UP2DATE

Stable roughing with turbo feeds!

Maximum process security including for difficult-to-access components.

... OUR LATEST HIGHLIGHTS

- The **MaxiMill – Tangent** rough milling system compatible with actively vibration-damped shell mill adapters
- The **WTX – Micropilot** drill for extremely demanding machining operations on the smallest components with maximum precision
- Robust side and face milling cutter, the **MaxiMill – Slot-SNHX** for extra-soft cuts

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

Tooling a Sustainable Future

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CERATIZIT GROUP

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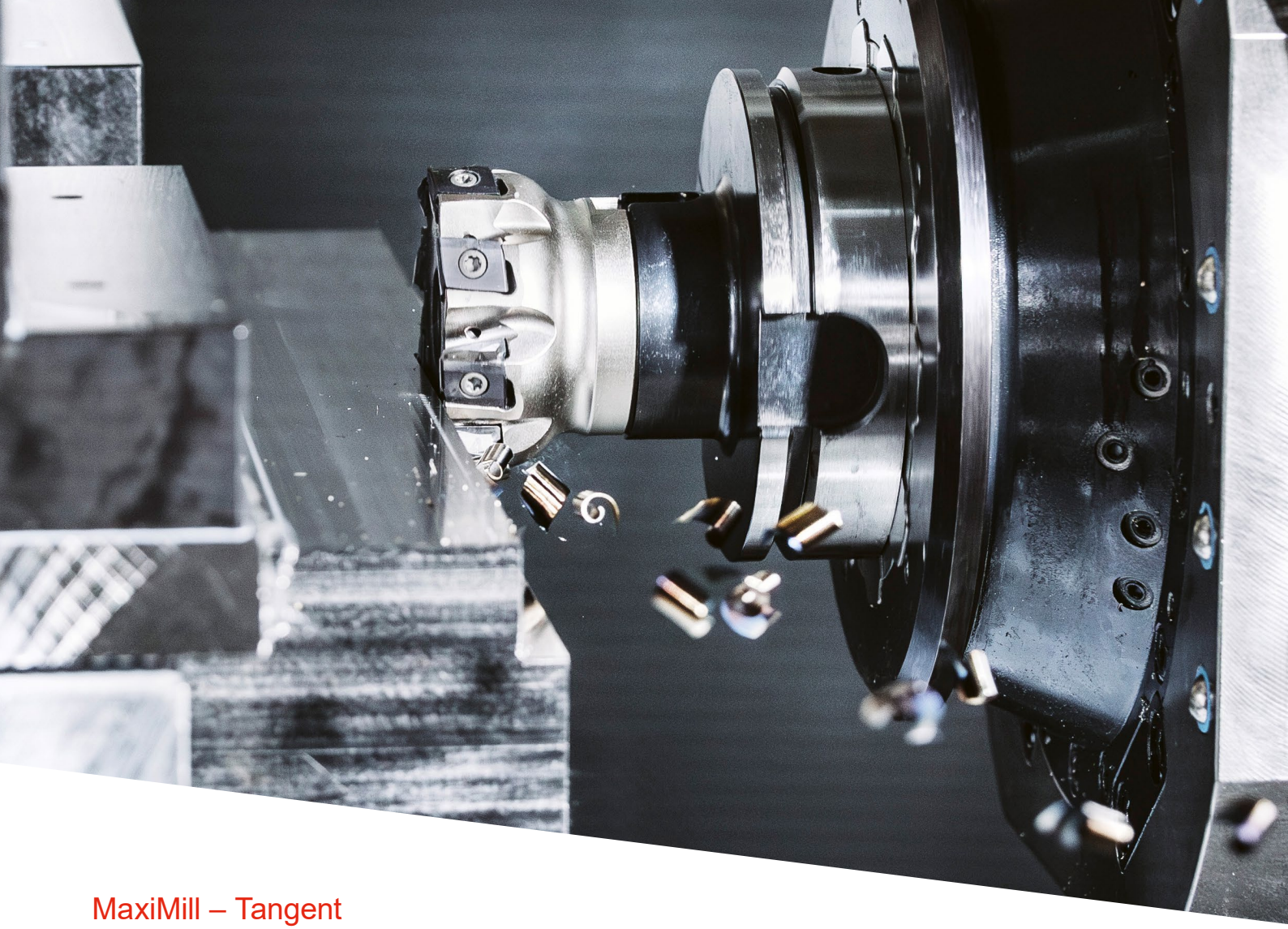


MaxiMill – Tangent

Stable roughing of steel and cast iron

CERATIZIT

Tangential indexable insert milling cutter with maximum tooth utilisation

The MaxiMill – Tangent guarantees the best cutting edge stability for turbo feeds

Do you know that? Do you have to process a component and can't see the process because of all the disruptive contours? Face milling cutters are completely out of the running, especially when long overhang lengths make stable, low-vibration machining impossible.

What might at first glance appear an insoluble dilemma, just needs the right tool – like the new **MaxiMill – Tangent**. This tangential indexable insert cutter shows its true colours when machining steel and cast iron components.

→ **from page 37**
You can find further information on the product here.

cts.ceratizit.com/en/maximill-tangent

The advantages of the MaxiMill – Tangent at a glance

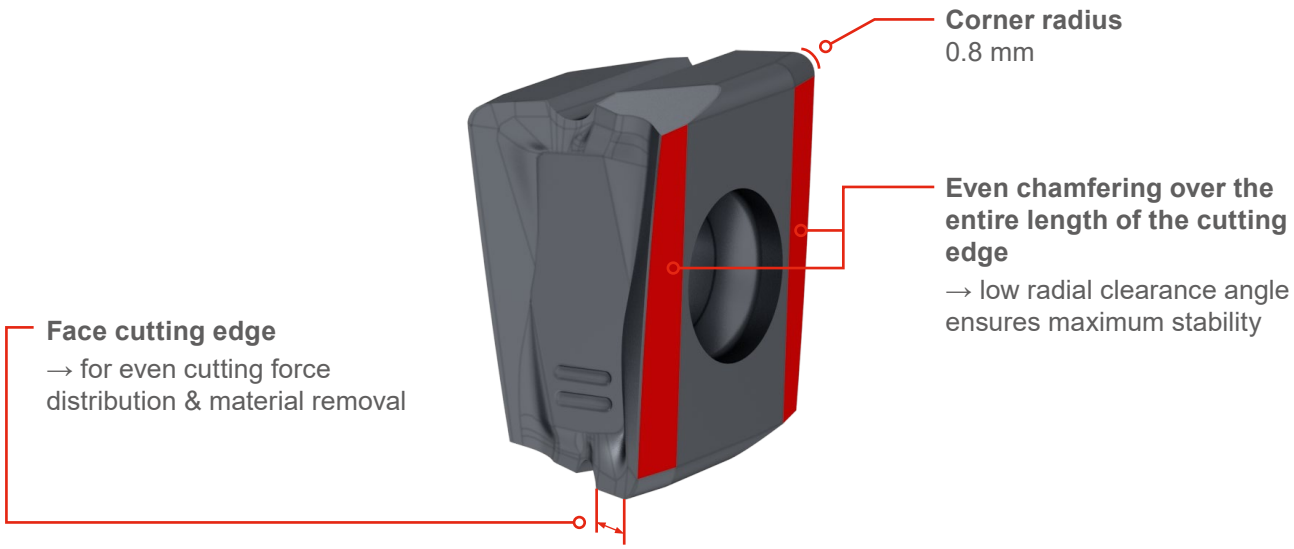
- ▲ stable, soft-cutting system
- ▲ rugged design permits up to 50% greater feed rate per tooth
- ▲ wide variety of tool holders with different connections:
  G (thread) / A (shell mill adapter) / C (cylindrical shank)
- ▲ maximum number of teeth on the milling body thanks to tangential clamping
- ▲ the best axial and concentric run-out properties due to precision-ground inserts
  and tight manufacturing tolerances for the tool holder
- ▲ reduced vibration thanks to irregular tooth pitch
- ▲ better accessibility allows for rapid tool change

... also compatible with actively vibration-damped adapter

→ for maximum process security including
for difficult-to-access components

Ground indexable insert with extra-stable cutting edges

- ▲ Indexable inserts for diverse applications **P** / **K** / S / M
- ▲ 4 usable cutting edges
- ▲ Chip breakers: -F50 and -M50
- ▲ Precision-ground indexable inserts (size -09 and -13)
- ▲ Max. depth of cut:
  - with insert size -09 > 8 mm
  - with insert size -13 > 12 mm



Maximum cutting edge stability

▼

High feed rates possible

Increased tool life

▼

Increase in performance & productivity

„Thanks to the super-stable design, the powerful, four-edged indexable inserts and tangential clamping by the **MaxiMill – Tangent**, we are now able to machine components with interference contours easily and economically – using the integrated feed turbo.“

Robert Frei, Product Manager Indexable Insert Milling Systems

WTX – Micropilot

Fewer tool changes, time and cost savings – with maximum precision

Our latest development, the WTX – Micropilot, makes the impossible possible. Whereas in the past, spot drilling on angled or curved surfaces would only have been possible with prior spot-facing for each milling cutter, now you only need one tool: the WTX – Micropilot. What if you want to produce a 90° countersink at the hole entrance, say? The WTX – Micropilot lets you do it in a single machining operation. So there is no need to change the tool, saving you time and money.

Perfectly adapted for use with our microdrill, the WTX – Micro (8xD – 30xD), the pilot drill is used up to a hole depth of 2.5xD. Its sophisticated end geometry with 160° point angle allows for clean plunging and avoids wandering by the main drill. The special Dragonskin coating ensures optimum chip evacuation and a longer tool life.

WNT

→ **from page 12**
You can find further information on the product here.

cts.ceratizit.com/en/wtx-micro

The advantages of the WTX – Micropilot:

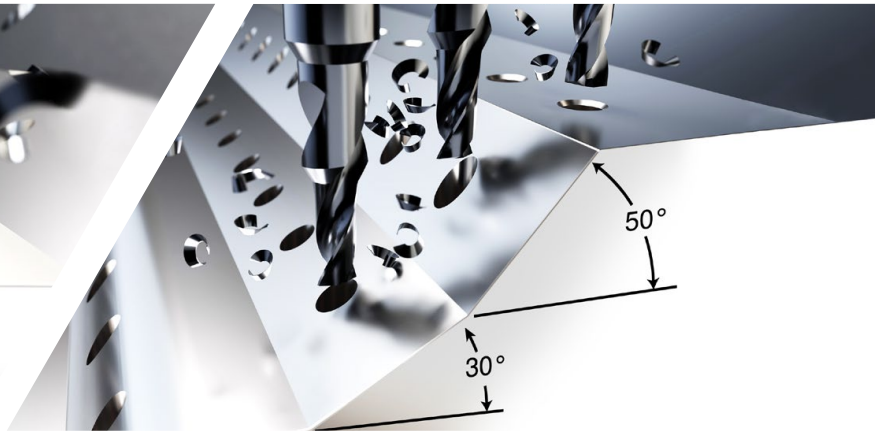
- State-of-the-art: substrate, geometry, coating
- WTX – Micropilot (pilot drill) and WTX – Micro (deep hole drill) are perfectly attuned to one another
- Extremely tight tolerances ensure the deep hole drill does not wander
- Optimum chip evacuation thanks to sophisticated end geometry and DPX74M Dragonskin coating
- 90° countersink at the hole entrance possible (with flat drilling application)

Maximum productivity and process security thanks to optimised geometry and high-performance coating

- Direct spot drilling of straight, angled and curved surfaces with an angle of inclination of up to 50°

Significant saving in time and money as there is no need for an additional tool – 2 instead of 3 process steps

Direct spot drilling of convex and concave surfaces possible



Direct spot drilling of angled surfaces up to 50° or 90° countersink with flat drilling application

MaxiMill – Slot-SNHX

Robust side and face milling cutter system for soft cuts

CERATIZIT

MaxiMill – Slot-SNHX: Slot milling like a knife through butter

Fabricators who need to produce slots in steel, stainless steel, cast material or aluminium frequently have to battle with unstable machining processes. The solution to this long-standing problem can be found in soft-cutting side and face milling cutters that are suitable for universal application to meet varied challenges while saving on costs per cut. The **MaxiMill – Slot SNHX system** steps up to the mark here, thanks to its wide-ranging portfolio of tool holders and indexable inserts, effectively covering cutting widths from 6 mm to 16 mm and diameters from 50 mm to 200 mm.

→ **from page 43**
You can find further information on the product here.

cts.ceratizit.com/en/maximill-slot-snhx

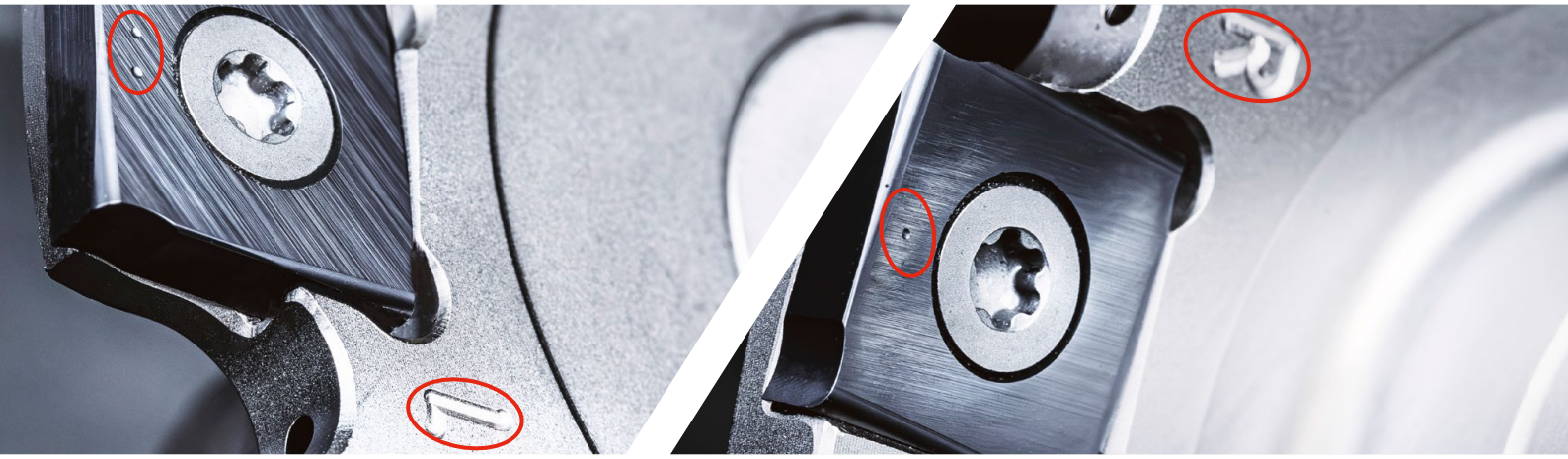
Advantage/benefit

Cutter body

- ▲ Wide variety of tool holders with different connections: G (thread), A (shell mill adapter) and C (cylindrical shank)
- ▲ Cutting widths from 6 mm to 16 mm and diameters from 50 mm to 200 mm
- ▲ Excellent performance and process security via demand-driven thro' coolant
- ▲ Reduced risk of chip jams due to cut distribution
- ▲ No disruptive contours on the face due to tight manufacturing tolerances for the tool holder
- ▲ System easily adapts to special sizes and special tools

Indexable insert

- ▲ Reliable indexable inserts with wide range of applications **P** / **M** / **K** / N
- ▲ The best axial and concentric run-out properties due to precision-ground inserts
- ▲ Flat flute base and good clearance thanks to ground indexable inserts and adapted insert installation position in the tool holder
- ▲ Key feature of inserts and supports → ease of installation



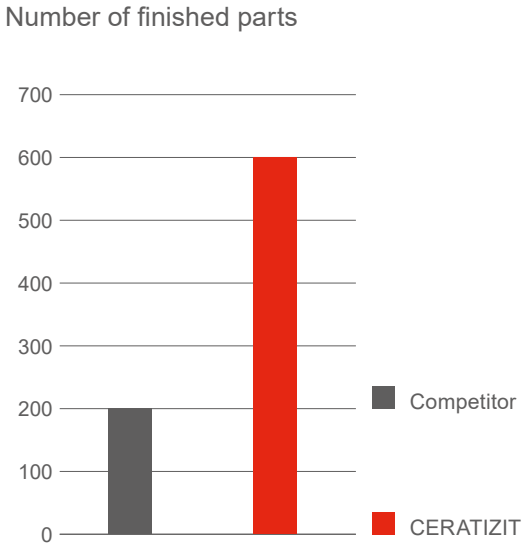
L ●● left-hand insert

R ● right-hand insert

The new MaxiMill – Slot SNHX in tool life test

Application:	Reverse-side machining
Material:	SG-Iron 500 / EN-GJS 500
Tool:	MaxiMill – Slot-SNHX
a_p:	3 mm
a_e:	42 mm
Tool life:	600 pieces

- ▲ Better handling thanks to large indexable insert clamping screw
- ▲ Softer cut than competitors due to ground cutting edge
- ▲ Less time and effort for setting up due to improved service life and fewer indexable inserts



TEST RESULTS

Superior performance, tool life and ease of handling!

