

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

ceratizit.com



CERATIZIT
GROUP

Welcome!



Placing your order is quick and easy

Customer Service Centre

Freephone Number

UK: 0800 073 2073

Ireland: 1800 93 22 55

Freefax Number

UK: 0800 073 2074

E-Mail

info.uk@ceratizit.com



It couldn't be easier

Ordering via the Online Shop

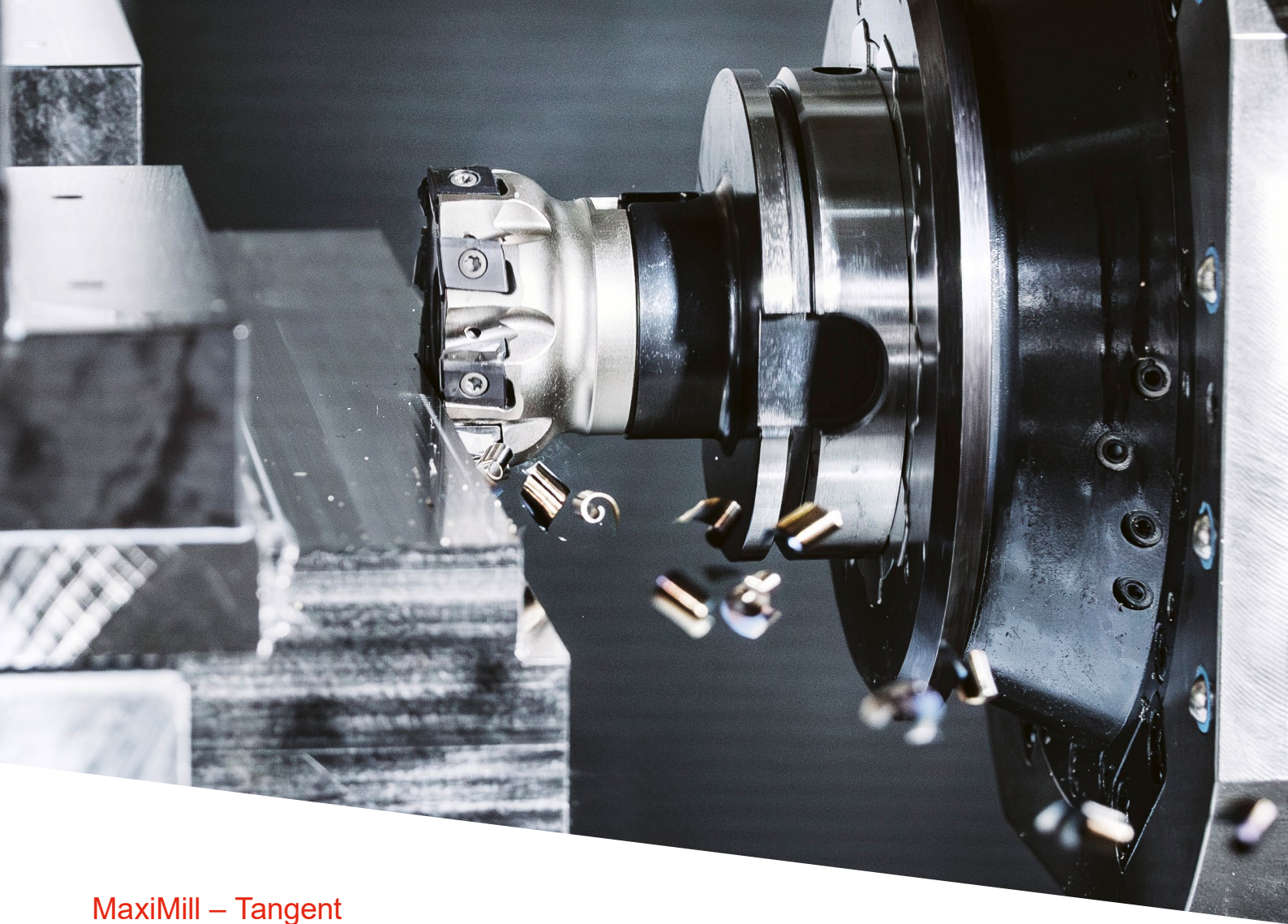
<https://cuttingtools.ceratizit.com>



On-site technical support

Your Local Technical Sales Engineer

Your customer number



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/gb/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

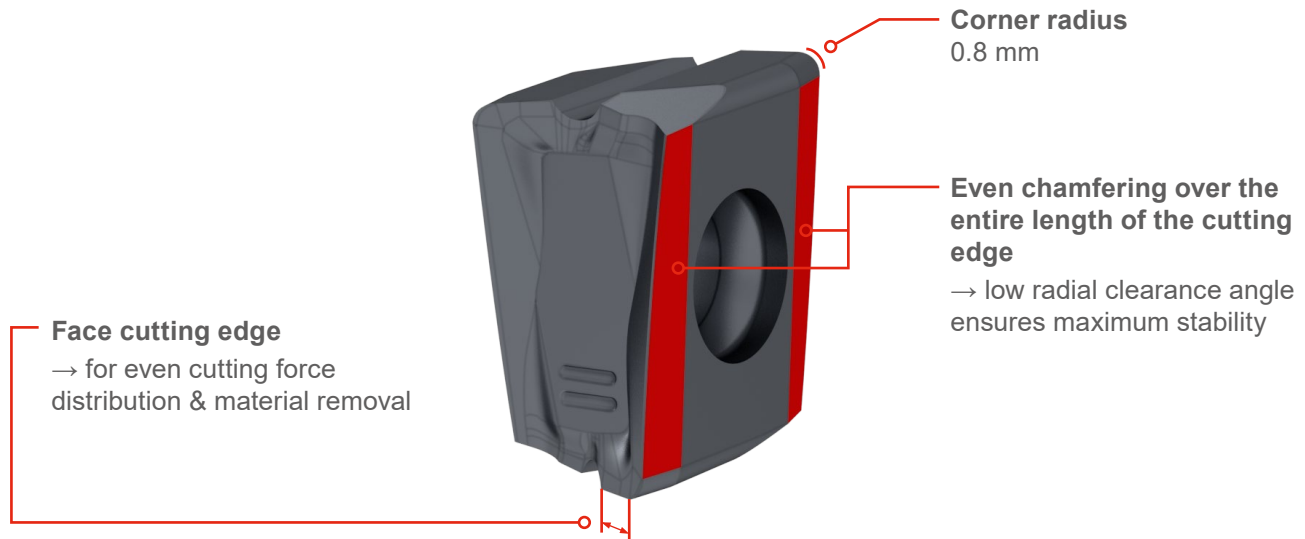
... also compatible with actively vibration-damped adapter

→ 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/gb/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/gb/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

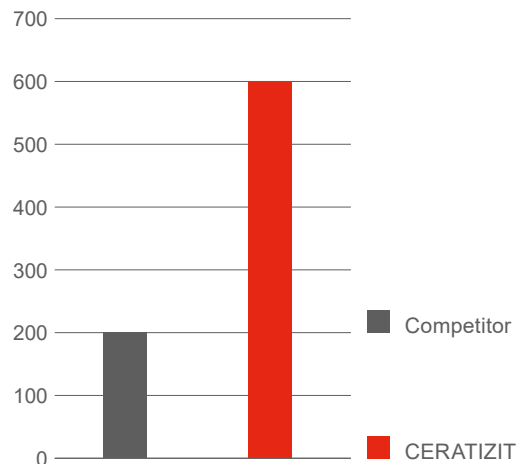
R ● right-hand insert

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

Number of finished parts



TEST RESULTS

Superior performance, tool life and ease of handling!



Pilot drill

WTX – Micropilot

Table of contents

WNT Solid carbide drilling

12–15 WTX – Micropilot

WNT Circular and Thread Milling

16–18 MonoThread – ZSGF

19 Product enhancement, MonoThread – SGF UNJF and UNJC

CERATIZIT Turning Tools

22–29 MaxiLock-D tool holder with DirectCooling

WNT Solid Carbide milling cutters

30–33 Milling cutter enhancement, HPC – UNI type ML

Rough milling system

MaxiMill – Tangent

Side and face milling cutter system

MaxiMill – Slot-SNHX

CERATIZIT Milling tools with indexable inserts

- 34–36 MaxiMill – HFCD
- 37–42 **MaxiMill – Tangent**
- 43–47 MaxiMill – Slot-SNHX

WNT Adapters and accessories

- 54–56 **Actively vibration-damped shell mill adapter**

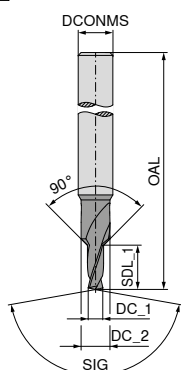
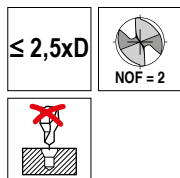
WNT Workpiece clamping

