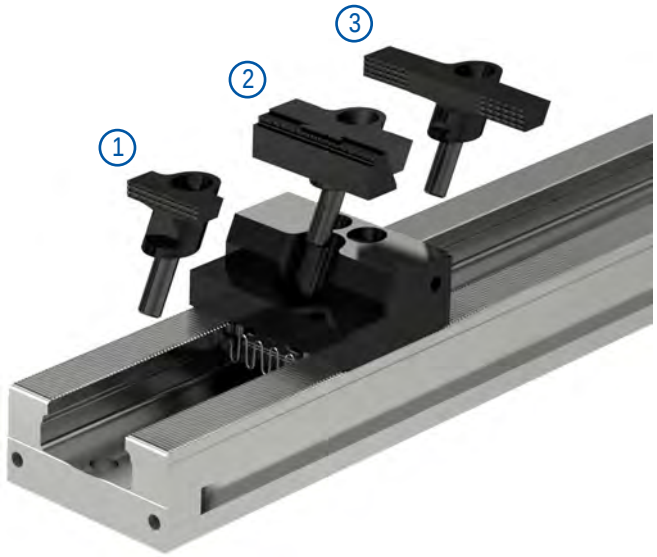
Undo screws

Take off and insert

Tighten screws

Quick jaw change

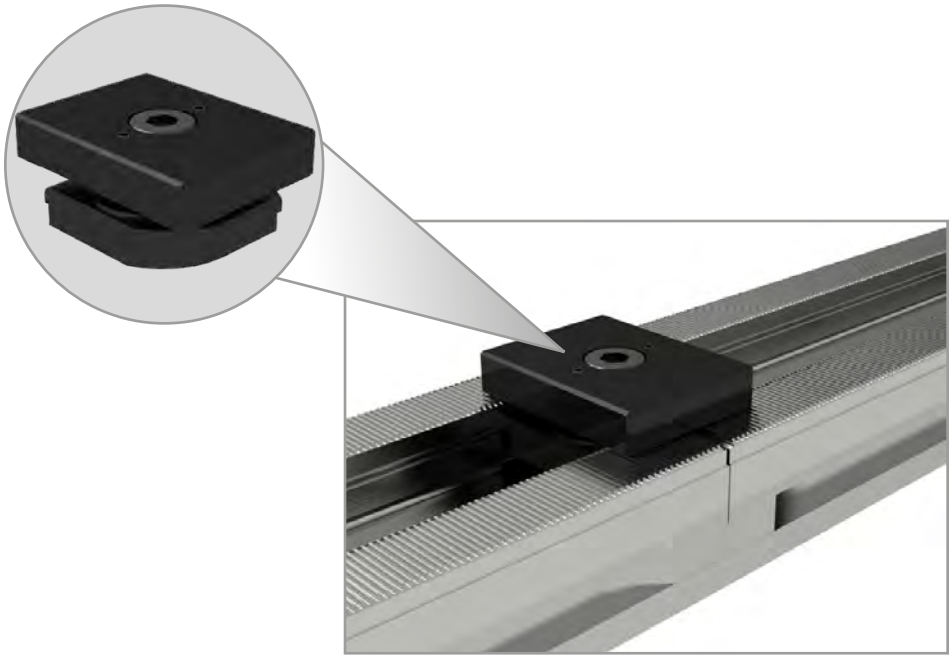
The fixed and adjustable jaws of the Verso multiple vice system are equipped with a quick jaw change system as standard. Two screws can be used to release and change the jaw, making jaw changes extremely quick.



1. Pull-down jaw grip
2. Parallel clamping jaw
3. Pendulum jaw grip with pull-down action

Connecting the clamping bars

A connecting element allows two or more Verso clamping bars to be combined with one another or extended.