Pilot drill

WTX – Micropilot

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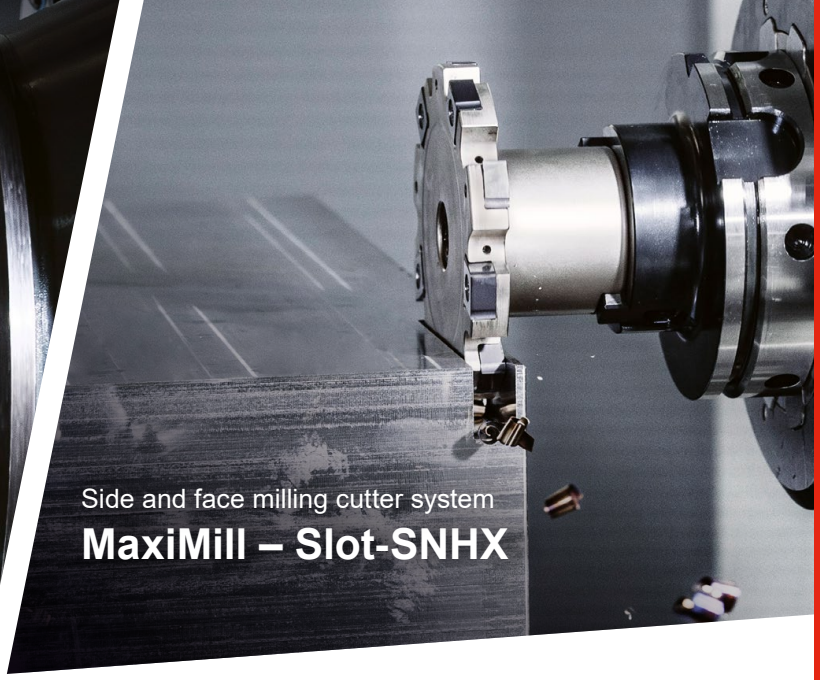
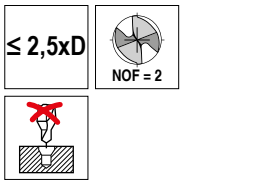
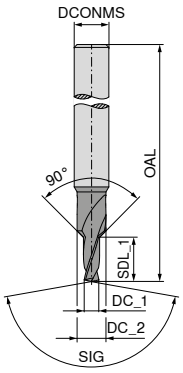


Continue to the product pages

WTX – Pilot drill 90°

- ▲ Specialised pilot drill for WTX – Micro deep hole drill (8xD–30xD)
- ▲ Direct spot drilling of angled and curved surfaces up to 50° angle of inclination possible
- ▲ 90° countersink at hole entrance can be achieved on flat spot drilling surface





NEW

MICRO PILOT

DPX74M

DRAGONSKIN

SIG 160°

Solid carbide

10 692 ...

DC_1 m6 mm	DC_2 mm	DCONMS h6 mm	OAL mm	SDL_1 mm	
0,8	1,7	4	55	2,00	**00800**
0,9	1,7	4	55	2,25	**00900**
1,0	2,0	4	55	2,50	**01000**
1,1	2,0	4	55	2,75	**01100**
1,2	2,0	4	55	3,00	**01200**
1,3	2,5	4	55	3,25	**01300**
1,4	2,5	4	55	3,50	**01400**
1,5	3,0	4	55	3,75	**01500**
1,6	3,0	4	55	4,00	**01600**
1,7	3,0	4	55	4,25	**01700**
1,8	3,5	4	55	4,50	**01800**
1,9	3,5	4	55	4,75	**01900**
2,0	3,5	6	65	5,00	**02000**
2,1	3,5	6	65	5,25	**02100**
2,2	4,5	6	65	5,50	**02200**
2,3	4,5	6	65	5,75	**02300**
2,4	4,5	6	65	6,00	**02400**
2,5	4,5	6	65	6,25	**02500**
2,6	4,5	6	65	6,50	**02600**
2,7	5,0	6	65	6,75	**02700**
2,8	5,0	6	65	7,00	**02800**
2,9	5,0	6	65	7,25	**02900**

P	●
M	○
K	●
N	
S	●
H	
O	

→ v_c Page 13
→ Machining information: Page 14+15

Cutting data standard values – WTX – Micropilot

	Material sub-group	Index	Tensile strength N/mm²* / HB / HRC	10 692 ... without through coolant v_c (m/min)	2,5xD ≤ Ø 1 f (mm/rev)	> Ø 1–1,25	> Ø 1,25–1,5	> Ø 1,5–2	> Ø 2–2,5	> Ø 2,5–3
P	Unalloyed steel	P.1.1	420 N/mm² / 125 HB	**70**	0,010	0,013	0,015	0,019	0,022	0,025
		P.1.2	640 N/mm² / 190 HB	**60**	0,010	0,013	0,015	0,019	0,022	0,025
		P.1.3	840 N/mm² / 250 HB	**60**	0,010	0,013	0,015	0,019	0,022	0,025
		P.1.4	910 N/mm² / 270 HB	**60**	0,010	0,013	0,015	0,019	0,022	0,025
		P.1.5	1010 N/mm² / 300 HB	60	0,010	0,013	0,015	0,019	0,022	0,025
	Low-alloy steel	P.2.1	610 N/mm² / 180 HB	**70**	0,010	0,013	0,015	0,019	0,022	0,025
		P.2.2	930 N/mm² / 275 HB	**60**	0,010	0,013	0,015	0,019	0,022	0,025
		P.2.3	1010 N/mm² / 300 HB	60	0,010	0,013	0,015	0,019	0,022	0,025
		P.2.4	1200 N/mm² / 375 HB							
	High-alloy steel and high-alloy tool steel	P.3.1	680 N/mm² / 200 HB	**60**	0,010	0,013	0,015	0,019	0,022	0,025
		P.3.2	1100 N/mm² / 300 HB	50	0,010	0,013	0,015	0,019	0,022	0,025
		P.3.3	1300 N/mm² / 400 HB							
	Stainless steel	P.4.1	680 N/mm² / 200 HB	**50**	0,005	0,006	0,007	0,010	0,013	0,015
		P.4.2	1010 N/mm² / 300 HB	**35**	0,005	0,006	0,007	0,010	0,013	0,015
M	Stainless steel	M.1.1	610 N/mm² / 180 HB	40	0,005	0,006	0,007	0,010	0,013	0,015
		M.2.1	300 HB	40	0,005	0,006	0,007	0,010	0,013	0,015
		M.3.1	780 N/mm² / 230 HB	40	0,005	0,006	0,007	0,010	0,013	0,015
K	Grey cast iron	K.1.1	350 N/mm² / 180 HB	**70**	0,010	0,013	0,015	0,019	0,022	0,025
		K.1.2	500 N/mm² / 260 HB	**70**	0,010	0,013	0,015	0,019	0,022	0,025
	Spherulitic graphite cast iron	K.2.1	540 N/mm² / 160 HB	**70**	0,010	0,013	0,015	0,019	0,022	0,025
		K.2.2	845 N/mm² / 250 HB	**70**	0,010	0,013	0,015	0,019	0,022	0,025
	Malleable iron	K.3.1	440 N/mm² / 130 HB	**70**	0,010	0,013	0,015	0,019	0,022	0,025
		K.3.2	780 N/mm² / 230 HB	**70**	0,010	0,013	0,015	0,019	0,022	0,025
N	Aluminium wrought alloy	N.1.1	60 HB							
		N.1.2	340 N/mm² / 100 HB							
	Cast aluminium 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	**15**	0,005	0,006	0,007	0,010	0,013	0,015
		S.1.2	950 N/mm² / 280 HB	**15**	0,005	0,006	0,007	0,010	0,013	0,015
		S.2.1	840 N/mm² / 250 HB	10	0,005	0,006	0,007	0,010	0,013	0,015
		S.2.2	1180 N/mm² / 350 HB	10	0,005	0,006	0,007	0,010	0,013	0,015
		S.2.3	1080 N/mm² / 320 HB	10	0,005	0,006	0,007	0,010	0,013	0,015
	Titanium alloys	S.3.1	400 N/mm²	**30**	0,005	0,006	0,007	0,010	0,013	0,015
		S.3.2	1050 N/mm² / 320 HB	**20**	0,005	0,006	0,007	0,010	0,013	0,015
		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 depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

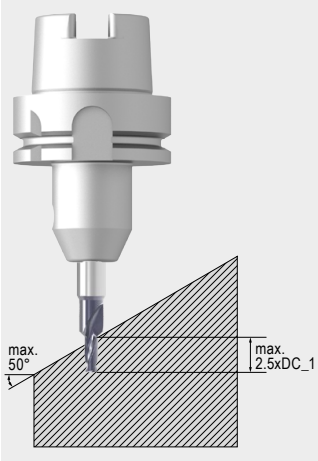
WTX – Micropilot application recommendation

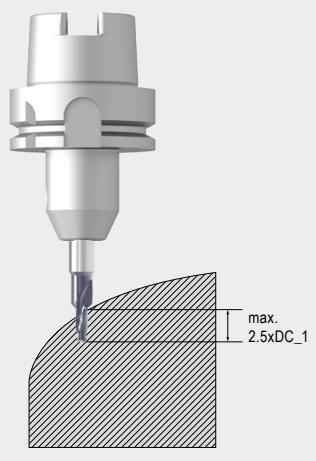
General references

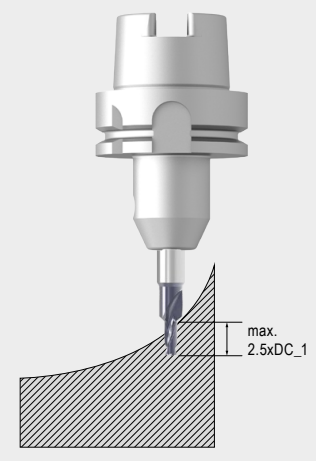
It is advisable to use the tool with external cooling. Be careful to ensure that the coolant is aimed directly at the tool tip. This will ensure that there is adequate cooling and effective chip evacuation.
Apply our cutting data recommendations when using the tool.

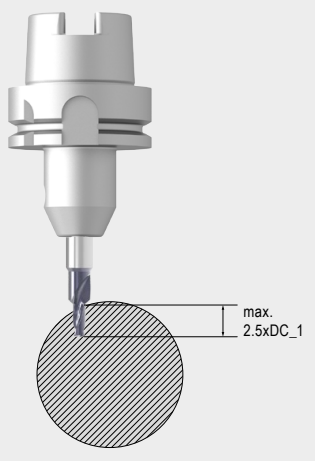
1. Pilot hole in angled or curved surfaces

Produce pilot hole in one go up to a maximum hole depth of 2.5xD. Angled or curved surfaces can be machined up to a max. inclination of 50° without prior spot-facing. Applying a countersink at the hole entrance is not possible on angled or curved surfaces.



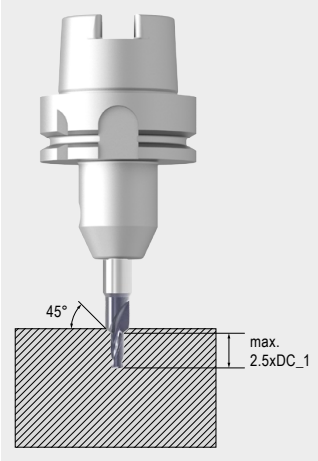






2. Pilot drill with 90° chamfer

Produce pilot hole in a single sweep. If required, a 90° chamfer can additionally be produced at the hole entrance (with flat drilling application) after the 2.5xD hole depth is reached.

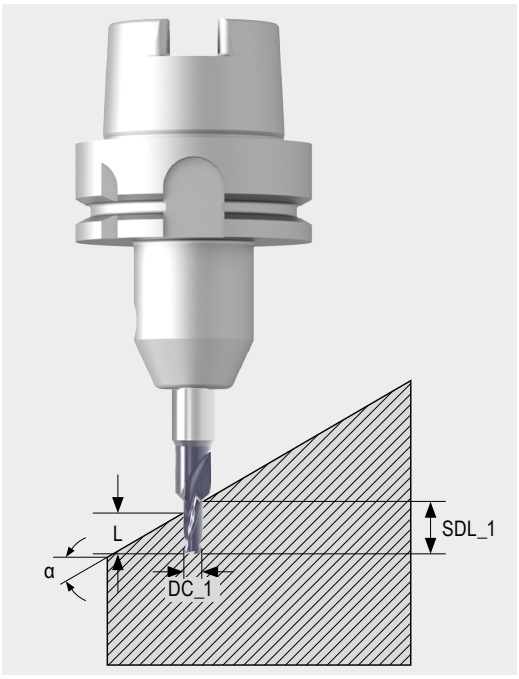


Calculating pilot hole depth with angled drilling application

With an angled drilling application, the remaining depth of the pilot hole will change depending on the angle of inclination. This can be determined using the formula below:

$$L = SDL\_1 - (DC\_1 \times \tan(\alpha))$$

DC_1 = Cutting diameter
SDL_1 = Step length (max. 2.5xDC_1)
α = Component surface angle of inclination (max. 50°)
L = Remaining pilot hole depth

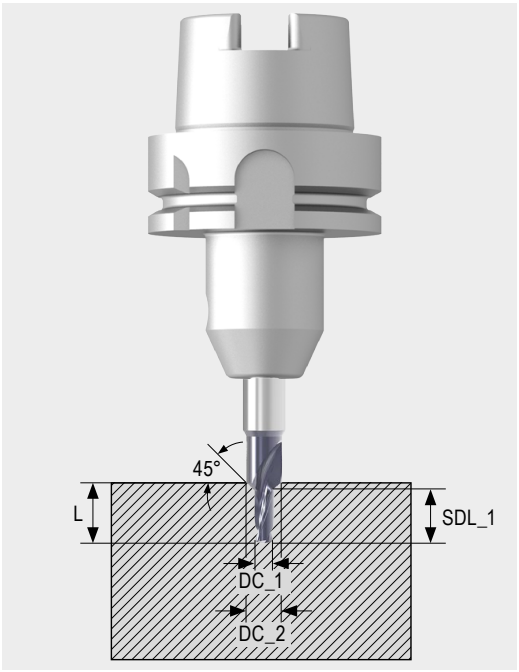


Calculating maximum hole depth with 90° countersink

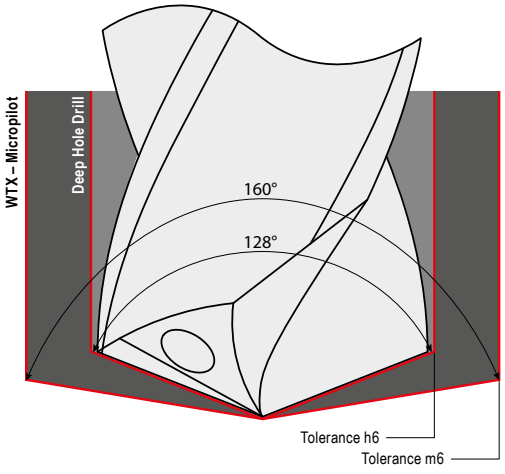
The maximum hole depth incl. 90° countersink can be found using the formula below.

$$L = \left(\frac{DC\_2 - DC\_1}{2}\right) + SDL\_1$$

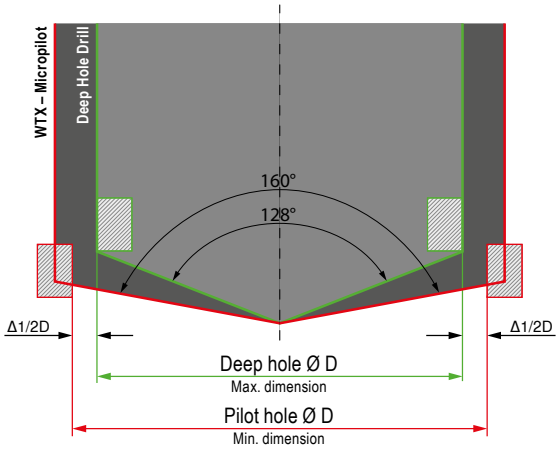
DC_1 = Cutting diameter
DC_2 = Max. countersink diameter
SDL_1 = Step length (max. 2.5xDC_1)
L = Max. hole depth incl. countersink