- 58–60 MNG base plates
- 61–65 Addition, MNG Mini

Actively vibration-damped
shell mill adapter

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	£ T4/9F	
0.8	1.7	4	55	2.00	46.63	00800
0.9	1.7	4	55	2.25	46.63	00900
1.0	2.0	4	55	2.50	46.63	01000
1.1	2.0	4	55	2.75	46.63	01100
1.2	2.0	4	55	3.00	46.63	01200
1.3	2.5	4	55	3.25	46.63	01300
1.4	2.5	4	55	3.50	46.63	01400
1.5	3.0	4	55	3.75	46.63	01500
1.6	3.0	4	55	4.00	46.63	01600
1.7	3.0	4	55	4.25	46.63	01700
1.8	3.5	4	55	4.50	46.63	01800
1.9	3.5	4	55	4.75	46.63	01900
2.0	3.5	6	65	5.00	55.34	02000
2.1	3.5	6	65	5.25	55.34	02100
2.2	4.5	6	65	5.50	55.34	02200
2.3	4.5	6	65	5.75	55.34	02300
2.4	4.5	6	65	6.00	55.34	02400
2.5	4.5	6	65	6.25	55.34	02500
2.6	4.5	6	65	6.50	55.34	02600
2.7	5.0	6	65	6.75	55.34	02700
2.8	5.0	6	65	7.00	55.34	02800
2.9	5.0	6	65	7.25	55.34	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/mm** / HB / HRC	10 692 ...						
				without through coolant v _c (m/min)	2,5xD					
					≤ Ø 1	> Ø 1–1,25	> Ø 1,25–1,5	> Ø 1,5–2	> Ø 2–2,5	> Ø 2,5–3
					f (mm/rev)					
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.

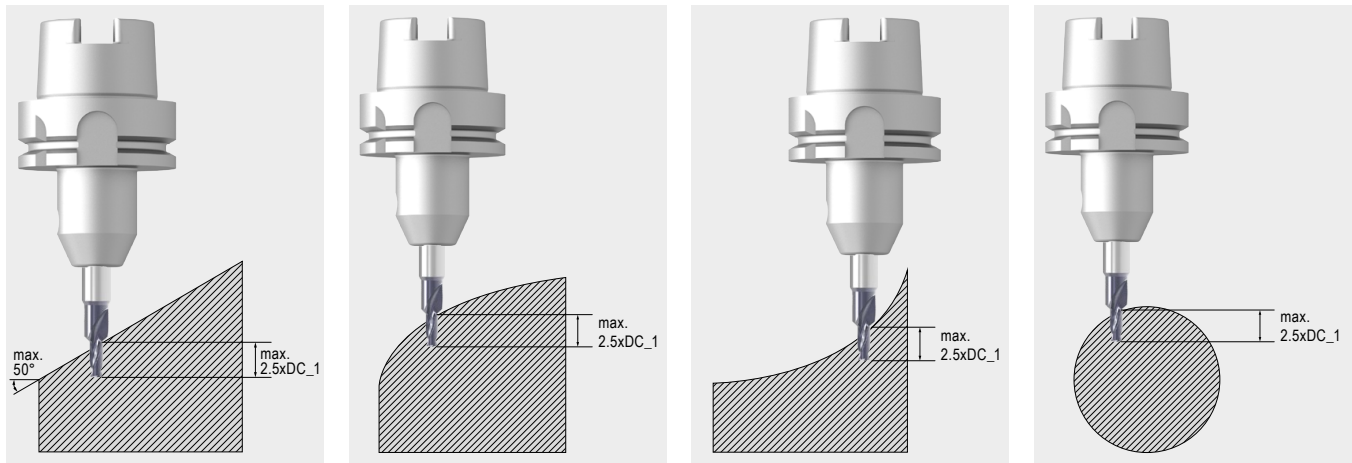
WTX – Micropilot application recommendation

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.

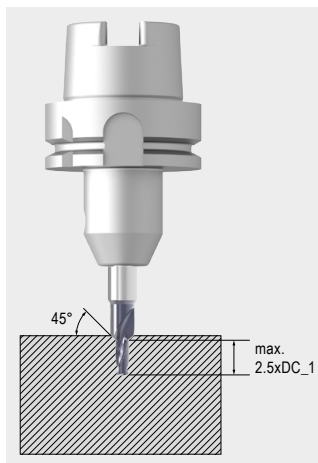
1. Pilot hole in angled or curved surfaces

Produce pilot hole in one go up to a maximum hole depth of $2.5 \times D$. 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 $2.5 \times D$ hole depth is reached.

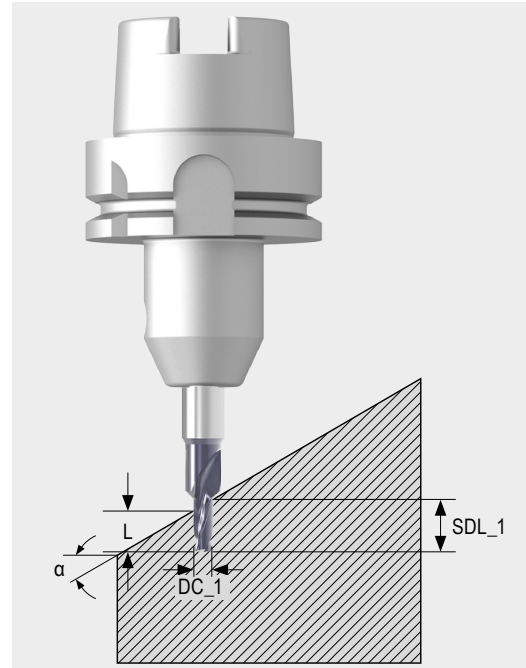


Calculating pilot hole depth with angled drilling application

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:

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

- DC₁ = Cutting diameter
- SDL₁ = Step length (max. 2.5xDC₁)
- α = Component surface angle of inclination (max. 50°)
- L = Remaining pilot hole depth

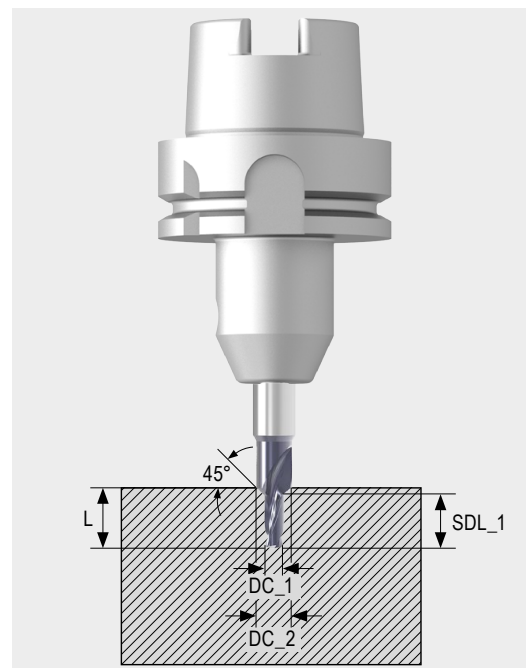


Calculating maximum hole depth with 90° countersink

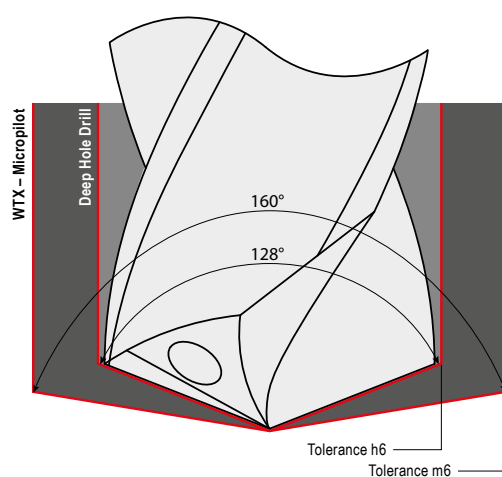
The maximum hole depth incl. 90° countersink can be found using the formula below.

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

- DC₁ = Cutting diameter
- DC₂ = Max. countersink diameter
- SDL₁ = Step length (max. 2.5xDC₁)
- L = Max. hole depth incl. countersink

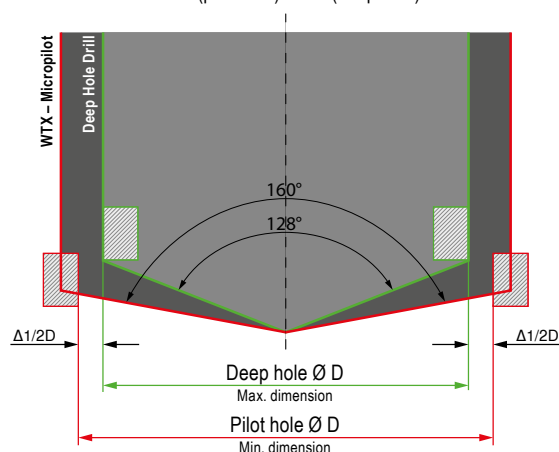


Tolerances and angles



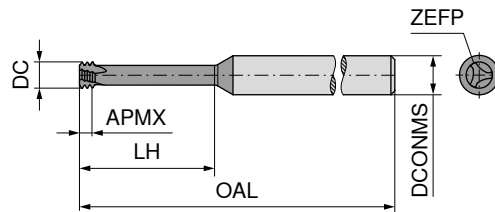
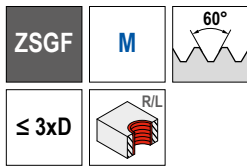
The following must apply to use the pilot and deep hole twist drill consecutively and without collisions:

$$\Delta D = \varnothing D (\text{pilot hole}) - \varnothing D (\text{deep hole}) > 0$$



MonoThread – Circular shank thread milling cutter

▲ Profile corrected



NEW

AlTiN



Solid carbide

50 545 ...