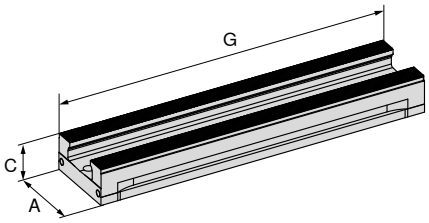


PolyClamp – Verso

- ▲ For single and multi-clamping
- ▲ Multi-clamping with wedge grip elements
- ▲ Workpieces can be clamped on 3-, 4- or 5-axis machine
- ▲ Adapter plates for MNG available

Scope of supply:
Body without jaws

Verso

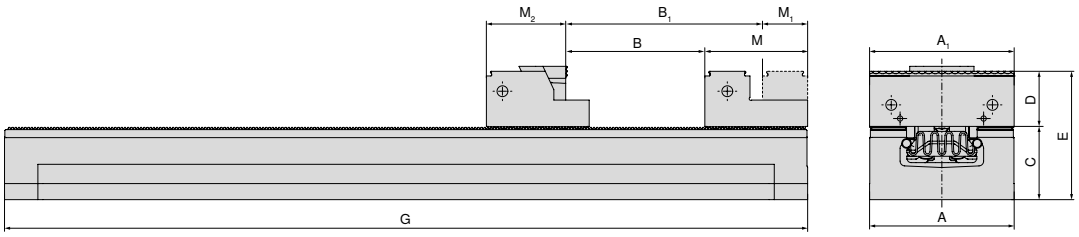


NEW

A mm	C -0.01 mm	G mm	MXC kN	WT kg	80 914 ...
90	45	260	0 - 50	5,0	09000
90	45	400	0 - 50	7,7	09100
90	45	500	0 - 50	9,6	09200
90	45	600	0 - 50	11,5	09300
90	45	650	0 - 50	12,5	09400

Verso – Structural dimension table

Clamping rail

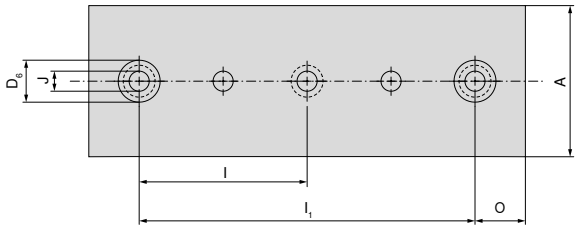


A mm	A_1 mm	B mm	B_1 mm	C mm	D mm	E mm	G mm	M mm	M_1 mm	M_2
90	40 / 65 / 90	145	181	45	35	80	260	64	28	53,5
90	40 / 65 / 90	285	321	45	35	80	400	64	28	53,5
90	40 / 65 / 90	385	421	45	35	80	500	64	28	53,5
90	40 / 65 / 90	485	521	45	35	80	600	64	28	53,5
90	40 / 65 / 90	535	571	45	35	80	650	64	28	53,5

When using the 90 mm pendulum jaw grip and parallel clamping jaws, dimensions B, B_1 and M_2 will differ.

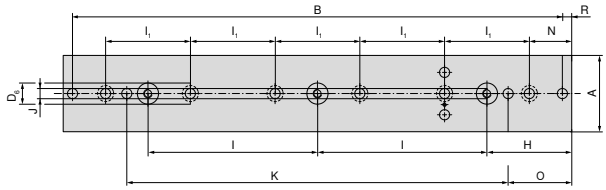
Verso underside dimensions

Base width 90 mm and length 260 mm



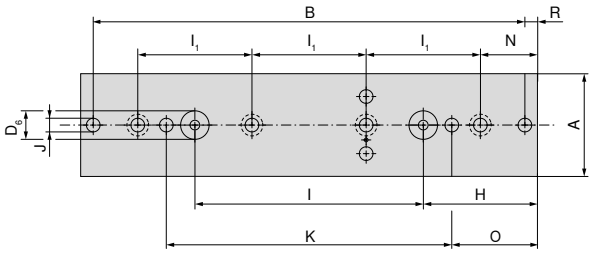
A mm	$D_{6\ H7}$ mm	$I_{\pm0,02}$ mm	$I_{1\ \pm0,02}$ mm	J_{F7} mm	O mm
90	25	100	200	12	30