Tolerances and angles

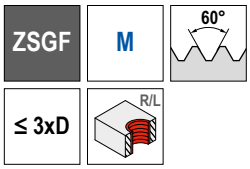


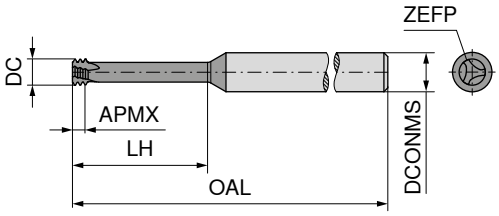
The following must apply to use the pilot and deep hole twist drill consecutively and without collisions:
ΔD = ØD (pilot hole) – ØD (deep hole) > 0



MonoThread – Circular shank thread milling cutter

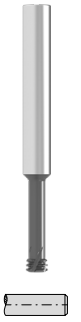
▲ Profile corrected





NEW

AlTiN



Solid carbide

50 545 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	ZEFP	
1,53	M2	0,40	39	0,80	6,0	3	3	**02000**
2,37	M3	0,50	58	1,35	9,5	6	3	**03000**
3,10	M4	0,70	58	1,95	12,5	6	3	**04000**
3,80	M5	0,80	58	2,30	16,0	6	3	**05000**
4,65	M6	1,00	58	2,70	20,0	6	3	**06000**
6,00	M8	1,25	58	3,20	24,0	6	3	**08000**
7,80	M10	1,50	64	3,80	31,5	8	3	**10000**
9,00	M12	1,75	73	4,55	37,8	10	3	**12000**

NEW

50 550 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	ZEFP	
1,53	M2	0,40	39	1,00	10,4	3	3	**02000**[1)]
2,37	M3	0,50	39	1,30	12,5	3	3	**03000**
3,10	M4	0,70	58	1,80	16,7	6	3	**04000**
4,00	M5	0,80	58	2,10	20,8	6	3	**05000**
4,80	M6	1,00	58	2,55	25,0	6	3	**06000**
6,40	M8	1,25	64	3,15	33,5	8	3	**08000**
8,00	M10	1,50	76	3,85	41,5	8	3	**10000**

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1) 5xD

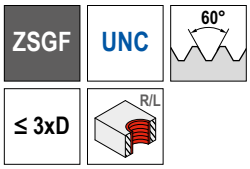
→ v_c/f_z Page 21

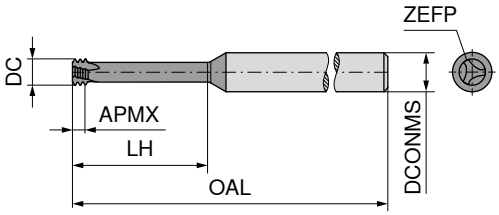
→ **Chapter 7 – Circular and Thread Milling**

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

MonoThread – Circular shank thread milling cutter

▲ Profile corrected





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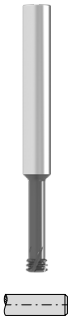
AlTiN



Solid carbide

50 557 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	ZEFP	
3,678	UNC No.10-No.12	1,058	58	3,17	15,5	6	3	**01000**
4,697	UNC 1/4	1,27	58	3,81	19,0	6	3	**01400**
6,000	UNC 5/16	1,411	58	4,23	23,0	6	3	**51600**
7,345	UNC 3/8	1,588	64	4,76	30,2	8	3	**03800**
7,700	UNC 7/16	1,814	64	5,44	35,2	8	3	**71600**
9,376	UNC 1/2	1,954	73	5,86	40,1	10	3	**01200**
10,920	UNC 9/16	2,117	105	6,35	45,0	12	3	**91600**
11,419	UNC 5/8	2,309	105	6,93	50,0	12	3	**05800**
15,210	UNC 3/4	2,540	105	7,62	59,7	16	4	**03400**

NEW

50 559 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	ZEFP	
4,696	UNF 1/4	0,907	58	2,72	19,0	6	3	**01400**
6,217	UNF 5/16, 3/8	1,058	64	3,17	24,0	8	3	**51600**
7,994	UNF 7/16	1,270	64	3,81	34,5	8	3	**71600**
11,993	UNF 5/8	1,411	105	4,23	49,0	12	4	**05800**

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→ v_c/f_z Page 21

→ Chapter 7 – Circular and Thread Milling

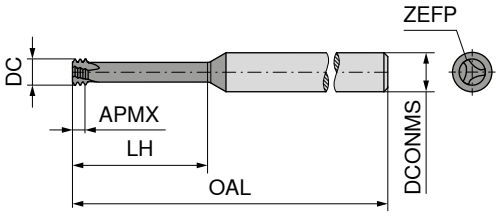
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used.

MonoThread – Circular shank thread milling cutter

▲ Profile corrected

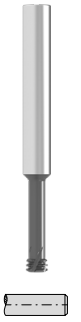
ZSGF | UNC | UNF | 60°

≤ 2xD | R/L



NEW

AlTiN



Solid carbide

50 568 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	ZEFP	
1,400	UNC No.1 / UNF No.2	0,397	58	1,19	3,8	6	3	**01200**
1,646	UNC No.2 / UNF No.3	0,454	58	1,36	4,4	6	3	**02300**
1,901	UNC No.3 / UNF No.4	0,529	58	1,59	5,2	6	3	**03400**
2,034	UNC No.4	0,635	58	1,91	6,3	6	3	**04000**
2,416	UNC No.5 / UNF No.6	0,635	58	1,91	7,0	6	3	**05600**

≤ 2xD | G | 55°

NEW

50 569 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	ZEFP	
7,790	G1/8	0,907	64	2,72	19,5	8	3	**01800**
10,015	G 1/4-3/8	1,337	73	4,01	30,0	10	4	**01400**
12,013	G 1/2-G7/8	1,814	84	5,44	37,0	12	4	**01200**
15,900	G 1-2	2,309	105	6,93	44,0	16	4	**01000**

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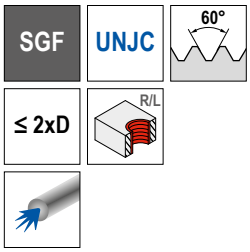
→ v_c/f_z Page 21

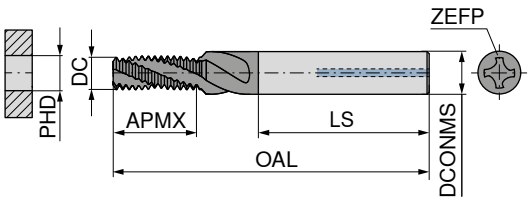
→ Chapter 7 – Circular and Thread Milling

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

MonoThread – Thread Milling Cutter

▲ Profile corrected





NEW

AlTiN

Solid carbide

50 524 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS h6 mm	ZEFP	PHD mm	
4,70	UNJC 1/4-20	0,907	55	14,27	36	6	4	5,6	**01400**
6,22	UNJC 5/16-18	1,411	62	16,32	36	8	4	7,0	**05160**
7,79	UNJC 3/8-16	1,588	74	20,01	40	10	4	8,6	**03800**
8,57	UNJC 7/16-14	1,814	79	22,87	45	12	4	10,0	**07160**
9,38	UNJC 1/2-13	1,270	79	26,75	45	12	5	11,5	**01200**

NEW

50 533 ...

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS h6 mm	ZEFP	PHD mm	
2,44	UNJF 6-40	0,635	42	7,42	28	4	3	2,95	**06000**
3,14	UNJF 8-36	0,706	49	8,91	36	6	3	3,50	**08000**
3,95	UNJF 10-32	0,794	55	9,97	36	6	3	4,10	**10000**
4,70	UNJF 1/4-28	0,907	55	14,27	36	6	4	5,60	**01400**
6,22	UNJF 5/16-24	1,058	62	16,59	36	8	4	7,00	**05160**
7,79	UNJF 3/8-24	1,058	74	19,77	40	10	4	8,60	**03800**
9,32	UNJF 7/16-20	1,270	79	22,39	45	12	5	10,00	**07160**
9,38	UNJF 1/2-20	1,270	79	25,34	45	12	5	11,50	**01200**
12,90	UNJF 5/8-18	1,411	102	33,59	48	16	5	14,50	**05800**

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→ v_c/f_z Page 21

→ **Chapter 7 – Circular and Thread Milling**

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

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength 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

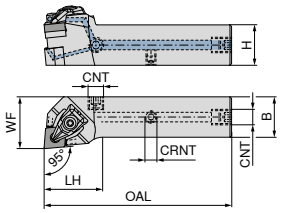
Index	50 545 ..., 50 550 ..., 50 557 ..., 50 559 ..., 50 568 ..., 50 569 ...				50 524 ..., 50 533 ...			
	ZSGF	AlTiN – Performance Solid carbide			SGF	AlTiN – Performance Solid carbide		
		Ø 1,5 – 5,9	Ø 6,0 – 11,9	Ø 12,0 – 20,0		Ø 2,4 – 5,9	Ø 6,0 – 11,9	Ø 12,0 – 20,0
	v_c (m/min)	f_z (mm/tooth)			v_c (m/min)	f_z (mm/tooth)		
P.1.1	60–120	0,04–0,11	0,13–0,17	0,18–0,20	80–150	0,015–0,04	0,04–0,08	0,08–0,15
P.1.2	60–120	0,04–0,11	0,13–0,17	0,18–0,20	80–120	0,015–0,04	0,04–0,08	0,08–0,15
P.1.3	60–120	0,04–0,11	0,13–0,17	0,18–0,20	80–120	0,015–0,04	0,04–0,08	0,08–0,15
P.1.4	60–120	0,04–0,11	0,13–0,17	0,18–0,20	80–120	0,015–0,04	0,04–0,08	0,08–0,15
P.1.5	60–120	0,04–0,11	0,13–0,17	0,18–0,20	60–100	0,01–0,04	0,04–0,06	0,04–0,10
P.2.1	60–90	0,03–0,08	0,09–0,14	0,14–0,18	80–120	0,015–0,04	0,04–0,08	0,08–0,15
P.2.2	60–90	0,03–0,08	0,09–0,14	0,14–0,18	80–100	0,015–0,04	0,04–0,08	0,08–0,15
P.2.3	60–90	0,03–0,08	0,09–0,14	0,14–0,18	80–100	0,010–0,04	0,04–0,08	0,08–0,15
P.2.4	60–90	0,03–0,08	0,09–0,14	0,14–0,18	80–100	0,010–0,04	0,04–0,08	0,08–0,15
P.3.1	50–80	0,03–0,08	0,09–0,14	0,14–0,18	70–90	0,01–0,03	0,03–0,05	0,06–0,12
P.3.2	50–80	0,03–0,08	0,09–0,14	0,14–0,18	60–80	0,006–0,02	0,02–0,04	0,04–0,06
P.3.3	50–80	0,03–0,08	0,09–0,14	0,14–0,18	50–70	0,006–0,02	0,02–0,04	0,04–0,06
P.4.1	50–80	0,03–0,08	0,09–0,14	0,14–0,18	70–90	0,006–0,02	0,02–0,04	0,04–0,06
P.4.2	50–80	0,03–0,08	0,09–0,14	0,14–0,18	60–80	0,006–0,02	0,02–0,04	0,04–0,06
M.1.1	60–90	0,02–0,06	0,06–0,11	0,12–0,13	60–100	0,01–0,04	0,04–0,08	0,08–0,10
M.2.1	60–90	0,02–0,06	0,06–0,11	0,12–0,13	60–100	0,01–0,03	0,03–0,06	0,06–0,10
M.3.1	60–90	0,02–0,06	0,06–0,11	0,12–0,13	60–100	0,01–0,03	0,03–0,06	0,06–0,10
K.1.1	40–80	0,04–0,11	0,13–0,17	0,17–0,18	80–120	0,02–0,06	0,06–0,12	0,10–0,15
K.1.2	40–80	0,04–0,11	0,13–0,17	0,17–0,18	80–120	0,02–0,05	0,05–0,10	0,10–0,12
K.2.1	40–80	0,04–0,11	0,13–0,17	0,17–0,18	80–100	0,02–0,05	0,05–0,10	0,08–0,15
K.2.2	40–80	0,04–0,11	0,13–0,17	0,17–0,18	80–100	0,02–0,05	0,05–0,10	0,08–0,12
K.3.1	40–80	0,04–0,11	0,13–0,17	0,17–0,18	80–100	0,015–0,05	0,05–0,08	0,08–0,12
K.3.2	40–80	0,04–0,11	0,13–0,17	0,17–0,18	80–100	0,015–0,03	0,03–0,08	0,08–0,12
N.1.1	100–200	0,04–0,11	0,13–0,16	0,17–0,18	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.1.2	100–200	0,04–0,11	0,13–0,16	0,17–0,18	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.2.1	100–200	0,04–0,1	0,07–0,16	0,17–0,18	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.2.2	100–200	0,04–0,1	0,07–0,16	0,17–0,18	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.2.3	60–140	0,04–0,06	0,07–0,11	0,13–0,14	100–250	0,04–0,09	0,08–0,15	0,12–0,20
N.3.1	50–200	0,05–0,16	0,14–0,19	0,19–0,20	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.3.2	50–200	0,05–0,16	0,14–0,19	0,19–0,20	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.3.3	50–200	0,05–0,16	0,14–0,19	0,19–0,20	100–400	0,04–0,09	0,08–0,15	0,12–0,20
N.4.1	50–200	0,04–0,11	0,07–0,17	0,17–0,18	100–400	0,04–0,09	0,08–0,15	0,12–0,20
S.1.1	20–40	0,03–0,05	0,06–0,07	0,08	40–100	0,01–0,04	0,04–0,07	0,07–0,12
S.1.2	20–40	0,03–0,05	0,06–0,07	0,08				
S.2.1	20–40	0,03–0,05	0,06–0,07	0,08				
S.2.2	20–40	0,03–0,05	0,06–0,07	0,08				
S.2.3	20–40	0,03–0,05	0,06–0,07	0,08				
S.3.1	20–40	0,03–0,05	0,06–0,07	0,08	40–100	0,01–0,04	0,04–0,07	0,07–0,15
S.3.2	20–40	0,03–0,05	0,06–0,07	0,08				
S.3.3	20–40	0,03–0,05	0,06–0,07	0,08				
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1	100–200	0,06–0,16	0,19–0,22	0,22–0,3	100–400	0,03–0,08	0,08–0,15	0,15–0,20
O.1.2	100–200	0,06–0,16	0,19–0,22	0,22–0,3	100–400	0,03–0,08	0,08–0,15	0,15–0,20
O.2.1	100–200	0,06–0,16	0,19–0,22	0,22–0,3	50–80	0,03–0,08	0,08–0,15	0,15–0,20
O.2.2	100–200	0,06–0,16	0,19–0,22	0,22–0,3	50–80	0,03–0,08	0,08–0,15	0,15–0,20
O.3.1	60–140	0,05–0,15	0,14–0,20	0,20–0,25				

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.