£	
W1/5D	
96.94	02000
96.94	03000
96.94	04000
96.94	05000
96.94	06000
96.94	08000
120.79	10000
135.78	12000

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
2.37	M3	0.50	58	1.35	9.5	6	3
3.10	M4	0.70	58	1.95	12.5	6	3
3.80	M5	0.80	58	2.30	16.0	6	3
4.65	M6	1.00	58	2.70	20.0	6	3
6.00	M8	1.25	58	3.20	24.0	6	3
7.80	M10	1.50	64	3.80	31.5	8	3
9.00	M12	1.75	73	4.55	37.8	10	3



NEW

50 550 ...

£	
W1/5D	
109.10	02000 ¹⁾
104.25	03000
104.25	04000
104.25	05000
104.25	06000
129.22	08000
129.22	10000

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
2.37	M3	0.50	39	1.30	12.5	3	3
3.10	M4	0.70	58	1.80	16.7	6	3
4.00	M5	0.80	58	2.10	20.8	6	3
4.80	M6	1.00	58	2.55	25.0	6	3
6.40	M8	1.25	64	3.15	33.5	8	3
8.00	M10	1.50	76	3.85	41.5	8	3

P	●
M	○
K	●
N	●
S	●
H	●
O	●

1) 5xD

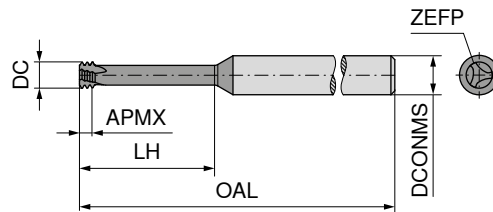
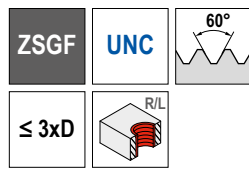
→ v_c/f_z Page 21

→ Chapter 7 – Circular and Thread Milling

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

MonoThread – Circular shank thread milling cutter

▲ Profile corrected



NEW

AlTiN



Solid carbide

50 557 ...

£	
W1/5D	
109.89	01000
109.89	01400
109.89	51600
140.17	03800
140.17	71600
158.15	01200
207.58	91600
207.58	05800
303.13	03400

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
4.697	UNC 1/4	1,27	58	3.81	19.0	6	3
6.000	UNC 5/16	1,411	58	4.23	23.0	6	3
7.345	UNC 3/8	1,588	64	4.76	30.2	8	3
7.700	UNC 7/16	1,814	64	5.44	35.2	8	3
9.376	UNC 1/2	1,954	73	5.86	40.1	10	3
10.920	UNC 9/16	2,117	105	6.35	45.0	12	3
11.419	UNC 5/8	2,309	105	6.93	50.0	12	3
15.210	UNC 3/4	2,540	105	7.62	59.7	16	4



NEW

50 559 ...

£	
W1/5D	
109.89	01400
140.17	51600
140.17	71600
219.99	05800

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
6.217	UNF 5/16, 3/8	1,058	64	3.17	24.0	8	3
7.994	UNF 7/16	1,270	64	3.81	34.5	8	3
11.993	UNF 5/8	1,411	105	4.23	49.0	12	4

P	●
M	○
K	●
N	●
S	●
H	●
O	●

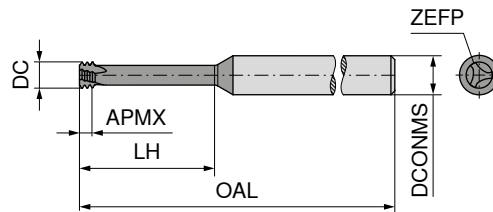
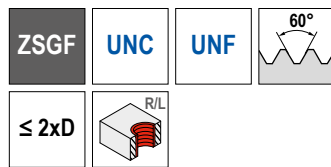
→ v_c/f_z Page 21

→ 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



NEW

AlTiN



Solid carbide

50 568 ...

£	
W1/5D	
99.77	01200
99.77	02300
99.77	03400
110.96	04000
110.96	05600

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
1.646	UNC No.2 / UNF No.3	0,454	58	1.36	4.4	6	3
1.901	UNC No.3 / UNF No.4	0,529	58	1.59	5.2	6	3
2.034	UNC No.4	0,635	58	1.91	6.3	6	3
2.416	UNC No.5 / UNF No.6	0,635	58	1.91	7.0	6	3



NEW

50 569 ...

£	
W1/5D	
123.05	01800
145.52	01400
180.30	01200
236.47	01000

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
10.015	G 1/4-3/8	1,337	73	4.01	30.0	10	4
12.013	G 1/2-G7/8	1,814	84	5.44	37.0	12	4
15.900	G 1-2	2,309	105	6.93	44.0	16	4

P	●
M	○
K	●
N	●
S	●
H	
O	●

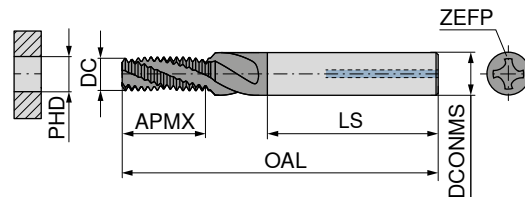
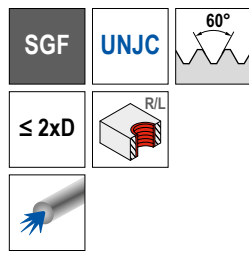
→ v_c/f_z Page 21

→ 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 ...

£	
W1/5D	
184.38	01400
200.55	05160
215.04	03800
271.32	07160
271.32	01200

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
6.22	UNJC 5/16-18	1.411	62	16.32	36	8	4	7.0
7.79	UNJC 3/8-16	1.588	74	20.01	40	10	4	8.6
8.57	UNJC 7/16-14	1.814	79	22.87	45	12	4	10.0
9.38	UNJC 1/2-13	1.270	79	26.75	45	12	5	11.5



NEW

50 533 ...

£	
W1/5D	
163.70	06000
179.03	08000
179.03	10000
184.38	01400
200.55	05160
215.04	03800
215.04	07160
271.32	01200
326.45	05800

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
3.14	UNJF 8-36	0.706	49	8.91	36	6	3	3.50
3.95	UNJF 10-32	0.794	55	9.97	36	6	3	4.10
4.70	UNJF 1/4-28	0.907	55	14.27	36	6	4	5.60
6.22	UNJF 5/16-24	1.058	62	16.59	36	8	4	7.00
7.79	UNJF 3/8-24	1.058	74	19.77	40	10	4	8.60
9.32	UNJF 7/16-20	1.270	79	22.39	45	12	5	10.00
9.38	UNJF 1/2-20	1.270	79	25.34	45	12	5	11.50
12.90	UNJF 5/8-18	1.411	102	33.59	48	16	5	14.50

P	•
M	•
K	•
N	•
S	•
H	•
O	•

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

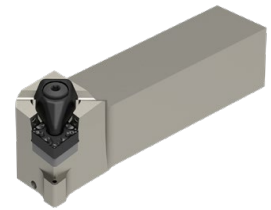
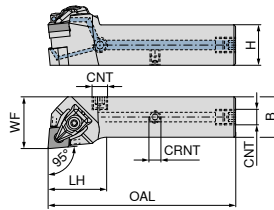


The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. $\pm 20\%$ according to the usage conditions.

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

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	NEW Left-hand 70 510 ...		NEW Right-hand 70 510 ...	
										£ 2A/24		£ 2A/24	
DCLN R/L 2020 X09 DC	20	20	94	25	25	M6	G1/8"	2	CN.. 0903	227.77	52000	227.77	52001
DCLN R/L 2020 X12 DC	20	20	101	32	25	M6	G1/8"	4	CN.. 1204	227.77	62000	227.77	62001
DCLN R/L 2525 X12 DC	25	25	116	32	32	M6	G1/8"	4	CN.. 1204	227.77	62500	227.77	62501
DCLN R/L 3225 X12 DC	32	25	132	32	32	M6	G1/8"	4	CN.. 1204	249.93	63200	249.93	63201
DCLN R/L 2525 X16 DC	25	25	122	38	32	M6	G1/8"	6,5	CN.. 1606	252.24	72500	252.24	72501
DCLN R/L 3232 X16 DC	32	32	142	42	40	M6	G1/8"	6,5	CN.. 1606	257.48	73200	257.48	73201
DCLN R/L 3232 X19 DC	32	32	142	42	40	M6	G1/8"	6,5	CN.. 1906	263.97	83200	263.97	83201
DCLN R/L 4040 X19 DC	40	40	167	42	50	M6	G1/8"	6,5	CN.. 1906	272.10	94000	272.10	94001

Spare parts for Article no.