Base width 90 mm and length 600 mm



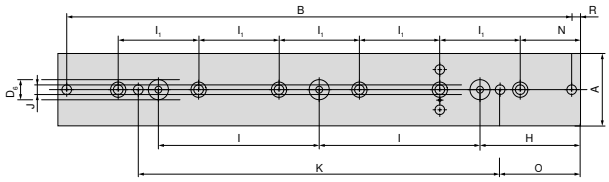
A mm	B mm	$D_{6\ H7}$ mm	$H_{\pm0,02}$ mm	$I_{\pm0,02}$ mm	$I_{1\ \pm0,02}$ mm	J_{F7} mm	K mm	N mm	O mm	R mm
90	578	25	100	200	100	12	450	50	75	11

Base width 90 mm and length 400 mm



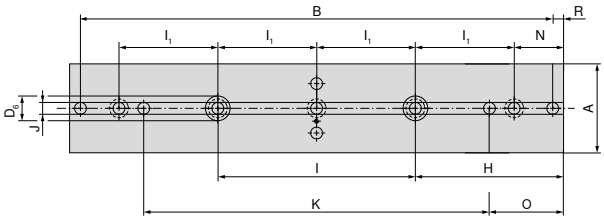
A mm	B mm	$D_{6\ H7}$ mm	$H_{\pm0,02}$ mm	$I_{\pm0,02}$ mm	$I_{1\ \pm0,02}$ mm	J_{F7} mm	K mm	N mm	O mm	R mm
90	378	25	100	200	100	12	250	75	50	11

Base width 90 mm and length 650 mm



A mm	B mm	$D_{6\ H7}$ mm	$H_{\pm0,02}$ mm	$I_{\pm0,02}$ mm	$I_{1\ \pm0,02}$ mm	J_{F7} mm	K mm	N mm	O mm	R mm
90	628	25	125	200	100	12	450	75	100	11

Base width 90 mm and length 500 mm

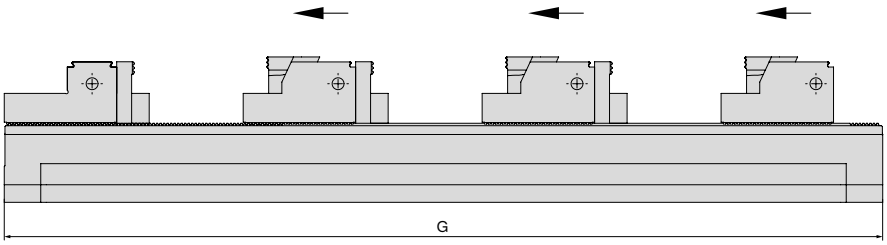


A mm	B mm	$D_{6\ H7}$ mm	$H_{\pm0,02}$ mm	$I_{\pm0,02}$ mm	$I_{1\ \pm0,02}$ mm	J_{F7} mm	K mm	N mm	O mm	R mm
90	478	25	150	200	100	12	350	50	75	11

Verso – Overview of clamping ranges

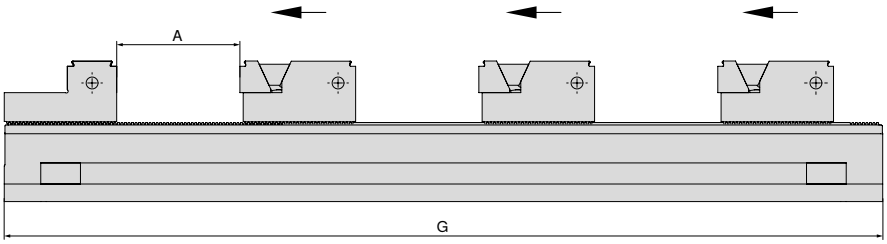
The clamping range shows the max. workpiece size depending on the number of clamping points for the individual clamping bar lengths.