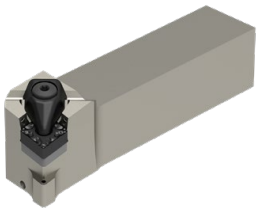
MaxiLock-D – DCLN 95° DC – Toolholder with top clamping

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions



										NEW Left-hand	NEW Right-hand
										70 510 ...	**70 510 ...**
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert		
DCLN R/L 2020 X09 DC	20	20	94	25	25	M6	G1/8"	2	CN.. 0903	**52000**	**52001**
DCLN R/L 2020 X12 DC	20	20	101	32	25	M6	G1/8"	4	CN.. 1204	**62000**	**62001**
DCLN R/L 2525 X12 DC	25	25	116	32	32	M6	G1/8"	4	CN.. 1204	**62500**	**62501**
DCLN R/L 3225 X12 DC	32	25	132	32	32	M6	G1/8"	4	CN.. 1204	**63200**	**63201**
DCLN R/L 2525 X16 DC	25	25	122	38	32	M6	G1/8"	6,5	CN.. 1606	**72500**	**72501**
DCLN R/L 3232 X16 DC	32	32	142	42	40	M6	G1/8"	6,5	CN.. 1606	**73200**	**73201**
DCLN R/L 3232 X19 DC	32	32	142	42	40	M6	G1/8"	6,5	CN.. 1906	**83200**	**83201**
DCLN R/L 4040 X19 DC	40	40	167	42	50	M6	G1/8"	6,5	CN.. 1906	**94000**	**94001**

Clamping screw

Carbide type C

Grubscrew

Spare parts for Article no.		**70 950 ...**		**70 950 ...**		**70 950 ...**
70 510 52000 / 70 510 52001	M3x7 - IP	**819**		**848**	M6x6	**86700**
70 510 62000 / 70 510 62001	M4,5x12 - IP	**820**		**810**	M6x6	**86700**
70 510 62500 / 70 510 62501	M4,5x12 - IP	**820**		**810**	M6x6	**86700**
70 510 63200 / 70 510 63201	M4,5x12 - IP	**820**		**810**	M6x6	**86700**
70 510 72500 / 70 510 72501	M5x14 - IP	**821**		**814**	M6x6	**86700**
70 510 73200 / 70 510 73201	M5x14 - IP	**821**		**814**	M6x6	**86700**
70 510 83200 / 70 510 83201	M5x14 - IP	**821**		**816**	M6x6	**86700**
70 510 94000 / 70 510 94001	M5x14 - IP	**821**		**816**	M6x6	**86700**

XPress type

Key D

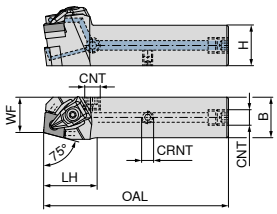
Coolant screw plug

Spare parts for Article no.		**70 950 ...**		**80 950 ...**		**70 950 ...**
70 510 52000 / 70 510 52001	**823**	T09 - IP	**126**	G 1/8"	**294**
70 510 62000 / 70 510 62001	**824**	T15 - IP	**128**	G 1/8"	**294**
70 510 62500 / 70 510 62501	**824**	T15 - IP	**128**	G 1/8"	**294**
70 510 63200 / 70 510 63201	**824**	T15 - IP	**128**	G 1/8"	**294**
70 510 72500 / 70 510 72501	**825**	T20 - IP	**129**	G 1/8"	**294**
70 510 73200 / 70 510 73201	**825**	T20 - IP	**129**	G 1/8"	**294**
70 510 83200 / 70 510 83201	**826**	T20 - IP	**129**	G 1/8"	**294**
70 510 94000 / 70 510 94001	**826**	T20 - IP	**129**	G 1/8"	**294**

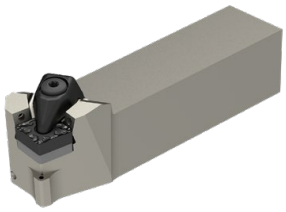
MaxiLock-D – DCBN 75° DC – Toolholder with top clamping

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions



NEW Left-hand **70 507 ...**

NEW Right-hand **70 507 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert				
DCBN R/L 2525 X12 DC	25	25	114	30	22	M6	G1/8"	4	CN.. 1204		**82500**		**82501**
DCBN R/L 2525 X16 DC	25	25	120	36	22	M6	G1/8"	6,5	CN.. 1606		**62500**		**62501**

Clamping screw **70 950 ...**

Carbide type C **70 950 ...**

Grubscrew **70 950 ...**

Spare parts for Article no.						
70 507 82500 / 70 507 82501	M4,5x12 - IP	**820**	**810**	M6x6	**86700**
70 507 62500 / 70 507 62501	M5x14 - IP	**821**	**814**	M6x6	**86700**

XPress type **70 950 ...**

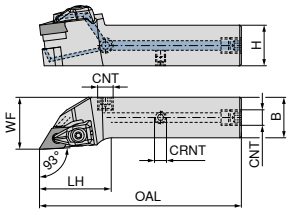
Key D **80 950 ...**

Coolant screw plug **70 950 ...**

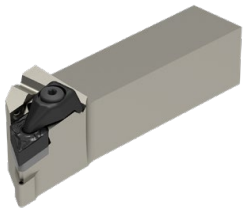
Spare parts for Article no.						
70 507 82500 / 70 507 82501	**824**	T15 - IP	**128**	G 1/8"	**294**
70 507 62500 / 70 507 62501	**825**	T20 - IP	**129**	G 1/8"	**294**

MaxiLock-D – DDJN 93° DC – Toolholder with top clamping

Scope of supply:
Tool holder with Torx key



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 70 546 ...	NEW Right-hand 70 546 ...
DDJN R/L 2020 X11 DC	20	20	99	30	25	M6	G1/8"	2	DN.. 1104	**82000**	**82001**
DDJN R/L 2525 X11 DC	25	25	114	30	32	M6	G1/8"	2	DN.. 1104	**82500**	**82501**
DDJN R/L 2020 X15 DC	20	20	109	40	25	M6	G1/8"	4	DN.. 1504 / 1506	**72000**	**72001**
DDJN R/L 2525 X15 DC	25	25	124	40	32	M6	G1/8"	4	DN.. 1504 / 1506	**72500**	**72501**
DDJN R/L 3225 X15 DC	32	25	140	40	32	M6	G1/8"	4	DN.. 1504 / 1506	**73200**	**73201**

When using DN.. 1504 indexable inserts, use insert seat article no. **70 950 40000**.

Clamping screw

Solid Carbide Seat D

Grubscrew

Spare parts for Article no.	70 950 ...		70 950 ...		70 950 ...	
70 546 82000 / 70 546 82001	M3x7 - IP	**819**		**808**	M6x6	**86700**
70 546 82500 / 70 546 82501	M3x7 - IP	**819**		**808**	M6x6	**86700**
70 546 72000 / 70 546 72001	M4,5x12 - IP	**820**		**811**	M6x6	**86700**
70 546 72500 / 70 546 72501	M4,5x12 - IP	**820**		**811**	M6x6	**86700**
70 546 73200 / 70 546 73201	M4,5x12 - IP	**820**		**811**	M6x6	**86700**

XPress type

Key D

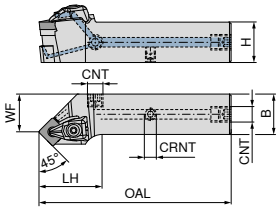
Coolant screw plug

Spare parts for Article no.	70 950 ...		80 950 ...		70 950 ...	
70 546 82000 / 70 546 82001	**835**	T09 - IP	**126**	G 1/8"	**294**	
70 546 82500 / 70 546 82501	**835**	T09 - IP	**126**	G 1/8"	**294**	
70 546 72000 / 70 546 72001	**824**	T15 - IP	**128**	G 1/8"	**294**	
70 546 72500 / 70 546 72501	**824**	T15 - IP	**128**	G 1/8"	**294**	
70 546 73200 / 70 546 73201	**824**	T15 - IP	**128**	G 1/8"	**294**	

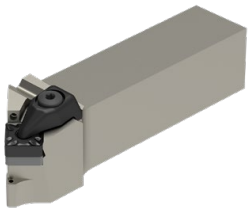
MaxiLock-D – DSSN 45° DC – Toolholder with top clamping

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions



										NEW Left-hand	NEW Right-hand
										70 517 ...	**70 517 ...**
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert		
DSSN R/L 2020 X12 DC	20	20	104	35	16,7	M6	G1/8"	4	SN.. 1204	**62000**	**62001**
DSSN R/L 2525 X12 DC	25	25	119	35	24,2	M6	G1/8"	4	SN.. 1204	**62500**	**62501**
DSSN R/L 3225 X12 DC	32	25	135	35	24,2	M6	G1/8"	4	SN.. 1204	**63200**	**63201**

Clamping screw

Solid Carbide support S

Grubscrew

		70 950 ...		**70 950 ...**		**70 950 ...**
Spare parts for Article no.						
70 517 62000 / 70 517 62001	M4,5x12 - IP	**820**		**813**	M6x6	**86700**
70 517 62500 / 70 517 62501	M4,5x12 - IP	**820**		**813**	M6x6	**86700**
70 517 63200 / 70 517 63201	M4,5x12 - IP	**820**		**813**	M6x6	**86700**

XPress type

Key D

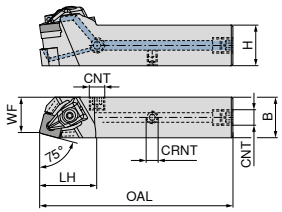
Coolant screw plug

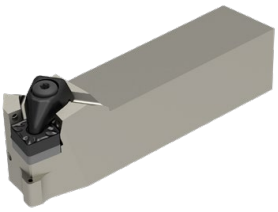
		70 950 ...		**80 950 ...**		**70 950 ...**
Spare parts for Article no.						
70 517 62000 / 70 517 62001		**824**	T15 - IP	**128**	G 1/8"	**294**
70 517 62500 / 70 517 62501		**824**	T15 - IP	**128**	G 1/8"	**294**
70 517 63200 / 70 517 63201		**824**	T15 - IP	**128**	G 1/8"	**294**

MaxiLock-D – DSBN 75° DC – Toolholder with top clamping

Scope of supply:

Tool holder with Torx key





Illustrations show right-hand versions

NEW

Right-hand

70 522 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	
DSBN R 2020 X12 DC	20	20	104	35	17,2	M6	G1/8"	4	SN.. 1204	**62001**
DSBN R 2525 X12 DC	25	25	119	35	22,2	M6	G1/8"	4	SN.. 1204	**62501**
DSBN R 2525 X15 DC	25	25	127	33	22,3	M6	G1/8"	6,5	SN.. 1506	**72501**
DSBN R 3232 X15 DC	32	32	142	42	26,1	M6	G1/8"	6,5	SN.. 1506	**73201**
DSBN R 3232 X19 DC	32	32	148	48	27,3	M6	G1/8"	6,5	SN.. 1906	**83201**
DSBN R 4040 X19 DC	40	40	173	48	35,3	M6	G1/8"	6,5	SN.. 1906	**84001**

Clamping screw

Solid Carbide support S

Grubscrew

Spare parts for Article no.		**70 950 ...**		**70 950 ...**		**70 950 ...**
70 522 62001	M4,5x12 - IP	**820**		**813**	M6x6	**86700**
70 522 62501	M4,5x12 - IP	**820**		**813**	M6x6	**86700**
70 522 72501	M5x14 - IP	**821**		**833**	M6x6	**86700**
70 522 73201	M5x14 - IP	**821**		**833**	M6x6	**86700**
70 522 83201	M5x14 - IP	**821**		**817**	M6x6	**86700**
70 522 84001	M5x14 - IP	**821**		**817**	M6x6	**86700**

XPress type

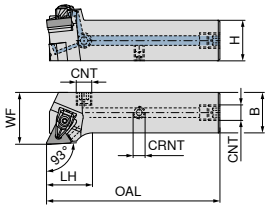
Key D

Coolant screw plug

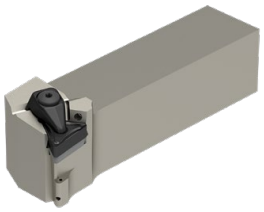
Spare parts for Article no.		**70 950 ...**		**80 950 ...**		**70 950 ...**
70 522 62001		**824**	T15 - IP	**128**	G 1/8"	**294**
70 522 62501		**824**	T15 - IP	**128**	G 1/8"	**294**
70 522 72501		**825**	T20 - IP	**129**	G 1/8"	**294**
70 522 73201		**825**	T20 - IP	**129**	G 1/8"	**294**
70 522 83201		**826**	T20 - IP	**129**	G 1/8"	**294**
70 522 84001		**826**	T20 - IP	**129**	G 1/8"	**294**

MaxiLock-D – DTJN 93° DC – Toolholder with top clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



										NEW		NEW	
										Left-hand		Right-hand	
										70 601 ...		**70 601 ...**	
ISO designation	H	B	OAL	LH	WF	CRNT	CNT	torque moment	Insert				
	mm	mm	mm	mm	mm			Nm					
DTJN R/L 2020 X16 DC	20	20	92	23	25	M6	G1/8"	2	TNM. 1604		**82000**		**82001**
DTJN R/L 2525 X16 DC	25	25	107	23	32	M6	G1/8"	2	TNM. 1604		**82500**		**82501**

Clamping screw

Solid Carbide Seat T

Grubscrew

		70 950 ...		**70 950 ...**		**70 950 ...**	
Spare parts for Article no.							
70 601 82000 / 70 601 82001	M3x7 - IP	**819**		**847**	M6x6	**86700**	
70 601 82500 / 70 601 82501	M3x7 - IP	**819**		**847**	M6x6	**86700**	

XPress type

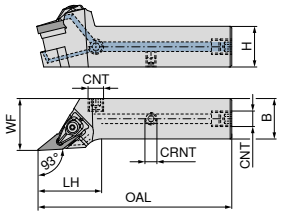
Key D

Coolant screw plug

		70 950 ...		**80 950 ...**		**70 950 ...**	
Spare parts for Article no.							
70 601 82000 / 70 601 82001		**823**	T09 - IP	**126**	G 1/8"	**294**	
70 601 82500 / 70 601 82501		**823**	T09 - IP	**126**	G 1/8"	**294**	

MaxiLock-D – DVJN 93° DC – Toolholder with top clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions

										NEW		NEW	
										Left-hand		Right-hand	
										70 511 ...		**70 511 ...**	
ISO designation	H	B	OAL	LH	WF	CRNT	CNT	torque moment	Insert				
	mm	mm	mm	mm	mm			Nm					
DVJN R/L 2020 X16 DC	20	20	104	35	25	M6	G1/8"	2	VN.. 1604		**62000**		**62001**
DVJN R/L 2525 X16 DC	25	25	119	35	32	M6	G1/8"	2	VN.. 1604		**62500**		**62501**


Clamping screw


Solid Carbide Seat V


Grubscrew

		70 950 ...		**70 950 ...**		**70 950 ...**
Spare parts for Article no.						
70 511 62000 / 70 511 62001	M3x7 - IP	**819**		**806**	M6x6	**86700**
70 511 62500 / 70 511 62501	M3x7 - IP	**819**		**806**	M6x6	**86700**


XPress type

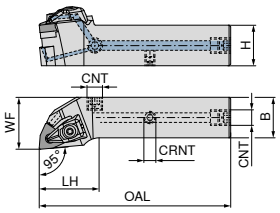
Key D


Coolant screw plug

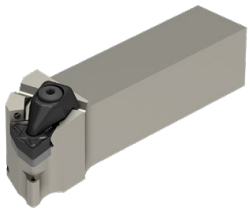
		70 950 ...		**80 950 ...**		**70 950 ...**
Spare parts for Article no.						
70 511 62000 / 70 511 62001		**835**	T09 - IP	**126**	G 1/8"	**294**
70 511 62500 / 70 511 62501		**835**	T09 - IP	**126**	G 1/8"	**294**

MaxiLock-D – DWLN 95° DC – Toolholder with top clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



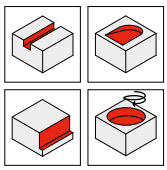
										NEW		NEW
										Left-hand		Right-hand
										70 547 ...		**70 547 ...**
ISO designation	H	B	OAL	LH	WF	CRNT	CNT	torque moment	Insert			
	mm	mm	mm	mm	mm			Nm				
DWLN R/L 2020 X06 DC	20	20	94	25	25	M6	G1/8"	2	WN.. 0604	**62000**		**62001**
DWLN R/L 2525 X06 DC	25	25	109	25	32	M6	G1/8"	2	WN.. 0604	**62500**		**62501**
DWLN R/L 2020 X08 DC	20	20	100	31	25	M6	G1/8"	4	WN.. 0804	**72000**		**72001**
DWLN R/L 2525 X08 DC	25	25	118	34	32	M6	G1/8"	4	WN.. 0804	**72500**		**72501**

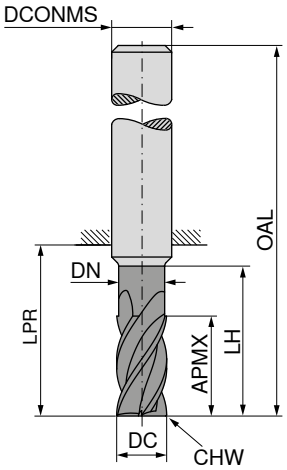
			 Clamping screw		 Solid Carbide Seat W		 Grubscrew	
			70 950 ...		**70 950 ...**		**70 950 ...**	
Spare parts for Article no.								
70 547 62000 / 70 547 62001	M3x7 - IP	**819**		**807**	M6x6	**86700**		
70 547 62500 / 70 547 62501	M3x7 - IP	**819**		**807**	M6x6	**86700**		
70 547 72000 / 70 547 72001	M4,5x12 - IP	**820**		**812**	M6x6	**86700**		
70 547 72500 / 70 547 72501	M4,5x12 - IP	**820**		**812**	M6x6	**86700**		

			 XPress type		Key D		 Coolant screw plug	
			70 950 ...		**80 950 ...**		**70 950 ...**	
Spare parts for Article no.								
70 547 62000 / 70 547 62001		**823**	T09 - IP	**126**	G 1/8"	**294**		
70 547 62500 / 70 547 62501		**823**	T09 - IP	**126**	G 1/8"	**294**		
70 547 72000 / 70 547 72001		**824**	T15 - IP	**128**	G 1/8"	**294**		
70 547 72500 / 70 547 72501		**824**	T15 - IP	**128**	G 1/8"	**294**		

End milling cutter

N | λ_s 35° γ_s 38° γ_s 9° | HPC





NEW

Ti1000

≈DIN 6527

54 071 ...

DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	
6	13	5,8	21	21	57	6	0,1	4	**06300**
8	21	7,7	27	27	63	8	0,2	4	**08300**
10	22	9,7	32	32	72	10	0,2	4	**10300**
12	26	11,6	38	38	83	12	0,3	4	**12300**
14	26	11,6	38	38	83	14	0,3	4	**14300**
16	36	15,5	44	44	92	16	0,3	4	**16300**
18	36	17,5	44	44	92	18	0,3	4	**18300**
20	41	19,5	54	54	104	20	0,3	4	**20300**

P	●
M	●
K	●
N	○
S	○
H	
O	

→ v_c/f_z Page 32+33

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 – End mill

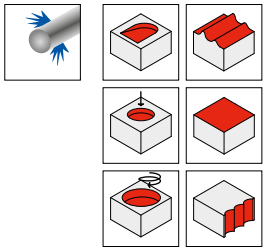
Index	Type short / long		54 071 ...															
			Ø DC (mm) =															
			3			4			5			6			8			
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)															
P.1.1	210	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.1.2	200	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.1.3	200	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.1.4	190	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.1.5	190	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.2.1	200	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.2.2	190	1,0	0,022	0,018	0,011	0,030	0,024	0,015	0,038	0,030	0,019	0,046	0,037	0,023	0,062	0,050	0,031	
P.2.3	180	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.2.4	170	1,0	0,022	0,018	0,011	0,030	0,024	0,015	0,038	0,030	0,019	0,046	0,037	0,023	0,062	0,050	0,031	
P.3.1	180	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.3.2	170	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.3.3	140	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.4.1	100	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
P.4.2	80	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
M.1.1	100	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
M.2.1	100	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
M.3.1	100	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
K.1.1	200	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
K.1.2	180	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
K.2.1	190	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
K.2.2	170	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
K.3.1	180	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
K.3.2	160	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	350	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
N.3.2	350	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
N.3.3	280	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
N.4.1																		
S.1.1	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.1.2	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.1	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.2	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.3	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.3.1	90	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
S.3.2	50	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
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																		

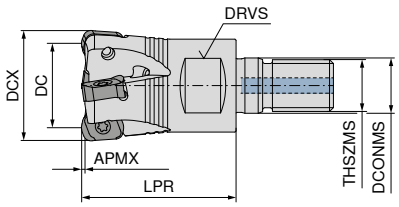
Plunging angle for ramping and helical milling: 3°

Index	54 071 ...												● 1st choice ○ suitable		
	Ø DC (mm) =														
	10			12			16			20					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MQL
	f_z (mm)														
P.1.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.2	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.3	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.4	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.5	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.2	0,078	0,062	0,039	0,094	0,075	0,047	0,118	0,094	0,059	0,134	0,107	0,067	●	○	○
P.2.3	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.4	0,078	0,062	0,039	0,094	0,075	0,047	0,118	0,094	0,059	0,134	0,107	0,067	●	○	○
P.3.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.3.2	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.3.3	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.4.1	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
P.4.2	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.1.1	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.2.1	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.3.1	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
K.1.1	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.1.2	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.2.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
K.2.2	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
K.3.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
K.3.2	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.3.2	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.3.3	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.4.1															
S.1.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.1.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.3	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.3.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●		
S.3.2	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
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															

MaxiMill – HFCD high-feed screw-in cutter

▲ Programmed radius r3D = 2.0 mm



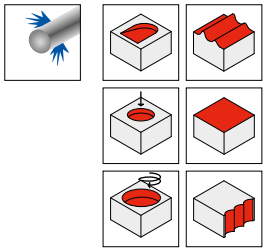


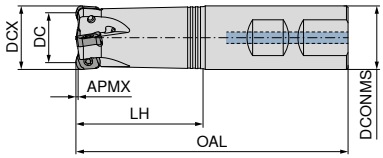
NEW

Designation	DC mm	DCX mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	torque moment Nm	Insert	50 357 ...
GHFCD.16.R.02-06	10	16	2	0,8	27	8,5	M8	10	23500	1,2	XNEU 06T3..	**01602**
GHFCD.20.R.03-06	14	20	3	0,8	33	10,5	M10	15	20200	1,2	XNEU 06T3..	**02003**
GHFCD.25.R.04-06	19	25	4	0,8	35	12,5	M12	17	18100	1,2	XNEU 06T3..	**02504**
GHFCD.32.R.05-06	26	32	5	0,8	35	17,0	M16	24	17300	1,2	XNEU 06T3..	**03205**
GHFCD.35.R.06-06	29	35	6	0,8	35	17,0	M16	24	16100	1,2	XNEU 06T3..	**03506**
GHFCD.42.R.06-06	36	42	6	0,8	35	17,0	M16	24	14100	1,2	XNEU 06T3..	**04206**

MaxiMill – HFCD high-feed end mill

▲ Programmed radius r3D = 2.0 mm



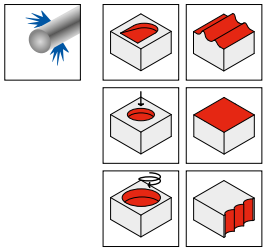


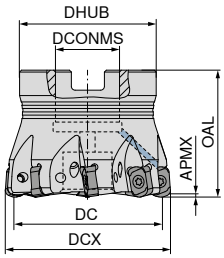
NEW NEW

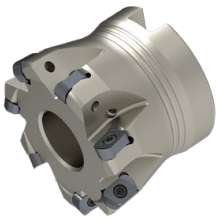
Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	torque moment Nm	Insert	50 356 ...	50 356 ...
CHFCD.16.R.02-06-B-40	10	16	2	0,8	89	40	16	21700	1,2	XNEU 06T3..		**11602**
CHFCD.16.R.02-06-A-40	10	16	2	0,8	89	40	16	21700	1,2	XNEU 06T3..	**01602**	
CHFCD.16.R.02-06-A-40-200	10	16	2	0,8	200	40	16	12300	1,2	XNEU 06T3..	**21602**	
CHFCD.20.R.03-06-B-50	14	20	3	0,8	101	50	20	17000	1,2	XNEU 06T3..		**12003**
CHFCD.20.R.03-06-A-50	14	20	3	0,8	101	50	20	17000	1,2	XNEU 06T3..	**02003**	
CHFCD.20.R.03-06-A-50-225	14	20	3	0,8	225	50	20	8700	1,2	XNEU 06T3..	**22003**	
CHFCD.25.R.04-06-B-50	19	25	4	0,8	107	50	25	15400	1,2	XNEU 06T3..		**12504**
CHFCD.25.R.04-06-A-50	19	25	4	0,8	107	50	25	15400	1,2	XNEU 06T3..	**02504**	
CHFCD.25.R.04-06-A-50-225	19	25	4	0,8	225	50	25	7100	1,2	XNEU 06T3..	**22504**	
CHFCD.32.R.05-06-B25-50	26	32	5	0,8	107	50	25	14400	1,2	XNEU 06T3..		**13205**
CHFCD.32.R.05-06-A25-50	26	32	5	0,8	107	50	25	14400	1,2	XNEU 06T3..	**03205**	
CHFCD.32.R.05-06-A25-50-225	26	32	5	0,8	225	50	25	6400	1,2	XNEU 06T3..	**23205**	

MaxiMill – HFCD high-feed face mill

▲ Programmed radius r3D = 2.0 mm







NEW

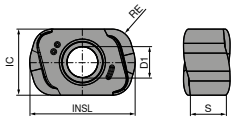
50 358 ...

Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	torque moment Nm	Insert	
AHFCD.32.R.05-06	26	32	5	0,8	40	16	38	17300	1,2	XNEU 06T3..	**03205**
AHFCD.35.R.05-06	29	35	5	0,8	40	16	38	16100	1,2	XNEU 06T3..	**03505**
AHFCD.40.R.06-06	34	40	6	0,8	40	16	38	14600	1,2	XNEU 06T3..	**04006**
AHFCD.42.R.06-06	36	42	6	0,8	40	16	38	14100	1,2	XNEU 06T3..	**04206**
AHFCD.50.R.07-06	44	50	7	0,8	40	22	43	12500	1,2	XNEU 06T3..	**05007**
AHFCD.52.R.08-06	46	52	8	0,8	40	22	43	12200	1,2	XNEU 06T3..	**05208**
AHFCD.63.R.09-06	57	63	9	0,8	40	22	48	10800	1,2	XNEU 06T3..	**06309**
AHFCD.66.R.10-06	60	66	10	0,8	40	22	48	10500	1,2	XNEU 06T3..	**06610**

	TORX® blade	 Key D	 Molykote	 Clamping screw	 Torque screwdriver
	80 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
Spare parts					
Insert					
XNEU 06T3..	**033**	**110**	**303**	**13800**	**192**

XNEU

Designation	IC mm	D1 mm	INSL mm	r3D mm	S mm
XNEU 06T3..	6,05	2,8	9,65	2	3,0



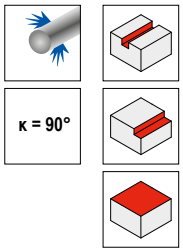
XNEU

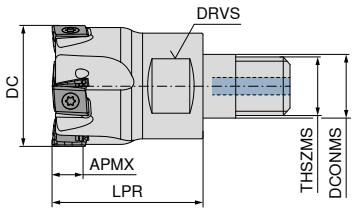
		NEW	NEW	NEW	NEW	NEW
		-M50 CTCP230	-M50 CTPP235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		XNEU	XNEU	XNEU	XNEU	XNEU
		51 261 ...	51 261 ...	51 260 ...	51 261 ...	51 260 ...
ISO	RE mm					
06T318SER	1,8	01800	11800	41800	41800	41801
P		●	●	○	○	●
M			○	●	●	●
K		○	○			
N						
S						
H						
O						

XNEU

		NEW	NEW	NEW	NEW	NEW
		-F50 CTCM245	-R50 CTCK215	-R50 CTPK220	-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		XNEU	XNEU	XNEU	XNEU	XNEU
		51 260 ...	51 262 ...	51 262 ...	51 259 ...	51 259 ...
ISO	RE mm					
06T318ER	1,8				11801	51801
06T318SER	1,8	91801	51800	61800		
P		●				
M		●				
K			●	●		
N						
S		○			●	●
H						
O						

MaxiMill – Tangent-09 screw-in cutter



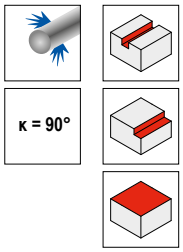


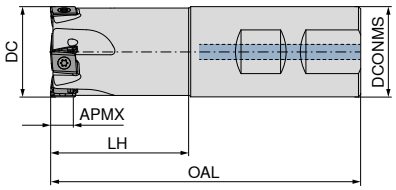
NEW

50 355 ...

Designation	DC mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	torque moment Nm	Insert	
GTANG.25.R.03-09-M12	25	3	8	35	12,5	M12	17	39600	2,2	LN.U 0904	**02503**
GTANG.25.R.04-09-M12	25	4	8	35	12,5	M12	17	39600	2,2	LN.U 0904	**02504**
GTANG.32.R.04-09-M16	32	4	8	40	17,0	M16	24	35000	2,2	LN.U 0904	**03204**
GTANG.32.R.05-09-M16	32	5	8	40	17,0	M16	24	35000	2,2	LN.U 0904	**03205**

MaxiMill – Tangent-09 end mill



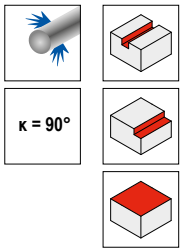


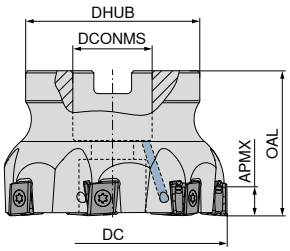
NEW

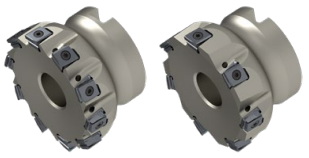
50 354 ...

Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	torque moment Nm	Insert	
CTANG.25.R.03-09-B-43-100	25	3	8	100	43	25	39600	2,2	LN.U 0904	**02503**
CTANG.25.R.04-09-B-43-100	25	4	8	100	43	25	39600	2,2	LN.U 0904	**02504**
CTANG.32.R.04-09-B-49-110	32	4	8	110	49	32	35000	2,2	LN.U 0904	**03204**
CTANG.32.R.05-09-B-49-110	32	5	8	110	49	32	35000	2,2	LN.U 0904	**03205**
CTANG.40.R.04-09-B32-49-110	40	4	8	110	49	32	31300	2,2	LN.U 0904	**04004**
CTANG.40.R.06-09-B32-49-110	40	6	8	110	49	32	31300	2,2	LN.U 0904	**04006**

MaxiMill – Tangent-09 face mill







NEW NEW

Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	torque moment Nm	Insert	50 353 ...	50 353 ...
ATANG.40.R.04-09-A16	40	4	8	40	38	16	31300	2,2	LN.U 0904		**04004**
ATANG.40.R.06-09-A16	40	6	8	40	38	16	31300	2,2	LN.U 0904	**04006**	
ATANG.50.R.05-09-A22	50	5	8	40	43	22	28000	2,2	LN.U 0904		**05005**
ATANG.50.R.07-09-A22	50	7	8	40	43	22	28000	2,2	LN.U 0904	**05007**	
ATANG.63.R.07-09-A22	63	7	8	40	48	22	25000	2,2	LN.U 0904		**06307**
ATANG.63.R.10-09-A22	63	10	8	40	48	22	25000	2,2	LN.U 0904	**06310**	
ATANG.80.R.08-09-A27	80	8	8	50	58	27	21000	2,2	LN.U 0904		**08008**
ATANG.80.R.11-09-A27	80	11	8	50	58	27	21000	2,2	LN.U 0904	**08011**	


Key D


Molykote

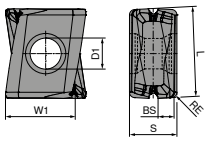

Clamping screw


Torque screwdriver

Spare parts Insert				
	80 950 ...	70 950 ...	70 950 ...	80 950 ...
LN.U 0904	**119**	**303**	**710**	**193**

LNHU

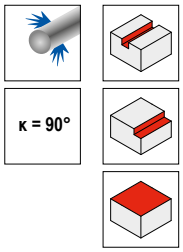
Designation	D1 mm	L mm	BS mm	S mm	W1 mm
LNHU 0904..	3,45	9,3	1	4,8	8

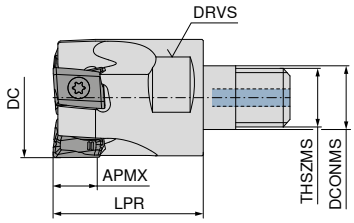


LNHU

		NEW	NEW	NEW	NEW	NEW	NEW	NEW
		-M50 CTCP230	-M50 CTPP235	-M50 CTPM240	-M50 CTCM245	-M50 CTCK215	-M50 CTPK220	-F40 CTC5240
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		LNHU	LNHU	LNHU	LNHU	LNHU	LNHU	LNHU
		51 257 ...	51 257 ...	51 257 ...	51 257 ...	51 257 ...	51 257 ...	51 258 ...
ISO	RE mm							
090404	0,4	00400	10400	40400	40401	50400	60400	10401
P		●	●	○	●			
M			○	●	●			
K		○	○			●	●	
N								
S					○			●
H								
O								

MaxiMill – Tangent-13 screw-in cutter



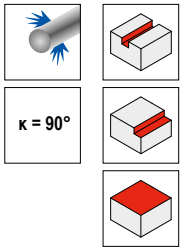


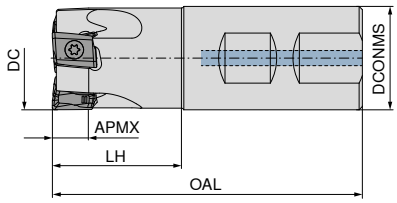
NEW

50 352 ...