		70 950 ...		70 950 ...		70 950 ...	
		£ 2A/28		£ 2A/28		£ 2A/28	
70 510 52000 / 70 510 52001	M3x7 - IP	3.79	819	8.61	848	3.51	86700
70 510 62000 / 70 510 62001	M4,5x12 - IP	3.62	820	9.56	810	3.51	86700
70 510 62500 / 70 510 62501	M4,5x12 - IP	3.62	820	9.56	810	3.51	86700
70 510 63200 / 70 510 63201	M4,5x12 - IP	3.62	820	9.56	810	3.51	86700
70 510 72500 / 70 510 72501	M5x14 - IP	5.13	821	14.59	814	3.51	86700
70 510 73200 / 70 510 73201	M5x14 - IP	5.13	821	14.59	814	3.51	86700
70 510 83200 / 70 510 83201	M5x14 - IP	5.13	821	15.64	816	3.51	86700
70 510 94000 / 70 510 94001	M5x14 - IP	5.13	821	15.64	816	3.51	86700

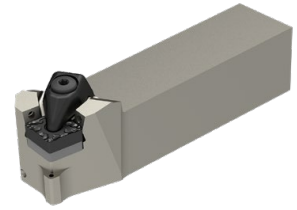
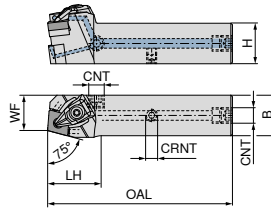
Spare parts for Article no.

		70 950 ...		80 950 ...		70 950 ...	
		£ 2A/28		£ Y7		£ 2A/28	
70 510 52000 / 70 510 52001	T09 - IP	29.18	823	19.68	126	4.31	294
70 510 62000 / 70 510 62001	T15 - IP	28.78	824	21.01	128	4.31	294
70 510 62500 / 70 510 62501	T15 - IP	28.78	824	21.01	128	4.31	294
70 510 63200 / 70 510 63201	T15 - IP	28.78	824	21.01	128	4.31	294
70 510 72500 / 70 510 72501	T20 - IP	32.31	825	22.06	129	4.31	294
70 510 73200 / 70 510 73201	T20 - IP	32.31	825	22.06	129	4.31	294
70 510 83200 / 70 510 83201	T20 - IP	35.35	826	22.06	129	4.31	294
70 510 94000 / 70 510 94001	T20 - IP	35.35	826	22.06	129	4.31	294

MaxiLock-D – DCBN 75° 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 70 507 ... £ 2A/24 227.77 82500 252.24 62500	NEW Right-hand 70 507 ... £ 2A/24 227.77 82501 252.24 62501
DCBN R/L 2525 X12 DC	25	25	114	30	22	M6	G1/8"	4	CN.. 1204		
DCBN R/L 2525 X16 DC	25	25	120	36	22	M6	G1/8"	6,5	CN.. 1606		

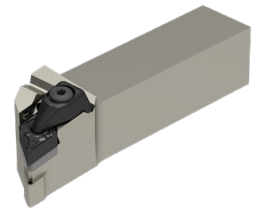
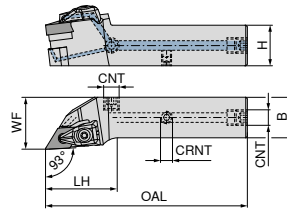
Spare parts for Article no.	Clamping screw		Carbide type C		Grubscrew	
	70 950 ... £ 2A/28		70 950 ... £ 2A/28		70 950 ... £ 2A/28	
70 507 82500 / 70 507 82501	M4,5x12 - IP	3.62 820	9.56 810	M6x6	3.51 86700	
70 507 62500 / 70 507 62501	M5x14 - IP	5.13 821	14.59 814	M6x6	3.51 86700	

Spare parts for Article no.	XPress type		Key D		Coolant screw plug	
	70 950 ... £ 2A/28		80 950 ... £ Y7		70 950 ... £ 2A/28	
70 507 82500 / 70 507 82501	T15 - IP	28.78 824	21.01 128	G 1/8"	4.31 294	
70 507 62500 / 70 507 62501	T20 - IP	32.31 825	22.06 129	G 1/8"	4.31 294	

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 ...	
										£ 2A/24		£ 2A/24	
DDJN R/L 2020 X11 DC	20	20	99	30	25	M6	G1/8"	2	DN.. 1104	227.77	82000	227.77	82001
DDJN R/L 2525 X11 DC	25	25	114	30	32	M6	G1/8"	2	DN.. 1104	227.77	82500	227.77	82501
DDJN R/L 2020 X15 DC	20	20	109	40	25	M6	G1/8"	4	DN.. 1504 / 1506	227.77	72000	227.77	72001
DDJN R/L 2525 X15 DC	25	25	124	40	32	M6	G1/8"	4	DN.. 1504 / 1506	233.79	72500	233.79	72501
DDJN R/L 3225 X15 DC	32	25	140	40	32	M6	G1/8"	4	DN.. 1504 / 1506	249.93	73200	249.93	73201



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

Spare parts for Article no.

		£ 2A/28		£ 2A/28		£ 2A/28	
70 546 82000 / 70 546 82001	M3x7 - IP	3.79	819	4.27	808	M6x6	3.51 86700
70 546 82500 / 70 546 82501	M3x7 - IP	3.79	819	4.27	808	M6x6	3.51 86700
70 546 72000 / 70 546 72001	M4,5x12 - IP	3.62	820	9.56	811	M6x6	3.51 86700
70 546 72500 / 70 546 72501	M4,5x12 - IP	3.62	820	9.56	811	M6x6	3.51 86700
70 546 73200 / 70 546 73201	M4,5x12 - IP	3.62	820	9.56	811	M6x6	3.51 86700



Clamping screw



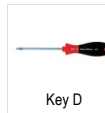
Solid Carbide
Seat D



Grubscrew



XPress type



Key D



Coolant screw
plug

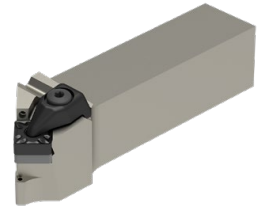
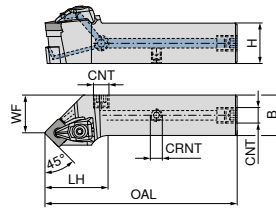
Spare parts for Article no.

		£ 2A/28		£ Y7		£ 2A/28	
70 546 82000 / 70 546 82001	T09 - IP	34.83	835	19.68	126	G 1/8"	4.31 294
70 546 82500 / 70 546 82501	T09 - IP	34.83	835	19.68	126	G 1/8"	4.31 294
70 546 72000 / 70 546 72001	T15 - IP	28.78	824	21.01	128	G 1/8"	4.31 294
70 546 72500 / 70 546 72501	T15 - IP	28.78	824	21.01	128	G 1/8"	4.31 294
70 546 73200 / 70 546 73201	T15 - IP	28.78	824	21.01	128	G 1/8"	4.31 294

MaxiLock-D – DSSN 45° 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 70 517 ...		NEW Right-hand 70 517 ...	
										£ 2A/24		£ 2A/24	
DSSN R/L 2020 X12 DC	20	20	104	35	16.7	M6	G1/8"	4	SN.. 1204	227.77	62000	227.77	62001
DSSN R/L 2525 X12 DC	25	25	119	35	24.2	M6	G1/8"	4	SN.. 1204	227.77	62500	227.77	62501
DSSN R/L 3225 X12 DC	32	25	135	35	24.2	M6	G1/8"	4	SN.. 1204	249.93	63200	249.93	63201

Spare parts for Article no.

70 517 62000 / 70 517 62001	M4,5x12 - IP	£ 3.62	820	£ 9.56	813	M6x6	£ 3.51	86700
70 517 62500 / 70 517 62501	M4,5x12 - IP	£ 3.62	820	£ 9.56	813	M6x6	£ 3.51	86700
70 517 63200 / 70 517 63201	M4,5x12 - IP	£ 3.62	820	£ 9.56	813	M6x6	£ 3.51	86700



Clamping screw



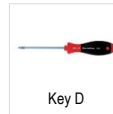
Solid Carbide support S



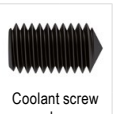
Grubscrew



XPress type



Key D



Coolant screw plug

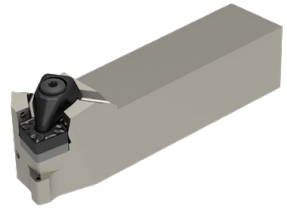
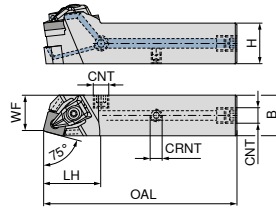
Spare parts for Article no.