Adjustable jaws with 40 mm pull-down jaw grip



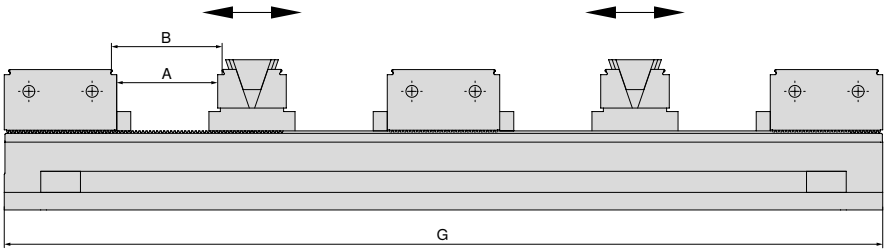
G mm	Number of workpieces 1	2	3	4	5	6	7	Article no. Vices
260	134	36	–	–	–	–	–	80 914 09000
400	274	106	50	22	–	–	–	80 914 09100
500	374	156	82	45	24	–	–	80 914 09200
600	474	206	116	72	44	26	–	80 914 09300
650	524	230	135	84	54	34	20	80 914 09400

Adjustable jaws with parallel clamping jaws



G mm	Number of workpieces 1 A	2 A	3 A	4 A	5 A	6 A	7 A	8 A	9 A	Article no. Vices
260	175	59	–	–	–	–	–	–	–	80 914 09000
400	315	129	67	27	10	–	–	–	–	80 914 09100
500	415	179	100	61	30	15	–	–	–	80 914 09200
600	515	229	133	86	57	32	19	10	–	80 914 09300
650	565	254	150	98	67	46	26	16	8	80 914 09400

With wedge grip elements

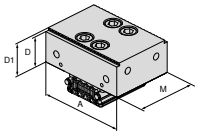


G mm	Number of workpieces 2 A	2 B	4 A	4 B	6 A	6 B	8 A	8 B	Article no. Vices
260	45	50	–	–	–	–	–	–	80 914 09000
400	115	120	31	36	–	–	–	–	80 914 09100
500	165	170	56	61	19	24	–	–	80 914 09200
600	215	220	81	86	36	41	14	19	80 914 09300
650	240	245	93	98	44	49	20	25	80 914 09400

System jaws overview

Stop jaw, fixed

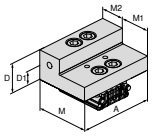
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		34,9	32			64				80 914 31800												●	

Indexable jaw, fixed

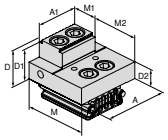
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		34,9	17			64	35,9	28,1		80 914 32000												●	

Stop jaw, fixed

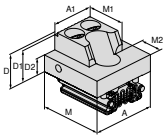
▲ with indexing teeth
▲ profiled clamping surfaces
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	65		34,9	32	17		64	28,1	35,9		80 914 31100												●	
90	65	40	34,9	32	17		64	28,1	35,9		80 914 31000												●	
90	90		34,9	32	17		64	28,1	35,9		80 914 31200												●	

Reversible adjustable jaw profiled

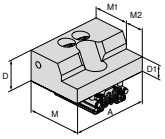
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	65		34,9	32	17		64	42	22		80 914 31400												●	
90	65	40	34,9	32	17		64	42	22		80 914 31300												●	
90	90		34,9	32	17		64	42	22		80 914 31500												●	

Reversible adjustable jaw, smooth

▲ Price per piece

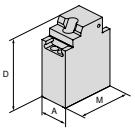


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2		NEW	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		34,9	17			64	42	22		80 914 31600												●	

System jaws overview

Reversible adjustable jaw, high

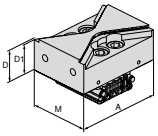
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	65		164,3				124				80 914 31700												●	

Prismatic jaw

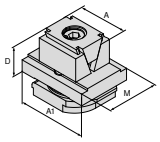
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		34,9	32			64				80 914 31900												●	

Wedge jaw

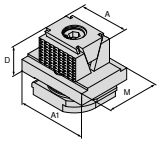
▲ Price per piece

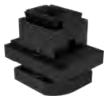


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2		NEW	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40	65	35				49				80 914 32100												●	
90	40	65	39				49				80 914 32400												●	