Designation	DC mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	torque moment Nm	Insert	
GTANG.32.R.03-13-M16	32	3	12	35	17	M16	24	25000	5,0	LN.U 1306	**03203**
GTANG.40.R.04-13-M16	40	4	12	40	17	M16	27	22500	5,0	LN.U 1306	**04004**

MaxiMill – Tangent-13 end mill



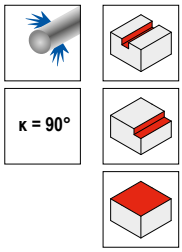


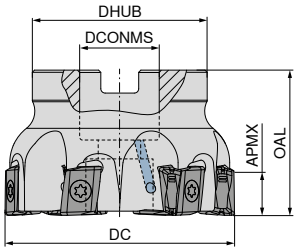
NEW

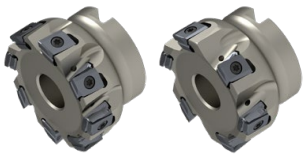
50 351 ...

Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	torque moment Nm	Insert	
CTANG.32.R.03-13-B32-40	32	3	12	96	40	32	25000	5,0	LN.U 1306	**03203**
CTANG.40.R.04-13-B32-50	40	4	12	110	50	32	22500	5,0	LN.U 1306	**04004**

MaxiMill – Tangent-13 face mill







NEW NEW

Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	torque moment Nm	Insert	50 350 ...	50 350 ...
ATANG.40.R.04-13-A16	40	4	12	40	38	16	22500	5,0	LN.U 1306		**04004**
ATANG.40.R.05-13-A16	40	5	12	40	38	16	22500	5,0	LN.U 1306	**04005**	
ATANG.40.R.05-13-A22	40	5	12	40	38	22	22500	5,0	LN.U 1306	**14005**	
ATANG.50.R.05-13-A22	50	5	12	40	43	22	20200	5,0	LN.U 1306		**05005**
ATANG.50.R.06-13-A22	50	6	12	40	43	22	20200	5,0	LN.U 1306	**05006**	
ATANG.50.R.06-13-A27	50	6	12	45	48	27	20200	5,0	LN.U 1306	**15006**	
ATANG.63.R.06-13-A22	63	6	12	40	48	22	18000	5,0	LN.U 1306		**06306**
ATANG.63.R.08-13-A22	63	8	12	40	48	22	18000	5,0	LN.U 1306	**06308**	
ATANG.63.R.08-13-A27	63	8	12	45	48	27	18000	5,0	LN.U 1306	**16308**	
ATANG.80.R.07-13-A27	80	7	12	50	58	27	15900	5,0	LN.U 1306		**08007**
ATANG.80.R.10-13-A27	80	10	12	50	58	27	15900	5,0	LN.U 1306	**08010**	
ATANG.100.R.09-13-A32	100	9	12	50	78	32	14200	5,0	LN.U 1306		**10009**
ATANG.100.R.13-13-A32	100	13	12	50	78	32	14200	5,0	LN.U 1306	**10013**	
ATANG.125.R.11-13-A40	125	11	12	63	88	40	12700	5,0	LN.U 1306		**12511**
ATANG.125.R.16-13-A40	125	16	12	63	88	40	12700	5,0	LN.U 1306	**12516**	

TORX® blade

Key D


Molykote

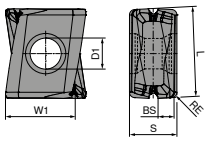

Clamping screw


Torque screwdriver

Spare parts					
Insert					
LN.U 1306	**054**	**120**	**303**	**134**	**193**

LNHU

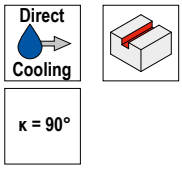
Designation	D1 mm	L mm	BS mm	S mm	W1 mm
LNHU 1306..	4,5	13,3	1,5	7,0	10,2

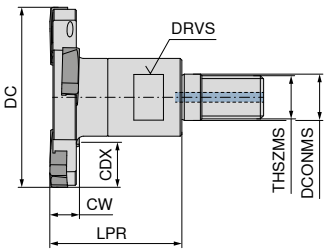


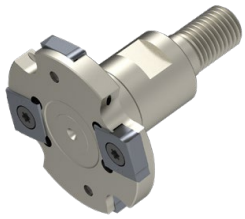
LNHU

		NEW	NEW	NEW	NEW	NEW	NEW	NEW
		-M50 CTCP230	-M50 CTPP235	-F50 CTPM240	-F50 CTCM245	-M50 CTCK215	-M50 CTPK220	-F50 CTC5240
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		LNHU	LNHU	LNHU	LNHU	LNHU	LNHU	LNHU
		51 255 ...	51 255 ...	51 256 ...	51 256 ...	51 255 ...	51 255 ...	51 256 ...
ISO	RE mm							
130608	0,8	00800	10800	40800	40801	50800	60800	10801
P		●	●	○	●			
M			○	●	●			
K		○	○			●	●	
N								
S					○			●
H								
O								

MaxiMill – Slot-SNHX screw-in multipurpose milling cutter







NEW

50 373 ...

Designation	DC mm	CW mm	CDX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	ZNF	Insert	
GSLOT.50.R.04-SN13-06-DC-M12	50	6	13	35	12,5	M12	17	4	SNHX 1303..	**05006**
GSLOT.63.R.06-SN13-06-DC-M12	63	6	18	35	12,5	M12	17	6	SNHX 1303..	**06306**
GSLOT.80.R.08-SN13-06-DC-M16	80	6	21	35	17,0	M16	24	8	SNHX 1303..	**08006**
GSLOT.50.R.04-SN13-08-DC-M12	50	8	13	35	12,5	M12	17	4	SNHX 1304..	**05008**
GSLOT.63.R.06-SN13-08-DC-M12	63	8	18	35	12,5	M12	17	6	SNHX 1304..	**06308**
GSLOT.80.R.08-SN13-08-DC-M16	80	8	21	35	17,0	M16	24	8	SNHX 1304..	**08008**

Clamping screw

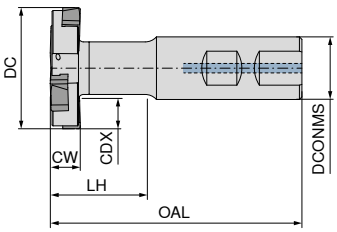
50 950 ...

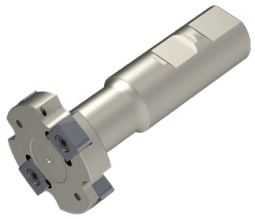
Spare parts for Article no.	
50 373 05006 / 50 373 06306	**00500**
50 373 05008 / 50 373 06308	**00600**
50 373 08006	**00500**
50 373 08008	**00600**

MaxiMill – Slot-SNHX cylindrical shank saw

Direct Cooling

κ = 90°





NEW

50 372 ...

Designation	DC mm	CW mm	CDX mm	OAL mm	LH mm	DCONMS mm	ZNF	Insert	
CSLOT.50.R.04-SN13-06-DC-B20-42	50	6	13	95	42	20	4	SNHX 1303..	**05006**
CSLOT.63.R.06-SN13-06-DC-B25-41	63	6	18	100	41	25	6	SNHX 1303..	**06306**
CSLOT.80.R.08-SN13-06-DC-B32-48	80	6	22	110	48	32	8	SNHX 1303..	**08006**
CSLOT.100.R.10-SN13-06-DC-B40-52	100	6	29	125	52	40	10	SNHX 1303..	**10006**
CSLOT.50.R.04-SN13-08-DC-B20-42	50	8	13	95	42	20	4	SNHX 1304..	**05008**
CSLOT.63.R.06-SN13-08-DC-B25-41	63	8	18	100	41	25	6	SNHX 1304..	**06308**
CSLOT.80.R.08-SN13-08-DC-B32-48	80	8	22	110	48	32	8	SNHX 1304..	**08008**
CSLOT.100.R.10-SN13-08-DC-B40-52	100	8	29	125	52	40	10	SNHX 1304..	**10008**
CSLOT.50.R.04-SN13-10-DC-B20-42	50	10	13	95	42	20	4	SNHX 1305..	**05010**
CSLOT.63.R.06-SN13-10-DC-B25-41	63	10	18	100	41	25	6	SNHX 1305..	**06310**
CSLOT.80.R.08-SN13-10-DC-B32-48	80	10	22	110	48	32	8	SNHX 1305..	**08010**
CSLOT.100.R.10-SN13-10-DC-B40-52	100	10	29	125	52	40	10	SNHX 1305..	**10010**
CSLOT.50.R.04-SN13-12-DC-B20-42	50	12	13	95	42	20	4	SNHX 1307..	**05012**
CSLOT.63.R.06-SN13-12-DC-B25-41	63	12	18	100	41	25	6	SNHX 1307..	**06312**
CSLOT.80.R.08-SN13-12-DC-B32-48	80	12	22	110	48	32	8	SNHX 1307..	**08012**
CSLOT.100.R.10-SN13-12-DC-B40-52	100	12	29	125	52	40	10	SNHX 1307..	**10012**

Clamping screw

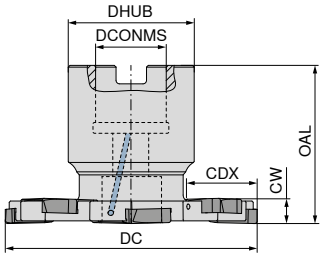
50 950 ...

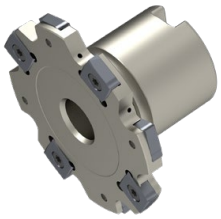
Spare parts for Article no.	
50 372 05006 / 50 372 06306	**00500**
50 372 05008 / 50 372 06308	**00600**
50 372 05010 / 50 372 06310	**00700**
50 372 05012 / 50 372 06312	**00800**
50 372 08006 / 50 372 10006	**00500**
50 372 08008 / 50 372 10008	**00600**
50 372 08010 / 50 372 10010	**00700**
50 372 08012 / 50 372 10012	**00800**

MaxiMill – Slot-SNHX slot milling and parting off cutter

Direct Cooling

κ = 90°





NEW

50 374 ...

Designation	DC mm	CW mm	CDX mm	OAL mm	DCONMS mm	DHUB mm	ZNF	Insert	
ASLOT.80.R.08-SN13-06-DC-A22	80	6	22,0	50	22	40	8	SNHX 1303..	**08006**
ASLOT.100.R.10-SN13-06-DC-A27	100	6	25,0	50	27	48	10	SNHX 1303..	**10006**
ASLOT.125.R.12-SN13-06-DC-A32	125	6	31,5	50	32	58	12	SNHX 1303..	**12506**
ASLOT.160.R.16-SN13-06-DC-A40	160	6	41,5	50	40	70	16	SNHX 1303..	**16006**
ASLOT.200.R.18-SN13-06-DC-A40	200	6	52,0	50	40	88	18	SNHX 1303..	**20006**
ASLOT.80.R.08-SN13-08-DC-A22	80	8	22,0	50	22	40	8	SNHX 1304..	**08008**
ASLOT.100.R.10-SN13-08-DC-A27	100	8	25,0	50	27	48	10	SNHX 1304..	**10008**
ASLOT.125.R.12-SN13-08-DC-A32	125	8	31,5	50	32	58	12	SNHX 1304..	**12508**
ASLOT.160.R.16-SN13-08-DC-A40	160	8	41,5	50	40	70	16	SNHX 1304..	**16008**
ASLOT.200.R.18-SN13-08-DC-A40	200	8	52,0	50	40	88	18	SNHX 1304..	**20008**
ASLOT.80.R.08-SN13-10-DC-A22	80	10	22,0	50	22	40	8	SNHX 1305..	**08010**
ASLOT.100.R.10-SN13-10-DC-A27	100	10	25,0	50	27	48	10	SNHX 1305..	**10010**
ASLOT.125.R.12-SN13-10-DC-A32	125	10	31,5	50	32	58	12	SNHX 1305..	**12510**
ASLOT.160.R.16-SN13-10-DC-A40	160	10	41,5	50	40	70	16	SNHX 1305..	**16010**
ASLOT.200.R.18-SN13-10-DC-A40	200	10	52,0	50	40	88	18	SNHX 1305..	**20010**
ASLOT.80.R.08-SN13-12-DC-A22	80	12	22,0	50	22	40	8	SNHX 1307..	**08012**
ASLOT.100.R.10-SN13-12-DC-A27	100	12	25,0	50	27	48	10	SNHX 1307..	**10012**
ASLOT.125.R.12-SN13-12-DC-A32	125	12	31,5	50	32	58	12	SNHX 1307..	**12512**
ASLOT.160.R.16-SN13-12-DC-A40	160	12	41,5	50	40	70	16	SNHX 1307..	**16012**
ASLOT.200.R.18-SN13-12-DC-A40	200	12	52,0	50	40	88	18	SNHX 1307..	**20012**
ASLOT.80.R.08-SN13-14-DC-A22	80	14	22,0	50	22	40	8	SNHX 1309..	**08014**
ASLOT.100.R.10-SN13-14-DC-A27	100	14	25,0	50	27	48	10	SNHX 1309..	**10014**
ASLOT.125.R.12-SN13-14-DC-A32	125	14	31,5	50	32	58	12	SNHX 1309..	**12514**
ASLOT.160.R.16-SN13-14-DC-A40	160	14	41,5	50	40	70	16	SNHX 1309..	**16014**
ASLOT.200.R.18-SN13-14-DC-A40	200	14	52,0	50	40	88	18	SNHX 1309..	**20014**
ASLOT.80.R.08-SN13-16-DC-A22	80	16	22,0	50	22	40	8	SNHX 1309..	**08016**
ASLOT.100.R.10-SN13-16-DC-A27	100	16	25,0	50	27	48	10	SNHX 1309..	**10016**
ASLOT.125.R.12-SN13-16-DC-A32	125	16	31,5	50	32	58	12	SNHX 1309..	**12516**
ASLOT.160.R.16-SN13-16-DC-A40	160	16	41,5	50	40	70	16	SNHX 1309..	**16016**
ASLOT.200.R.18-SN13-16-DC-A40	200	16	52,0	50	40	88	18	SNHX 1309..	**20016**

Clamping screw

50 950 ...

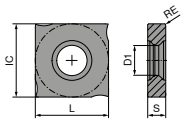
Clamping screw

50 950 ...

Spare parts for Article no.		
50 374 08006	**01000**	**00500**
50 374 08008	**01000**	**00600**
50 374 08010	**01000**	**00700**
50 374 08012	**01000**	**00800**
50 374 08014 / 50 374 08016	**01000**	**00900**
50 374 10006	**01100**	**00500**
50 374 10008	**01100**	**00600**
50 374 10010	**01100**	**00700**
50 374 10012	**01100**	**00800**
50 374 10014 / 50 374 10016	**01100**	**00900**
50 374 12506	**01200**	**00500**
50 374 12508	**01200**	**00600**
50 374 12510	**01200**	**00700**
50 374 12512	**01200**	**00800**
50 374 12514 / 50 374 12516	**01200**	**00900**
50 374 16006 / 50 374 20006	**01300**	**00500**
50 374 16008 / 50 374 20008	**01300**	**00600**
50 374 16010 / 50 374 20010	**01300**	**00700**
50 374 16012 / 50 374 20012	**01300**	**00800**
50 374 16014 / 50 374 16016	**01300**	**00900**
50 374 20014 / 50 374 20016	**01300**	**00900**

SNHX

Designation	IC mm	D1 mm	L mm	S mm
SNHX 1303..	13	5,3	13	3,2
SNHX 1304..	13	5,3	13	4,5
SNHX 1305..	13	5,3	13	5,4
SNHX 1307..	13	5,3	13	7,0
SNHX 1309..	13	5,3	13	9,0



SNHX

		NEW	NEW	NEW	NEW	NEW
		CTPP235	CTPP235	CTPP235	CTPP235	CTPP235
						
		SNHX	SNHX	SNHX	SNHX	SNHX
		51 263 ...	51 264 ...	51 265 ...	51 266 ...	51 267 ...
ISO	RE mm					
130308EL	0,8	10800				
130308ER	0,8	11800				
130408EL	0,8		10800			
130408ER	0,8		11800			
130508EL	0,8			10800		
130508ER	0,8			11800		
130708EL	0,8				10800	
130708ER	0,8				11800	
130908EL	0,8					10800
130908ER	0,8					11800
P		●	●	●	●	●
M		○	○	○	○	○
K		○	○	○	○	○
N						
S						
H						
O						