70 517 62000 / 70 517 62001	T15 - IP	£ 28.78	824	£ 21.01	128	G 1/8"	£ 4.31	294
70 517 62500 / 70 517 62501	T15 - IP	£ 28.78	824	£ 21.01	128	G 1/8"	£ 4.31	294
70 517 63200 / 70 517 63201	T15 - IP	£ 28.78	824	£ 21.01	128	G 1/8"	£ 4.31	294

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

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions

NEW

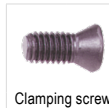
Right-hand

70 522 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	£ 2A/24
DSBN R 2020 X12 DC	20	20	104	35	17.2	M6	G1/8"	4	SN.. 1204	227.77 62001
DSBN R 2525 X12 DC	25	25	119	35	22.2	M6	G1/8"	4	SN.. 1204	227.77 62501
DSBN R 2525 X15 DC	25	25	127	33	22.3	M6	G1/8"	6,5	SN.. 1506	252.24 72501
DSBN R 3232 X15 DC	32	32	142	42	26.1	M6	G1/8"	6,5	SN.. 1506	249.93 73201
DSBN R 3232 X19 DC	32	32	148	48	27.3	M6	G1/8"	6,5	SN.. 1906	249.93 83201
DSBN R 4040 X19 DC	40	40	173	48	35.3	M6	G1/8"	6,5	SN.. 1906	272.10 84001

Spare parts for Article no.

	£ 2A/28	820	£ 2A/28	813	£ 2A/28	86700
70 522 62001	3.62	820	9.56	813	3.51	86700
70 522 62501	3.62	820	9.56	813	3.51	86700
70 522 72501	5.13	821	14.59	833	3.51	86700
70 522 73201	5.13	821	14.59	833	3.51	86700
70 522 83201	5.13	821	15.64	817	3.51	86700
70 522 84001	5.13	821	15.64	817	3.51	86700



Clamping screw

Solid Carbide
support S

Grubscrew

70 950 ...**70 950 ...****70 950 ...**

XPress type



Key D

Coolant screw
plug**70 950 ...****80 950 ...****70 950 ...**

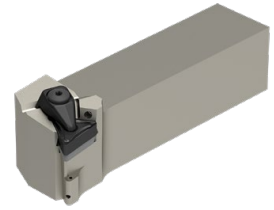
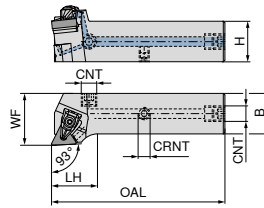
Spare parts for Article no.

	£ 2A/28	824	£ Y7	128	£ 2A/28	294
70 522 62001	28.78	824	21.01	128	4.31	294
70 522 62501	28.78	824	21.01	128	4.31	294
70 522 72501	32.31	825	22.06	129	4.31	294
70 522 73201	32.31	825	22.06	129	4.31	294
70 522 83201	35.35	826	22.06	129	4.31	294
70 522 84001	35.35	826	22.06	129	4.31	294

MaxiLock-D – DTJN 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		
DTJN R/L 2020 X16 DC	20	20	92	23	25	M6	G1/8"	2	TNM. 1604	NEW Left-hand 70 601 ...	NEW Right-hand 70 601 ...
DTJN R/L 2525 X16 DC	25	25	107	23	32	M6	G1/8"	2	TNM. 1604	£ 2A/24 227.77 82000	£ 2A/24 227.77 82001
										227.77 82500	227.77 82501

Spare parts for Article no.

70 601 82000 / 70 601 82001	M3x7 - IP	£ 2A/28 3.79 819	£ 2A/28 8.41 847	M6x6	£ 2A/28 3.51 86700
70 601 82500 / 70 601 82501	M3x7 - IP	£ 2A/28 3.79 819	£ 2A/28 8.41 847	M6x6	£ 2A/28 3.51 86700

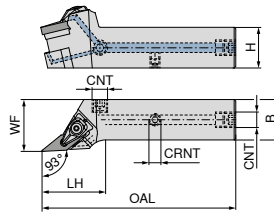
Spare parts for Article no.

70 601 82000 / 70 601 82001	T09 - IP	£ 2A/28 29.18 823	£ Y7 19.68 126	G 1/8"	£ 2A/28 4.31 294
70 601 82500 / 70 601 82501	T09 - IP	£ 2A/28 29.18 823	£ Y7 19.68 126	G 1/8"	£ 2A/28 4.31 294

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

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions

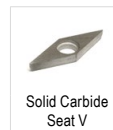
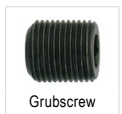
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	CRNT	CNT	torque moment Nm	Insert	NEW Left-hand 70 511 ...		NEW Right-hand 70 511 ...	
										£ 2A/24		£ 2A/24	
DVJN R/L 2020 X16 DC	20	20	104	35	25	M6	G1/8"	2	VN.. 1604	248.27	62000	248.27	62001
DVJN R/L 2525 X16 DC	25	25	119	35	32	M6	G1/8"	2	VN.. 1604	261.00	62500	261.00	62501

Spare parts for Article no.

70 511 62000 / 70 511 62001	M3x7 - IP	£ 3.79	819	£ 6.77	806	M6x6	£ 3.51	86700
70 511 62500 / 70 511 62501	M3x7 - IP	£ 3.79	819	£ 6.77	806	M6x6	£ 3.51	86700



Clamping screw

Solid Carbide
Seat V

Grubscrew

70 950 ...
£ 2A/28

70 950 ...
£ 2A/28

70 950 ...
£ 2A/28

Spare parts for Article no.

70 511 62000 / 70 511 62001	T09 - IP	£ 34.83	835	£ 19.68	126	G 1/8"	£ 4.31	294
70 511 62500 / 70 511 62501	T09 - IP	£ 34.83	835	£ 19.68	126	G 1/8"	£ 4.31	294



XPress type



Key D

Coolant screw
plug

70 950 ...
£ 2A/28

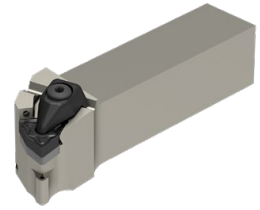
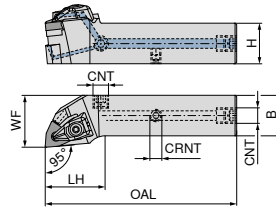
80 950 ...
£ Y7

70 950 ...
£ 2A/28

MaxiLock-D – DWLN 95° 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 70 547 ...		NEW Right-hand 70 547 ...	
										£ 2A/24		£ 2A/24	
DWLN R/L 2020 X06 DC	20	20	94	25	25	M6	G1/8"	2	WN.. 0604	227.77	62000	227.77	62001
DWLN R/L 2525 X06 DC	25	25	109	25	32	M6	G1/8"	2	WN.. 0604	227.77	62500	227.77	62501
DWLN R/L 2020 X08 DC	20	20	100	31	25	M6	G1/8"	4	WN.. 0804	227.77	72000	227.77	72001
DWLN R/L 2525 X08 DC	25	25	118	34	32	M6	G1/8"	4	WN.. 0804	227.77	72500	227.77	72501

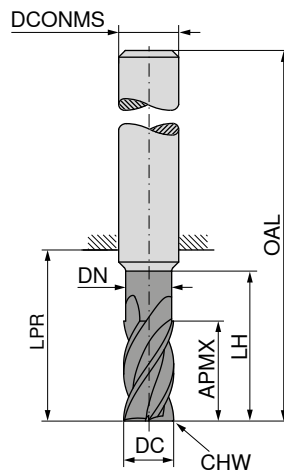
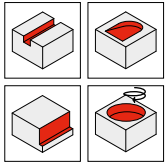
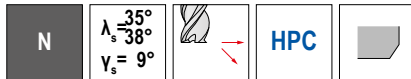
Spare parts for Article no.

		70 950 ...			70 950 ...			70 950 ...	
		£ 2A/28			£ 2A/28			£ 2A/28	
70 547 62000 / 70 547 62001	M3x7 - IP	3.79	819		4.11	807	M6x6	3.51	86700
70 547 62500 / 70 547 62501	M3x7 - IP	3.79	819		4.11	807	M6x6	3.51	86700
70 547 72000 / 70 547 72001	M4,5x12 - IP	3.62	820		12.02	812	M6x6	3.51	86700
70 547 72500 / 70 547 72501	M4,5x12 - IP	3.62	820		12.02	812	M6x6	3.51	86700

Spare parts for Article no.

		70 950 ...			80 950 ...			70 950 ...	
		£ 2A/28			£ Y7			£ 2A/28	
70 547 62000 / 70 547 62001	T09 - IP	29.18	823		19.68	126	G 1/8"	4.31	294
70 547 62500 / 70 547 62501	T09 - IP	29.18	823		19.68	126	G 1/8"	4.31	294
70 547 72000 / 70 547 72001	T15 - IP	28.78	824		21.01	128	G 1/8"	4.31	294
70 547 72500 / 70 547 72501	T15 - IP	28.78	824		21.01	128	G 1/8"	4.31	294

End milling cutter



NEW

Ti1000



≈DIN 6527



54 071 ...