Wedge grip jaw

▲ Price per piece

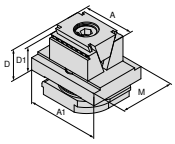




For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2		NEW	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40	65	35				49				80 914 32200												●	
90	40	65	39				49				80 914 32500												●	

Wedge grip jaw, 3 mm

▲ Price per piece

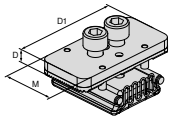


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2		NEW	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40	65	35	32			49				80 914 32300												●	

System jaws overview

Base jaw

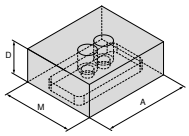
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90			9,1	80			40			80 914 34100												●	

Soft Alu-jaw

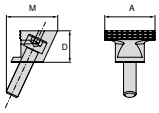
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		34,9				75			80 914 34200												●	

Pull-down jaw, grip

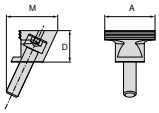
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40		25				41			80 914 32600												●	

Pull-down jaw, grip – round

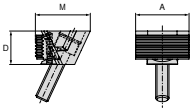
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40		25				41			80 914 32700												●	

Parallel clamping jaw, grip – round

▲ Price per piece

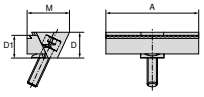


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2	NEW	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40		25				41			80 914 32800												●	

System jaws overview

Parallel clamping jaw

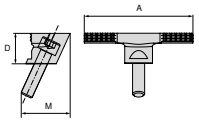
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40		25	22			41			80 914 32900												●	
90	65		25	22			41			80 914 33000												●	
90	90		25	22			41			80 914 33100												●	

Pendulum jaw, grip

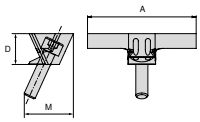
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		25				41			80 914 33200												●	

Clamping Wedge

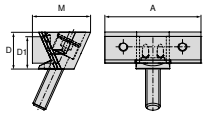
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		25				41			80 914 33300												●	

Parallel clamping jaw, smooth

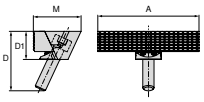
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40		25	22			41			80 914 33400												●	
90	65		25	22			41			80 914 33500												●	
90	90		25	22			41			80 914 33600												●	

Parallel clamping jaw, grip

▲ Price per piece

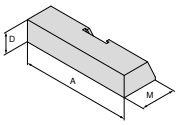


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2	NEW	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		25				42,5			80 914 33700												●	

System jaws overview

Jaw, steel

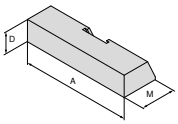
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		18				30			80 914 33800												●	

Jaw, alu

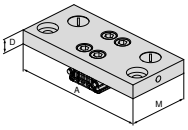
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		17				30			80 914 33900												●	

Fixed adaptor jaw

▲ to accommodate 6-way reversible jaws
▲ Price per piece

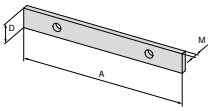


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2		NEW NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	160		17				74			80 914 34000												●	

Workpiece supports overview

Workpiece support

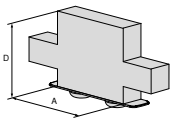
▲ Price for 2 pieces



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		11				3			80 914 73100												●	

Workpiece supports, offset

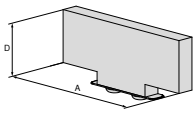
▲ Price for 2 pieces



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	40		30							80 914 70200												●	
90	40		25							80 914 70100												●	

Workpiece supports, offset

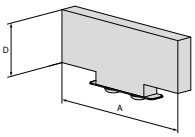
▲ Price for 2 pieces



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	65		11							80 914 71100												●	
90	65		17							80 914 71200												●	
90	65		25							80 914 71300												●	
90	65		30							80 914 71400												●	