SNHX

		NEW	NEW	NEW	NEW	NEW
		CTPM240	CTPM240	CTPM240	CTPM240	CTPM240
						
		SNHX	SNHX	SNHX	SNHX	SNHX
		51 263 ...	51 264 ...	51 265 ...	51 266 ...	51 267 ...
ISO	RE mm					
130308EL	0,8	40800				
130308ER	0,8	41800				
130408EL	0,8		40800			
130408ER	0,8		41800			
130508EL	0,8			40800		
130508ER	0,8			41800		
130708EL	0,8				40800	
130708ER	0,8				41800	
130908EL	0,8					40800
130908ER	0,8					41800
P		○	○	○	○	○
M		●	●	●	●	●
K						
N						
S						
H						
O						

SNHX

		NEW	NEW	NEW	NEW	NEW
		CTPK220	CTPK220	CTPK220	CTPK220	CTPK220
						
		SNHX	SNHX	SNHX	SNHX	SNHX
		51 263 ...	51 264 ...	51 265 ...	51 266 ...	51 267 ...
ISO	RE mm					
130308EL	0,8	60800				
130308ER	0,8	61800				
130408EL	0,8		60800			
130408ER	0,8		61800			
130508EL	0,8			60800		
130508ER	0,8			61800		
130708EL	0,8				60800	
130708ER	0,8				61800	
130908EL	0,8					60800
130908ER	0,8					61800
P						
M						
K		●	●	●	●	●
N						
S						
H						
O						

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 MaxiMill – Slot-SNHX

Index	CTPP235		CTPM240		CTPK220	
	DRAGONSKIN					
	Cutting Material **hard** (v_c↑) → **tough** (v_c↓)					
	v_c (m/min)					
P.1.1	**246**	**137**	226	141		
P.1.2	**208**	**121**	188	126		
P.1.3	**172**	**106**	152	112		
P.1.4	**160**	**101**	140	107		
P.1.5	**143**	**94**	123	100		
P.2.1	**214**	**123**	194	128		
P.2.2	**157**	**100**	137	106		
P.2.3	**143**	**94**	123	100		
P.2.4	**98**	**76**	78	83		
P.3.1	**121**	**97**	126	105		
P.3.2	**108**	**83**	112	95		
P.3.3	**96**	**69**	98	85		
P.4.1	**121**	**97**	126	105		
P.4.2	**114**	**90**	119	100		
M.1.1	121	97	**126**	**105**		
M.2.1	108	83	**112**	**95**		
M.3.1	117	93	**121**	**102**		
K.1.1	160	110			**320**	**190**
K.1.2	150	110			**170**	**100**
K.2.1	150	110			**210**	**130**
K.2.2	150	110			**140**	**90**
K.3.1					**200**	**120**
K.3.2					**170**	**100**
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						

average chip thickness

h_m in mm

$$h_m = \frac{f_z}{2} \sqrt{\frac{a_e}{DC}}$$

Feed per tooth

f_z in mm

$$f_z = h_m \sqrt{\frac{DC}{a_e}}$$

Feed rate

v_f in mm/min

$$v_f = f_z \times ZNF \times n$$

DC = Ø of the disc cutters

ZNF = Number of teeth of the cutter

Reference tool 50 374 12506 – ASLOT.125.R.12-SN13-06-DC-A32

	a_e	10	20	30
	h_m	f_z in mm		
P	**0,11**	0,39	0,28	0,22
M	**0,08**	0,28	0,20	0,16
K	**0,13**	0,46	0,33	0,27
N				
S				
H				
O				

ASLOT.125.R.12-SN13-06-DC-A32

Tool tooth count (Z)	**12**
Effective tooth count (Z/2)	**6**

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.

Cutting data standard values

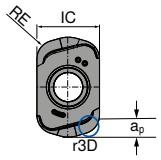
Index	CTCP230		CTPP235		CTPM240		CTPM245		CTCM245		CTCK215		CTC5240		CTCS245	
	DRAGONSKIN															
	Cutting Material **hard** (v_c↑) → **tough** (v_c↓)															
	v_c (m/min)															
P.1.1	**286**	**150**	**246**	**137**	226	141	244	139	279	134						
P.1.2	**242**	**133**	**208**	**121**	188	126	207	124	242	119						
P.1.3	**202**	**118**	**172**	**106**	152	112	173	109	208	104						
P.1.4	**189**	**112**	**160**	**101**	140	107	161	104	196	99						
P.1.5	**169**	**105**	**143**	**94**	123	100	144	97	179	92						
P.2.1	**249**	**136**	**214**	**123**	194	128	212	126	247	121						
P.2.2	**185**	**111**	**157**	**100**	137	106	158	103	193	98						
P.2.3	**169**	**105**	**143**	**94**	123	100	144	97	179	92						
P.2.4	**118**	**85**	**98**	**76**	78	83	101	78	136	73						
P.3.1	**140**	**87**	**121**	**97**	126	105	155	107	175	122						
P.3.2	**90**	**55**	**108**	**83**	112	95	143	93	163	108						
P.3.3	**40**	**22**	**96**	**69**	98	85	131	79	151	94						
P.4.1	**140**	**87**	**121**	**97**	126	105	155	107	175	122						
P.4.2	**115**	**71**	**114**	**90**	119	100	149	100	169	115						
M.1.1			121	97	**126**	**105**	**155**	**107**	**175**	**122**						
M.2.1			108	83	**112**	**95**	**143**	**93**	**163**	**108**						
M.3.1			117	93	**121**	**102**	**152**	**103**	**172**	**118**						
K.1.1	310	190	160	110							**360**	**210**				
K.1.2	160	100	150	110							**220**	**130**				
K.2.1	200	120	150	110							**230**	**140**				
K.2.2	130	80	150	110							**160**	**100**				
K.3.1	190	115									**250**	**150**				
K.3.2	160	100									**210**	**130**				
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										80				**80**		**64**
S.1.2										70				**70**		**56**
S.2.1										35				**35**		**28**
S.2.2										25				**25**		**20**
S.2.3										30				**30**		**24**
S.3.1										80				**80**		**64**
S.3.2										50				**50**		**40**
S.3.3										40				**40**		**32**
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																

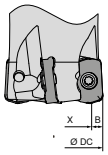
The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

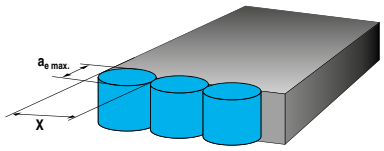
MaxiMill HFCD-06 system

Machining strategy

Programmed radius r3D = 2.0 mm







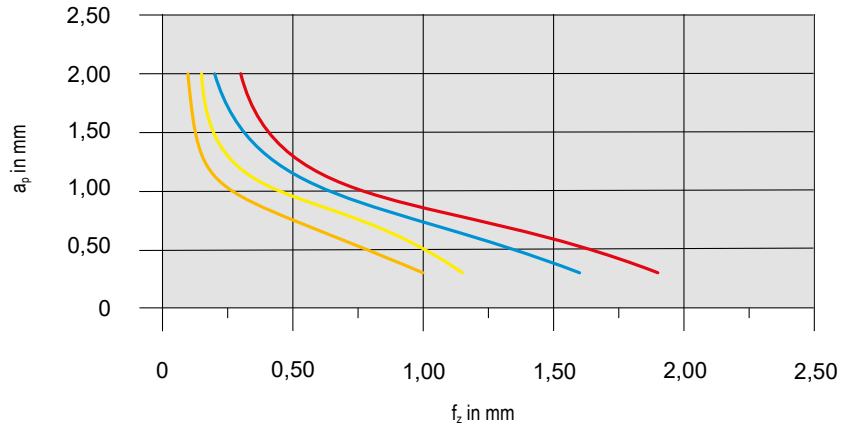
Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in mm	RE in mm	$a_{p\ max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\ max.}$ in mm	f_z in mm			X
							initial	min.	max.	
6,05	1,8	0,8	16–66	DCX–(2 x B)	4,3	5,3	0,10	0,08	0,15	<0,7 x DCX

	circular		
	Helical plunging (helical plunging into solid material)		
DCX mm	$D_{min.}$ mm	$D_{max.}$ mm	$\alpha_{R\ max.}$ °
16	29	31	1,2°
20	36	39	1°
25	45	49	0,9°
32	59	63	0,65°
35	64	69	0,6°
40	74	79	0,5°
42	78	83	0,45°
50	94	99	0,35°
52	98	103	0,35°
63	120	125	0,3°
66	126	131	0,25°

	axial	Angled
	Plunging	
DCX mm	$X_{max.}$ mm	$\alpha_{R\ max.}$ °
16	0,2	1,5°
20		1,4°
25	0,25	1,1°
32		0,9°
35		0,7°
40		0,65°
42		0,6°
50		0,5°
52		0,45°
63		0,4°
66		0,35°

Starting Parameter

XNEU 06



Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**XNEU 06T318SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XNEU 06T318SR-F50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**XNEU 06T318SR-R50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XNEU 06T318ER-F40**	**CTC5240**	35	Emulsion

Detailed information on cutting speed for each grade can be found on → page 49+50

From v_c > 400 m/min, the tool must be balanced!

System MaxiMill – Tangent-09

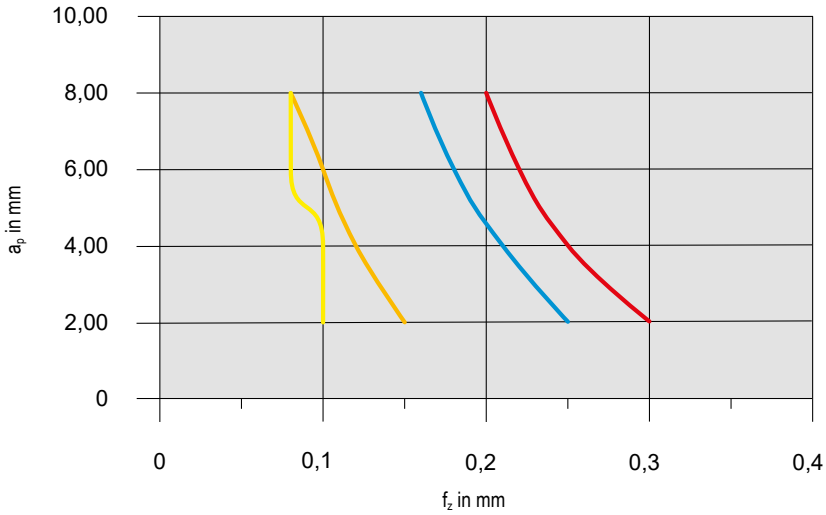
Machining strategy

LNHU 09 – DC/a_e Ratio (Dry machining at $a_{p\ max.}$)

DC	ZNF	5 %	10 %	15 %	20 %	25 %	30 %	35 %	40 %	45 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %	100 %
25	3	P																			
		M																			
		K																			
	4	P																			
		M																			
		K																			
32	4	P																			
		M																			
		K																			
	5	P																			
		M																			
		K																			
40	4	P																			
		M																			
		K																			
	6	P																			
		M																			
		K																			
50	5	P																			
		M																			
		K																			
	7	P																			
		M																			
		K																			
63	7	P																			
		M																			
		K																			
	10	P																			
		M																			
		K																			
80	8	P																			
		M																			
		K																			
	11	P																			
		M																			
		K																			

Starting Parameter

LNHU 09



Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**LNHU 090404-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**LNHU 090404-M50**	**CTPM240**	120	Emulsion
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**LNHU 090404-M50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**LNHU 090404-F40**	**CTC5240**	35	Emulsion

Detailed information on cutting speed for each grade can be found on → page 49+50

From v_c > 400 m/min, the tool must be balanced!

System MaxiMill – Tangent-13

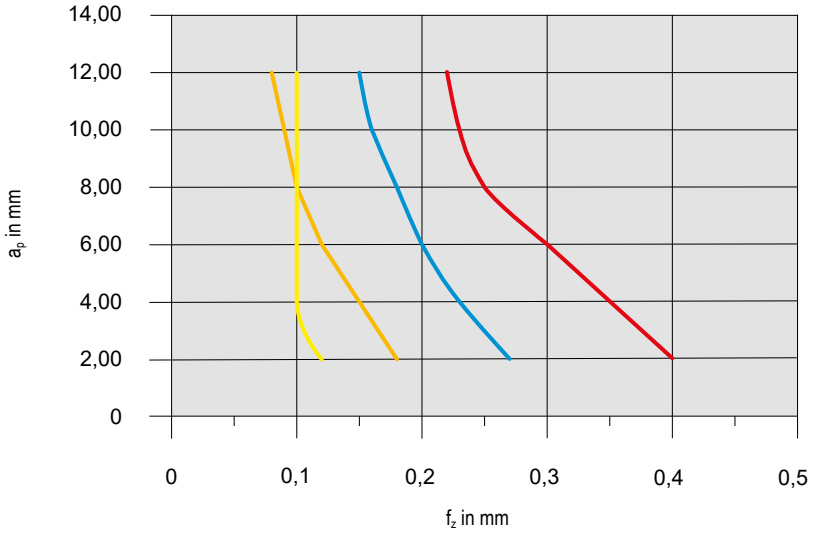
Machining strategy

LNHU 13 – DC/a_e Ratio (Dry machining at $a_{p\ max.}$)

DC	ZNF	5 %	10 %	15 %	20 %	25 %	30 %	35 %	40 %	45 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %	100 %
32	3	P																			
		M																			
		K																			
40	4	P																			
		M																			
		K																			
	5	P																			
		M																			
		K																			
50	5	P																			
		M																			
		K																			
	6	P																			
		M																			
		K																			
63	6	P																			
		M																			
		K																			
	8	P																			
		M																			
		K																			
80	7	P																			
		M																			
		K																			
	10	P																			
		M																			
		K																			
100	9	P																			
		M																			
		K																			
	13	P																			
		M																			
		K																			
125	11	P																			
		M																			
		K																			
	16	P																			
		M																			
		K																			

Starting Parameter

LNHU 13



Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**LNHU 130608-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**LNHU 130608-F50**	**CTPM240**	120	Emulsion
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**LNHU 130608-M50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**LNHU 130608-F50**	**CTC5240**	35	Emulsion

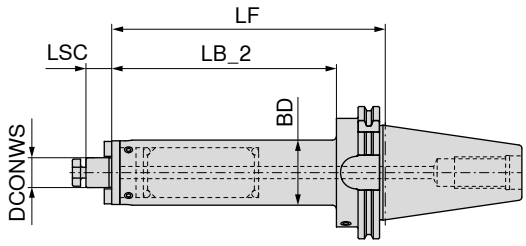
Detailed information on cutting speed for each grade can be found on → page 49+50

From v_c > 400 m/min, the tool must be balanced!

Actively vibration-damped shell mill adapter

- ▲ The specially mounted damping core enables perfect machining results even with longer tool overhangs
- ▲ Reduction in machining times due to optimum machining parameters
- ▲ Damped machining and therefore perfect surface qualities
- ▲ Protection of the machine spindle and increased tool service life
- ▲ Screwed drive dogs
- ▲ Also available with Balluff chip **on request**

Scope of supply:
Base body with retaining screw and drive dog



NEW

AD
G 2,5 n_{max} 25000

84 752 ...

Adapter	DCONWS mm	LB_2 mm	LF mm	BD mm	LSC mm	
SK 40	16	180,9	200	39	17	**51679**
SK 40	22	180,9	200	48	19	**52279**
SK 50	16	180,9	200	39	17	**51678**
SK 50	22	180,9	200	48	19	**52278**
SK 50	27	180,9	200	58	21	**52778**


Screw for drivers


Driver


Cross screw


clamping screw

	83 950 ...		**83 950 ...**		**83 367 ...**		**83 950 ...**	
Spare parts DCONWS								
16	M3x8	**296**	8x9x17,5	**120**	M8	**016**	M8x25	**113**
22	M4x12	**297**	10x11x20,5	**121**	M10	**022**	M10x25	**124**
27	M5x12	**136**	12x13x24,3	**122**	M12	**027**	M12x30	**125**

Accessories


→ 58, 60
Pull stud

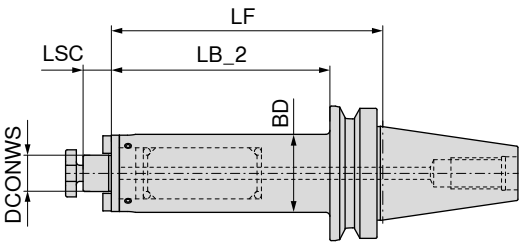

→ 284
Others

Accessories can be found in the clamping technology catalogue
→ **Chapter 16, Adapters and accessories**

Actively vibration-damped shell mill adapter

- ▲ The specially mounted damping core enables perfect machining results even with longer tool overhangs
- ▲ Reduction in machining times due to optimum machining parameters
- ▲ Damped machining and therefore perfect surface qualities
- ▲ Protection of the machine spindle and increased tool service life
- ▲ Screwed drive dogs
- ▲ Also available with Balluff chip **on request**

Scope of supply:
Base body with retaining screw and drive dog



NEW

AD
G 2,5 n_{max} 25000

84 752 ...