£	
V3/5C	
20.30	06300
25.38	08300
34.25	10300
53.28	12300
73.36	14300
82.46	16300
110.09	18300
124.33	20300

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
8	21	7.7	27	27	63	8	0.2	4
10	22	9.7	32	32	72	10	0.2	4
12	26	11.6	38	38	83	12	0.3	4
14	26	11.6	38	38	83	14	0.3	4
16	36	15.5	44	44	92	16	0.3	4
18	36	17.5	44	44	92	18	0.3	4
20	41	19.5	54	54	104	20	0.3	4

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

* Tensile strength

Cutting data standard values – End mill

Index	Type short / long		54 071 ...																
	v _c (m/min)	a _{p max} x DC	Ø DC (mm) =																
			3			4			5			6			8				
			a _p 0,1–0,2 x DC	a _p 0,3–0,4 x DC	a _p 0,6–1,0 x DC	a _p 0,1–0,2 x DC	a _p 0,3–0,4 x DC	a _p 0,6–1,0 x DC	a _p 0,1–0,2 x DC	a _p 0,3–0,4 x DC	a _p 0,6–1,0 x DC	a _p 0,1–0,2 x DC	a _p 0,3–0,4 x DC	a _p 0,6–1,0 x DC	a _p 0,1–0,2 x DC	a _p 0,3–0,4 x DC	a _p 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																			

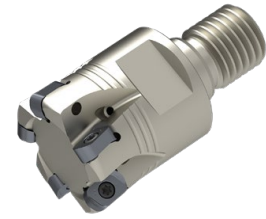
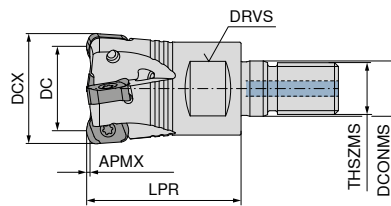
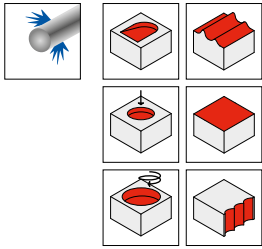


Plunging angle for ramping and helical milling: 3°

	Index	54 071 ...												● 1st choice		
		Ø DC (mm) =												○ suitable		
		10			12			16			20			Emulsion	Compressed air	MQL
		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	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



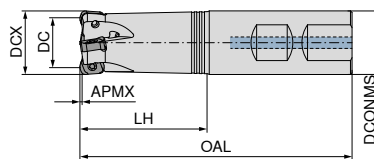
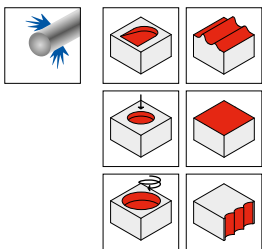
NEW

50 357 ...

Designation	DC mm	DCX mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	torque moment Nm	Insert	£ 2B/40	
GHFCD.16.R.02-06	10	16	2	0.8	27	8.5	M8	10	23500	1,2	XNEU 06T3..	286.16	01602
GHFCD.20.R.03-06	14	20	3	0.8	33	10.5	M10	15	20200	1,2	XNEU 06T3..	324.38	02003
GHFCD.25.R.04-06	19	25	4	0.8	35	12.5	M12	17	18100	1,2	XNEU 06T3..	363.58	02504
GHFCD.32.R.05-06	26	32	5	0.8	35	17.0	M16	24	17300	1,2	XNEU 06T3..	401.80	03205
GHFCD.35.R.06-06	29	35	6	0.8	35	17.0	M16	24	16100	1,2	XNEU 06T3..	425.32	03506
GHFCD.42.R.06-06	36	42	6	0.8	35	17.0	M16	24	14100	1,2	XNEU 06T3..	441.98	04206

MaxiMill – HFCD high-feed end mill

▲ Programmed radius r3D = 2.0 mm



NEW

NEW



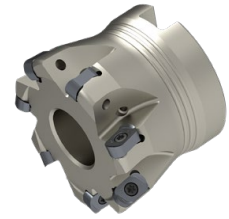
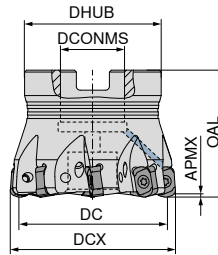
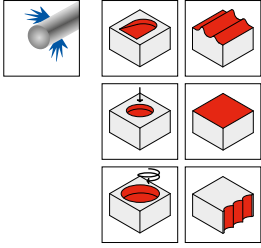
50 356 ...

50 356 ...

Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS _{h6} mm	RPMX 1/min.	torque moment Nm	Insert	£ 2B/40	
CHFCD.16.R.02-06-B-40	10	16	2	0.8	89	40	16	21700	1,2	XNEU 06T3..	286.16	01602
CHFCD.16.R.02-06-A-40	10	16	2	0.8	89	40	16	21700	1,2	XNEU 06T3..	286.16	01602
CHFCD.16.R.02-06-A-40-200	10	16	2	0.8	200	40	16	12300	1,2	XNEU 06T3..	286.16	01602
CHFCD.20.R.03-06-B-50	14	20	3	0.8	101	50	20	17000	1,2	XNEU 06T3..	324.38	12003
CHFCD.20.R.03-06-A-50	14	20	3	0.8	101	50	20	17000	1,2	XNEU 06T3..	324.38	02003
CHFCD.20.R.03-06-A-50-225	14	20	3	0.8	225	50	20	8700	1,2	XNEU 06T3..	324.38	02003
CHFCD.25.R.04-06-B-50	19	25	4	0.8	107	50	25	15400	1,2	XNEU 06T3..	363.58	12504
CHFCD.25.R.04-06-A-50	19	25	4	0.8	107	50	25	15400	1,2	XNEU 06T3..	363.58	02504
CHFCD.25.R.04-06-A-50-225	19	25	4	0.8	225	50	25	7100	1,2	XNEU 06T3..	363.58	02504
CHFCD.32.R.05-06-B25-50	26	32	5	0.8	107	50	25	14400	1,2	XNEU 06T3..	401.80	13205
CHFCD.32.R.05-06-A25-50	26	32	5	0.8	107	50	25	14400	1,2	XNEU 06T3..	401.80	03205
CHFCD.32.R.05-06-A25-50-225	26	32	5	0.8	225	50	25	6400	1,2	XNEU 06T3..	401.80	03205

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	£ 2B/40
AHFCD.32.R.05-06	26	32	5	0.8	40	16	38	17300	1,2	XNEU 06T3..	401.80 03205
AHFCD.35.R.05-06	29	35	5	0.8	40	16	38	16100	1,2	XNEU 06T3..	425.32 03505
AHFCD.40.R.06-06	34	40	6	0.8	40	16	38	14600	1,2	XNEU 06T3..	441.98 04006
AHFCD.42.R.06-06	36	42	6	0.8	40	16	38	14100	1,2	XNEU 06T3..	441.98 04206
AHFCD.50.R.07-06	44	50	7	0.8	40	22	43	12500	1,2	XNEU 06T3..	491.96 05007
AHFCD.52.R.08-06	46	52	8	0.8	40	22	43	12200	1,2	XNEU 06T3..	516.46 05208
AHFCD.63.R.09-06	57	63	9	0.8	40	22	48	10800	1,2	XNEU 06T3..	565.46 06309
AHFCD.66.R.10-06	60	66	10	0.8	40	22	48	10500	1,2	XNEU 06T3..	589.96 06610

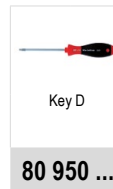
Spare parts

Insert	TORX® blade	Key D	Molykote	Clamping screw	Torque screwdriver
XNEU 06T3..	£ Y7 8.91 033	£ Y7 13.73 110	£ 2A/28 5.31 303	£ 2A/28 2.86 13800	£ Y7 205.52 192



TORX® blade

80 950 ...



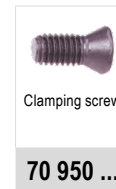
Key D

80 950 ...



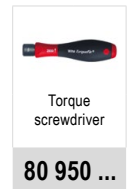
Molykote

70 950 ...



Clamping screw

70 950 ...

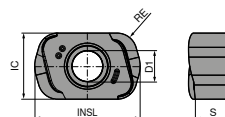


Torque
screwdriver

80 950 ...

XNEU

Designation	IC mm	D1 mm	INSL mm	r3D mm	S mm
XNEU 06T3..	6.05	2.8	9.65	2	3.0



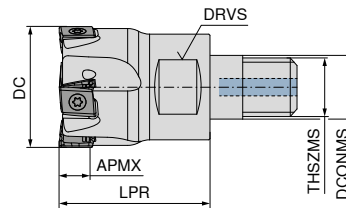
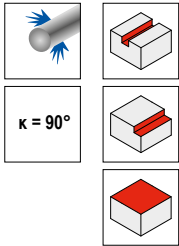
XNEU

		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		£ 1B/61		£ 1B/61		£ 1B/61		£ 1B/61		£ 1H/17	
06T318SER		17.84 01800		17.84 11800		17.84 41800		17.84 41800		21.66 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		£ 1H/17		£ 1B/61		£ 1B/61		£ 1H/17		£ 1H/17	
06T318ER		17.84 91801		17.84 51800		17.84 61800		21.66 11801		21.66 51801	
06T318SER		21.66 91801		17.84 51800		17.84 61800		21.66 11801		21.66 51801	
P		●		●		●		●		●	
M				●		●		●		●	
K				●		●		●		●	
N											
S		○						●		●	
H											
O											

MaxiMill – Tangent-09 screw-in cutter

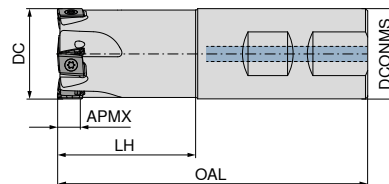
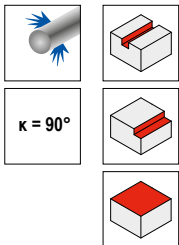


NEW

50 355 ...