Workpiece supports, offset

▲ Price for 2 pieces



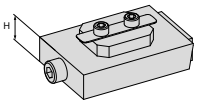
For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2	NEW	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
90	90		11							80 914 72100												●	
90	90		17							80 914 72200												●	
90	90		25							80 914 72300												●	
90	90		30							80 914 72400												●	

System accessories overview

Adjustable stop with basic body

▲ for vibration damping

Verso



NEW

H mm	80 914 ...
16	50100

Clamping Screw Set for T-slot for MNG

Scope of supply:
Clamping screw and T-Nuts

Verso

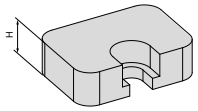
NEW

for slot width mm	G	80 914 ...
20	M12	50500
22	M12	50600
24	M12	50700

Support

▲ for vibration damping

Verso



NEW

H mm	80 914 ...
8 (25)	50200
13 (30)	50300

Alignment Pin

Verso

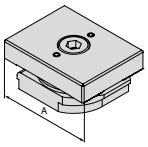
NEW

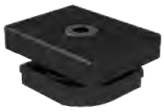
D_1 mm	D_2 mm	80 914 ...
12	14	81400
12	16	81600
12	18	81800

Joint

▲ to connect 2 basic bodies

Verso



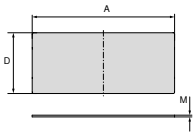


NEW

A mm	80 914 ...
90	50400

Cover

Verso



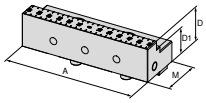
NEW

A mm	D mm	M mm	80 914 ...
50	84	0,5	51000
50	86	0,5	50800
200	86	0,5	50900

Overview of ESG 5 system jaws

Indexable jaw, smooth, fixed

▲ Price per piece

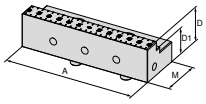


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2	NEW	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
80	80		28				40			80 857 30400					●								
125	125		33				57			80 857 30300					●								

Overview of ESG 5 / ZSG 4 system jaws

Indexable jaw, smooth, movable

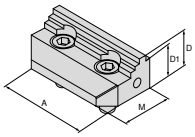
▲ Price per piece



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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
80	80		28				40			80 878 34700					●			●					
125	125		33				57			80 878 34600					●			●					

Stepped jaw, smooth, movable

▲ 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	ESG mini	HDG 2	ZSG 4	ZSG mini	DSG 4	MSG 2	Verso	HSG
80	80		28	24			40			80 878 34400								●					
125	125		33	27			57			80 878 34500								●					

Overview of ZSG mini system accessories

Allen cap screw

▲ Price per piece

ZSG mini

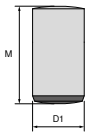
NEW

G	80 912 ...
M6x25	50100

Cylindrical pin

▲ Price per piece

ZSG mini



NEW

$D_{1\ m6}$ mm	M mm	80 912 ...
12	18	50200

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Certified recycling of valuable carbide

By deliberately conserving limited primary resources, we aim to significantly increase the proportion of recovered materials using carbide recycling. Our certified recycling process allows us to transform our used carbide products into a reusable powder and, using extremely low amounts of energy, to completely convert the finished product back into its original form.

Join our sustainable material cycle

As part of our long-term partnership, we hope that we can together complete the cycle from the secondary raw material to a new finished product. Send us your used carbide. We will then process it in the approved manner. The price we offer for the returned carbide is always based on the current market price. Best of all: We take care of the entire process for you and also provide free, quantity-specific collection containers and transport solutions. Do you want to conserve valuable resources and make an important contribution to protecting the environment together with us? If so, our recycling process is just what you need.

CERATIZIT WNT PRO CYCLING

The CERATIZIT-WNT Pro Cycling Team

No other sport reflects CERATIZIT's corporate values better than cycling. And at the same time it has a direct link to the products that we develop, manufacture and sell on a daily basis: high-quality precision tools for the cutting tools industry.

CERATIZIT-WNT PRO CYCLING TEAM

Learn more

HIGH QUALITY PERFORMANCE JUST LIKE OUR CUTTING TOOLS

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