Adapter	DCONWS mm	LB_2 mm	LF mm	BD mm	LSC mm	
BT 40	16	173,0	200	39	17	**51669**
BT 40	22	173,0	200	48	19	**52269**
BT 50	16	162,5	200	39	17	**51668**
BT 50	22	162,0	200	48	19	**52268**
BT 50	27	162,0	200	58	21	**52768**


Screw for drivers


Driver


Cross screw


clamping screw

	83 950 ...		**83 950 ...**		**83 367 ...**		**83 950 ...**	
Spare parts DCONWS								
16	M3x8	**296**	8x9x17,5	**120**	M8	**016**	M8x25	**113**
22	M4x12	**297**	10x11x20,5	**121**	M10	**022**	M10x25	**124**
27	M5x12	**136**	12x13x24,3	**122**	M12	**027**	M12x30	**125**

Accessories


→ 110+111
Pull stud

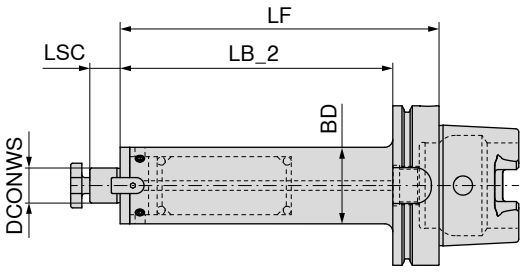

→ 284
Others

Accessories can be found in the clamping technology catalogue
→ **Chapter 16, Adapters and accessories**

Actively vibration-damped shell mill adapter

- ▲ The specially mounted damping core enables perfect machining results even with longer tool overhangs
- ▲ Reduction in machining times due to optimum machining parameters
- ▲ Damped machining and therefore perfect surface qualities
- ▲ Protection of the machine spindle and increased tool service life
- ▲ Screwed drive dogs
- ▲ Also available with Balluff chip **on request**

Scope of supply:
Base body with retaining screw and drive dog



NEW

AD
G 2,5 n_{max} 25000

Adapter	DCONWS mm	LB_2 mm	LF mm	BD mm	LSC mm	84 752 ...
HSK-A 63	16	174	200	39	17	**51657**
HSK-A 63	22	174	200	48	19	**52257**
HSK-A 100	16	171	200	39	17	**51655**
HSK-A 100	22	171	200	48	19	**52255**
HSK-A 100	27	171	200	58	21	**52755**


Screw for drivers


Driver


Cross screw


clamping screw

Spare parts DCONWS	83 950 ...	83 950 ...	83 367 ...	83 950 ...
16	**296**	**120**	**016**	**113**
22	**297**	**121**	**022**	**124**
27	**136**	**122**	**027**	**125**

Accessories


→ 156
Pull stud


→ 284
Others

Accessories can be found in the clamping technology catalogue
→ **Chapter 16, Adapters and accessories**

Sustainability is not a goal, it's a mission.

We have an ambitious sustainability mission that will affect and change the entire supply chain. But we can only achieve true sustainability together. That's why our mission goes beyond our own scope:

We want to enable our customers to produce more sustainably with our products and services. With our ambitious mission, we want to make an important contribution to tackling the climate crisis.

Mission #1:
Climate neutral by 2025

Mission #2:
Minimise the use of virgin raw materials

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Together for Sustainability

cutting.tools/int/en/sustainability

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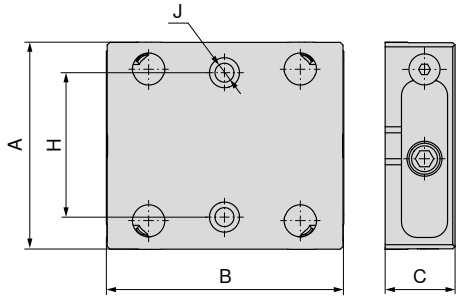
MNG mini – Base plate, rectangular, 52 x 52 mm

▲ Order mounting bolts separately

MNG mini | **52 x 52**



NEW

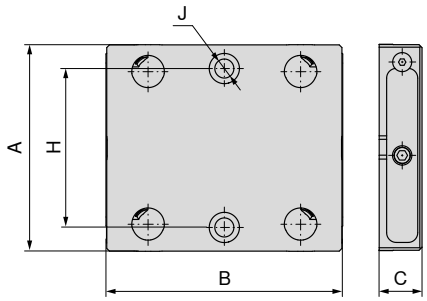
80 915 ...

Size	A mm	B mm	C ±0,005 mm	H ±0,01 mm	J F7 mm	WT kg	
52 x 52	80	100	27	50	12	1,36	**75200**

MNG mini – Base plate, rectangular, 96 x 96 mm

▲ Order mounting bolts separately

MNG mini | **96 x 96**



NEW

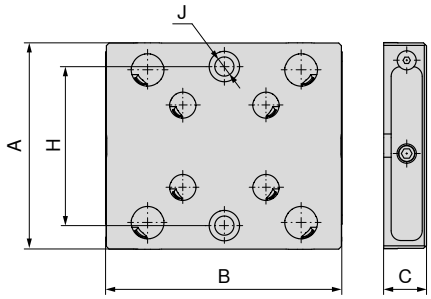
80 915 ...

Size	A mm	B mm	C ±0,005 mm	H ±0,01 mm	J F7 mm	WT kg	
96 x 96	130	148	27	100	12	3,59	**79600**

MNG mini – combi-insert, 52 x 52 mm and 96 x 96 mm

▲ Order mounting bolts separately

MNG mini | **52 x 52** | **96 x 96**



NEW

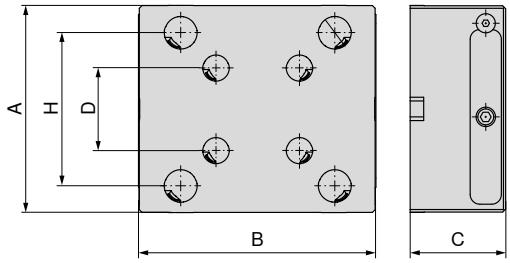
80 915 ...

Size	A mm	B mm	C ±0,005 mm	H ±0,01 mm	J F7 mm	WT kg	
52 x 52 / 96 x 96	130	148	27	100	12	3,43	**75900**

MNG mini – combi-5-axis-increase, 52 x 52 mm and 96 x 96 mm

▲ Order mounting bolts separately

MNG mini | **52 x 52** | **96 x 96**

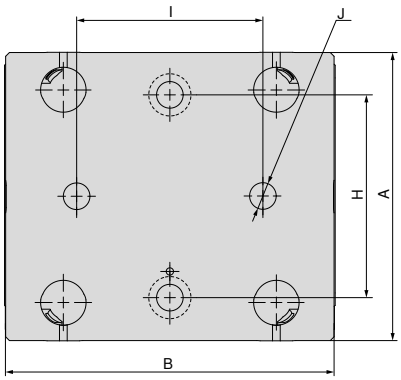


NEW

80 915 ...

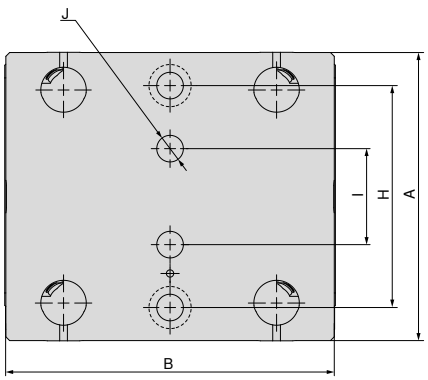
A mm	B mm	C mm	D mm	H mm	
130	148	60	52	96	**56000**
130	148	100	52	96	**51000**

MNG mini underside dimensions



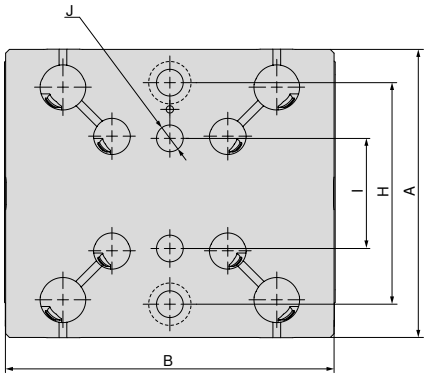
Base plate, rectangular, 52 x 52 mm

A mm	B mm	H mm	$I_{\pm 0,01}$ mm	J_{H7} mm
80	100	50	40	12



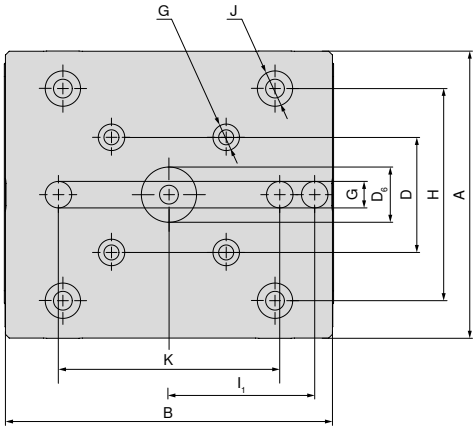
Base plate, rectangular, 96 x 96 mm

A mm	B mm	H mm	$I_{\pm 0,01}$ mm	J_{H7} mm
130	148	100	50	12



Combi-insert 1-sided, 52 x 52 mm and 96 x 96 mm

A mm	B mm	H mm	$I_{\pm 0,01}$ mm	J_{H7} mm
130	148	100	50	12



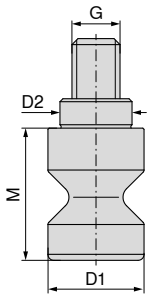
Combi-5-axis-increase, 52 x 52 mm and 96 x 96 mm

A mm	B mm	D mm	$D_{6\,H7}$ mm	G_{H7} mm	H mm	$I_{1\,\pm 0,01}$ mm	J_{H7} mm	K mm
130	148	52	25	12	96	66	16	100

MNG mini mounting bolt set

Scope of supply:
Set contains four mounting bolts

MNG mini | **96 x 96**



NEW

80 915 ...

$D_{1\ h6}$ mm	$D_{2\ h6}$ mm	M mm	G mm	TQX Nm	Clamping force kN	for	
20	16	22	M10	18	15	96 x 96	**51100**

Expansion aid

MNG mini

NEW

80 915 ...

D_1 mm	M mm	
15	40	**51300**

Clamping Screw Set for T-slot for MNG mini

Scope of supply:
Clamping screw and T-Nuts

MNG mini

NEW

80 915 ...

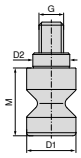
for slot width mm	G	
14	M12	**62400**
16	M12	**62600**
18	M12	**62800**

Mounting bolt set – LANG / HWR

Scope of supply:

Set contains four mounting bolts

MNG mini



NEW

TQX Nm	Clamping force kN	$D_{1\ h6}$ mm	$D_{2\ h6}$ mm	M mm	for	80 915 ...
18	15	15	12	22	52 x 52	**51500**
18	15	19	16	22	96 x 96	**51400**

Alignment/centering set for T-slots

▲ A = groove spacing

Scope of supply:

1 Terminal block, 2 T-nuts, 2 screws, 2 washers for width 12 mm, without clamping strip!

MNG mini

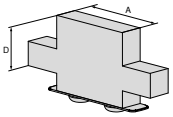
NEW

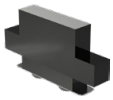
for slot width mm	A mm	G	80 915 ...
12	35	M10	**82200**
14	35	M10	**82400**
16	35	M10	**82600**
18	40	M10	**82800**

Workpiece supports overview – Verso

Workpiece supports, offset

▲ Price for 2 pieces

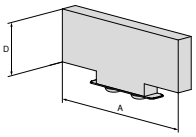


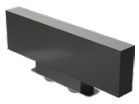


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2		NEW	NCG	H5G / -S / -Z	X6G-Z / -S	ESG 4	ESG 5	HDG 2	ZSG 4	ZSG mini	DSG 4	Verso	HSG
90	40		22								**80 914 70300**										●	

Workpiece supports, offset

▲ Price for 2 pieces



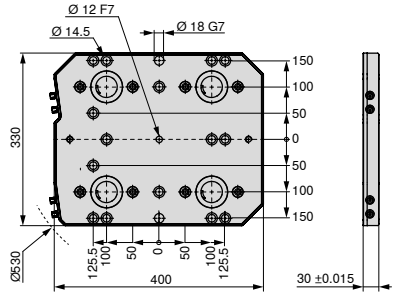


For vice width	A	A_1	D	D_1	D_2	E	M	M_1	M_2		NEW	NCG	H5G / -S / -Z	X6G-Z / -S	ESG 4	ESG 5	HDG 2	ZSG 4	ZSG mini	DSG 4	Verso	HSG
90	90		22								**80 914 72500**										●	

MNG – base plate 4-sided with indexing, 330 x 400 mm

- ▲ MNG – Mechanical zero point clamping system
- ▲ Stainless and vacuum-hardened
- ▲ Insertion force 20 kN on each clamping bolt
- ▲ 15 x M12 mounting holes for T-slot spacing 50, 63, 100, 125 mm
- ▲ 2 x locating holes Ø18 G7 for positioning
- ▲ 1 x locating hole Ø12 F7 for positioning

MNG



NEW

80 899 ...

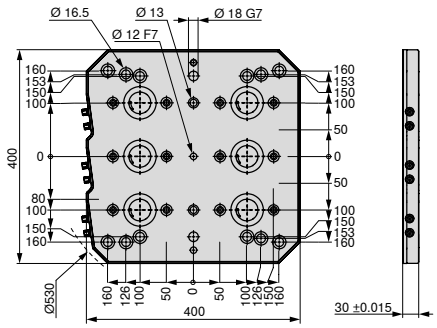
Size	WT kg	
330x400 mm	28	**64200**[1)]

1) Not ex-stock

MNG – base plate 6-sided with indexing, 400 x 400 mm

- ▲ MNG – Mechanical Zero-point Clamping System
- ▲ Stainless and vacuum-hardened
- ▲ Insertion force 20 kN on the clamping bolt
- ▲ 14 x mounting holes for M16, for T-slot spacing 63, 80, 100, 125 mm
- ▲ 2 x mounting holes for M12
- ▲ 2 x mating holes Ø18 G7 for positioning
- ▲ 1 x mating holes Ø12 F7 for positioning

MNG



NEW

80 899 ...

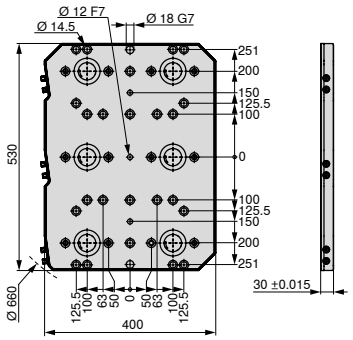
Size	WT kg	
400x400 mm	33	**64300**[1)]

1) Not ex-stock

MNG – base plate 6-sided with indexing, 400 x 530 mm

- ▲ MNG – Mechanical zero point clamping system
- ▲ Stainless and vacuum-hardened
- ▲ Insertion force 20 kN on each clamping bolt
- ▲ 24 x M12 mounting holes for T-slot spacing 63, 100, 125 mm
- ▲ 2 x locating holes Ø18 G7 for positioning
- ▲ 1 x locating hole Ø12 F7 for positioning

MNG



NEW

80 899 ...

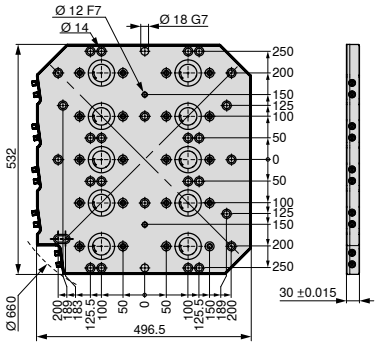
Size	WT kg	
400x530 mm	45	**64400**[1)]

1) Not ex-stock

MNG – base plate 10-sided with indexing, 496.5 x 532 mm

- ▲ MNG – Mechanical Zero-point Clamping System
- ▲ Stainless and vacuum-hardened
- ▲ Insertion force 20 kN on the clamping bolt
- ▲ 27 x mounting holes M12 for T-slot spacing 50, 63, 100, 125 mm and star slots 45°
- ▲ 2 x mating holes Ø18 G7 for positioning
- ▲ 1 x mating holes Ø12 F7 for positioning

MNG



NEW

80 899 ...

Size	WT kg	
496,5x532 mm	54	**64500**[1)]

1) Not ex-stock

We reserve the right to make technical changes and product improvements.

CERATIZIT GROUP

02/2025 – 94 221 00265