Designation	DC mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	torque moment Nm	Insert	£ 2B/40	
GTANG.25.R.03-09-M12	25	3	8	35	12.5	M12	17	39600	2,2	LN.U 0904	355.74	02503
GTANG.25.R.04-09-M12	25	4	8	35	12.5	M12	17	39600	2,2	LN.U 0904	397.88	02504
GTANG.32.R.04-09-M16	32	4	8	40	17.0	M16	24	35000	2,2	LN.U 0904	428.26	03204
GTANG.32.R.05-09-M16	32	5	8	40	17.0	M16	24	35000	2,2	LN.U 0904	480.20	03205

MaxiMill – Tangent-09 end mill



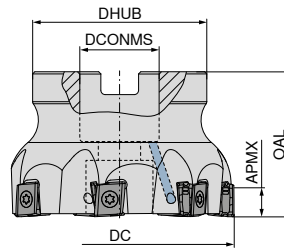
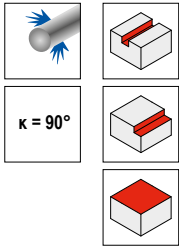
NEW



50 354 ...

Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS _{h6} mm	RPMX 1/min.	torque moment Nm	Insert	£ 2B/40	
CTANG.25.R.03-09-B-43-100	25	3	8	100	43	25	39600	2,2	LN.U 0904	355.74	02503
CTANG.25.R.04-09-B-43-100	25	4	8	100	43	25	39600	2,2	LN.U 0904	397.88	02504
CTANG.32.R.04-09-B-49-110	32	4	8	110	49	32	35000	2,2	LN.U 0904	428.26	03204
CTANG.32.R.05-09-B-49-110	32	5	8	110	49	32	35000	2,2	LN.U 0904	480.20	03205
CTANG.40.R.04-09-B32-49-110	40	4	8	110	49	32	31300	2,2	LN.U 0904	444.92	04004
CTANG.40.R.06-09-B32-49-110	40	6	8	110	49	32	31300	2,2	LN.U 0904	562.52	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 ...	
										£ 2B/40		£ 2B/40	
ATANG.40.R.04-09-A16	40	4	8	40	38	16	31300	2,2	LN.U 0904			444.92	04004
ATANG.40.R.06-09-A16	40	6	8	40	38	16	31300	2,2	LN.U 0904	562.52	04006		
ATANG.50.R.05-09-A22	50	5	8	40	43	22	28000	2,2	LN.U 0904			490.00	05005
ATANG.50.R.07-09-A22	50	7	8	40	43	22	28000	2,2	LN.U 0904	607.60	05007		
ATANG.63.R.07-09-A22	63	7	8	40	48	22	25000	2,2	LN.U 0904			579.18	06307
ATANG.63.R.10-09-A22	63	10	8	40	48	22	25000	2,2	LN.U 0904	775.18	06310		
ATANG.80.R.08-09-A27	80	8	8	50	58	27	21000	2,2	LN.U 0904			668.36	08008
ATANG.80.R.11-09-A27	80	11	8	50	58	27	21000	2,2	LN.U 0904	957.46	08011		

Spare parts

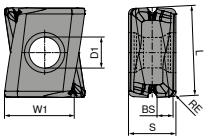
Insert

LN.U 0904

 Key D	 Molykote	 Clamping screw	 Torque screwdriver
80 950 ...	70 950 ...	70 950 ...	80 950 ...
£ Y7	£ 2A/28	£ 2A/28	£ Y7
15.63 119	5.31 303	3.74 710	244.07 193

LNHU

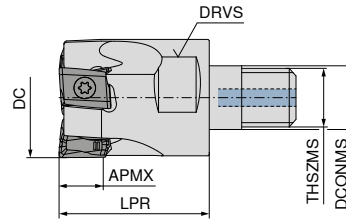
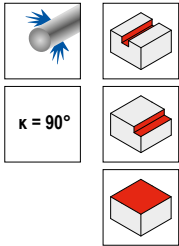
Designation	D1 mm	L mm	BS mm	S mm	W1 mm
LNHU 0904..	3.45	9.3	1	4.8	8



LNHU

		NEW		NEW		NEW		NEW		NEW		NEW			
		-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	£		£		£		£		£		£		£	
		1B/61		1B/61		1B/61		1H/17		1B/61		1B/61		1H/17	
		21.36 00400		21.36 10400		21.36 40400		27.15 40401		21.36 50400		21.36 60400		27.15 10401	
090404		0.4													
P		●		●		○		●							
M				○		●		●							
K		○		○						●		●			
N															
S								○						●	
H															
O															

MaxiMill – Tangent-13 screw-in cutter

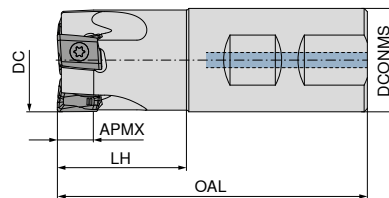
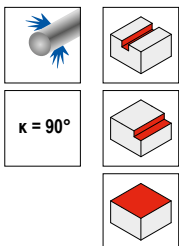


NEW

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	241.08	03203
GTANG.40.R.04-13-M16	40	4	12	40	17	M16	27	22500	5,0	LN.U 1306	444.92	04004

MaxiMill – Tangent-13 end mill



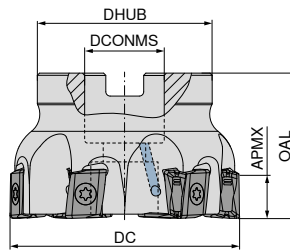
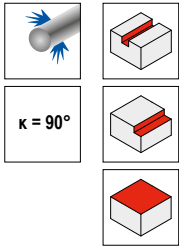
NEW



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	241.08	03203
CTANG.40.R.04-13-B32-50	40	4	12	110	50	32	22500	5,0	LN.U 1306	444.92	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 ... £ 2B/40	50 350 ... £ 2B/40
ATANG.40.R.04-13-A16	40	4	12	40	38	16	22500	5,0	LN.U 1306		444.92
ATANG.40.R.05-13-A16	40	5	12	40	38	16	22500	5,0	LN.U 1306	523.32	04005
ATANG.40.R.05-13-A22	40	5	12	40	38	22	22500	5,0	LN.U 1306	523.32	14005
ATANG.50.R.05-13-A22	50	5	12	40	43	22	20200	5,0	LN.U 1306		490.00
ATANG.50.R.06-13-A22	50	6	12	40	43	22	20200	5,0	LN.U 1306	569.38	05006
ATANG.50.R.06-13-A27	50	6	12	45	48	27	20200	5,0	LN.U 1306	569.38	15006
ATANG.63.R.06-13-A22	63	6	12	40	48	22	18000	5,0	LN.U 1306		579.18
ATANG.63.R.08-13-A22	63	8	12	40	48	22	18000	5,0	LN.U 1306	694.82	06308
ATANG.63.R.08-13-A27	63	8	12	45	48	27	18000	5,0	LN.U 1306	694.82	16308
ATANG.80.R.07-13-A27	80	7	12	50	58	27	15900	5,0	LN.U 1306		668.36
ATANG.80.R.10-13-A27	80	10	12	50	58	27	15900	5,0	LN.U 1306	897.68	08010
ATANG.100.R.09-13-A32	100	9	12	50	78	32	14200	5,0	LN.U 1306		848.68
ATANG.100.R.13-13-A32	100	13	12	50	78	32	14200	5,0	LN.U 1306	1,087.80	10013
ATANG.125.R.11-13-A40	125	11	12	63	88	40	12700	5,0	LN.U 1306		948.64
ATANG.125.R.16-13-A40	125	16	12	63	88	40	12700	5,0	LN.U 1306	1,323.00	12516

Spare parts

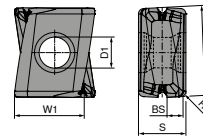
Insert

	80 950 ... £ Y7	80 950 ... £ Y7	70 950 ... £ 2A/28	70 950 ... £ 2A/28	80 950 ... £ Y7
LN.U 1306	8.91	16.05	5.31	4.40	244.07

TORX® blade	Key D	Molykote	Clamping screw	Torque screwdriver
80 950 ... £ Y7	80 950 ... £ Y7	70 950 ... £ 2A/28	70 950 ... £ 2A/28	80 950 ... £ Y7
8.91	16.05	5.31	4.40	244.07

LNHU

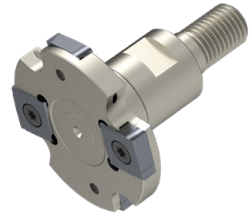
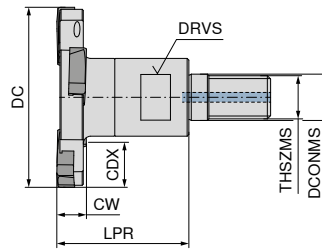
Designation	D1 mm	L mm	BS mm	S mm	W1 mm
LNHU 1306..	4.5	13.3	1.5	7.0	10.2



LNHU

		NEW		NEW		NEW		NEW		NEW		NEW	
		-M50 CTCP230		-M50 CTPP235		-F50 CTPM240		-F50 CTCM245		-M50 CTCK215		-M50 CTPK220	
		DRAGONSkin		DRAGONSkin		DRAGONSkin		DRAGONSkin		DRAGONSkin		DRAGONSkin	
													
		LNHU		LNHU		LNHU		LNHU		LNHU		LNHU	
		51 255 ...		51 255 ...		51 256 ...		51 256 ...		51 255 ...		51 255 ...	
ISO	RE mm	£		£		£		£		£		£	
		1B/61		1B/61		1B/61		1H/17		1B/61		1B/61	
130608	0.8	26.07	00800	26.07	10800	26.07	40800	32.54	40801	26.07	50800	26.07	60800
P			●		●		○		●				
M					○		●		●				
K			○		○						●		●
N													
S									○				●
H													
O													

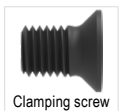
MaxiMill – Slot-SNHX screw-in multipurpose milling cutter


 $\kappa = 90^\circ$


NEW

50 373 ...

Designation	DC mm	CW mm	CDX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	ZNF	Insert	£ 2B/40	
GSLOT.50.R.04-SN13-06-DC-M12	50	6	13	35	12.5	M12	17	4	SNHX 1303..	445.90	05006
GSLOT.63.R.06-SN13-06-DC-M12	63	6	18	35	12.5	M12	17	6	SNHX 1303..	591.92	06306
GSLOT.80.R.08-SN13-06-DC-M16	80	6	21	35	17.0	M16	24	8	SNHX 1303..	739.90	08006
GSLOT.50.R.04-SN13-08-DC-M12	50	8	13	35	12.5	M12	17	4	SNHX 1304..	445.90	05008
GSLOT.63.R.06-SN13-08-DC-M12	63	8	18	35	12.5	M12	17	6	SNHX 1304..	591.92	06308
GSLOT.80.R.08-SN13-08-DC-M16	80	8	21	35	17.0	M16	24	8	SNHX 1304..	739.90	08008



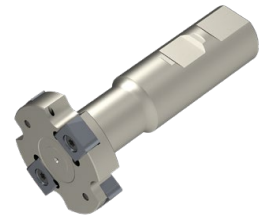
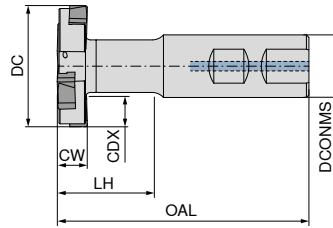
Clamping screw

50 950 ...

Spare parts
for Article no.

for Article no.	£ 2A/28	
50 373 05006 / 50 373 06306	6.27	00500
50 373 05008 / 50 373 06308	6.27	00600
50 373 08006	6.27	00500
50 373 08008	6.27	00600

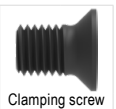
MaxiMill – Slot-SNHX cylindrical shank saw


 $\kappa = 90^\circ$


NEW

50 372 ...

Designation	DC mm	CW mm	CDX mm	OAL mm	LH mm	DCONMS mm	ZNF	Insert	£ 2B/40	
CSLOT.50.R.04-SN13-06-DC-B20-42	50	6	13	95	42	20	4	SNHX 1303..	450.80	05006
CSLOT.63.R.06-SN13-06-DC-B25-41	63	6	18	100	41	25	6	SNHX 1303..	602.70	06306
CSLOT.80.R.08-SN13-06-DC-B32-48	80	6	22	110	48	32	8	SNHX 1303..	754.60	08006
CSLOT.100.R.10-SN13-06-DC-B40-52	100	6	29	125	52	40	10	SNHX 1303..	901.60	10006
CSLOT.50.R.04-SN13-08-DC-B20-42	50	8	13	95	42	20	4	SNHX 1304..	450.80	05008
CSLOT.63.R.06-SN13-08-DC-B25-41	63	8	18	100	41	25	6	SNHX 1304..	602.70	06308
CSLOT.80.R.08-SN13-08-DC-B32-48	80	8	22	110	48	32	8	SNHX 1304..	754.60	08008
CSLOT.100.R.10-SN13-08-DC-B40-52	100	8	29	125	52	40	10	SNHX 1304..	901.60	10008
CSLOT.50.R.04-SN13-10-DC-B20-42	50	10	13	95	42	20	4	SNHX 1305..	450.80	05010
CSLOT.63.R.06-SN13-10-DC-B25-41	63	10	18	100	41	25	6	SNHX 1305..	602.70	06310
CSLOT.80.R.08-SN13-10-DC-B32-48	80	10	22	110	48	32	8	SNHX 1305..	754.60	08010
CSLOT.100.R.10-SN13-10-DC-B40-52	100	10	29	125	52	40	10	SNHX 1305..	901.60	10010
CSLOT.50.R.04-SN13-12-DC-B20-42	50	12	13	95	42	20	4	SNHX 1307..	450.80	05012
CSLOT.63.R.06-SN13-12-DC-B25-41	63	12	18	100	41	25	6	SNHX 1307..	602.70	06312
CSLOT.80.R.08-SN13-12-DC-B32-48	80	12	22	110	48	32	8	SNHX 1307..	754.60	08012
CSLOT.100.R.10-SN13-12-DC-B40-52	100	12	29	125	52	40	10	SNHX 1307..	901.60	10012



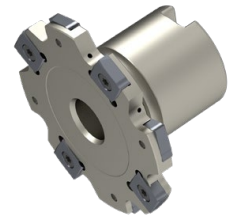
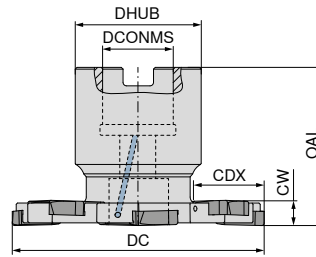
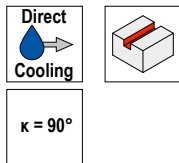
Clamping screw

50 950 ...

Spare parts
for Article no.

	£ 2A/28	
50 372 05006 / 50 372 06306	6.27	00500
50 372 05008 / 50 372 06308	6.27	00600
50 372 05010 / 50 372 06310	6.27	00700
50 372 05012 / 50 372 06312	6.27	00800
50 372 08006 / 50 372 10006	6.27	00500
50 372 08008 / 50 372 10008	6.27	00600
50 372 08010 / 50 372 10010	6.27	00700
50 372 08012 / 50 372 10012	6.27	00800

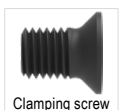
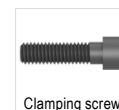
MaxiMill – Slot-SNHX slot milling and parting off cutter



NEW

50 374 ...

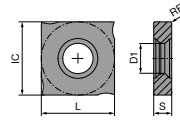
Designation	DC mm	CW mm	CDX mm	OAL mm	DCONMS mm	DHUB mm	ZNF	Insert	£ 2B/40	
ASLOT.80.R.08-SN13-06-DC-A22	80	6	22.0	50	22	40	8	SNHX 1303..	739.90	08006
ASLOT.100.R.10-SN13-06-DC-A27	100	6	25.0	50	27	48	10	SNHX 1303..	882.98	10006
ASLOT.125.R.12-SN13-06-DC-A32	125	6	31.5	50	32	58	12	SNHX 1303..	1,038.80	12506
ASLOT.160.R.16-SN13-06-DC-A40	160	6	41.5	50	40	70	16	SNHX 1303..	1,184.82	16006
ASLOT.200.R.18-SN13-06-DC-A40	200	6	52.0	50	40	88	18	SNHX 1303..	1,332.80	20006
ASLOT.80.R.08-SN13-08-DC-A22	80	8	22.0	50	22	40	8	SNHX 1304..	739.90	08008
ASLOT.100.R.10-SN13-08-DC-A27	100	8	25.0	50	27	48	10	SNHX 1304..	882.98	10008
ASLOT.125.R.12-SN13-08-DC-A32	125	8	31.5	50	32	58	12	SNHX 1304..	1,038.80	12508
ASLOT.160.R.16-SN13-08-DC-A40	160	8	41.5	50	40	70	16	SNHX 1304..	1,184.82	16008
ASLOT.200.R.18-SN13-08-DC-A40	200	8	52.0	50	40	88	18	SNHX 1304..	1,332.80	20008
ASLOT.80.R.08-SN13-10-DC-A22	80	10	22.0	50	22	40	8	SNHX 1305..	739.90	08010
ASLOT.100.R.10-SN13-10-DC-A27	100	10	25.0	50	27	48	10	SNHX 1305..	882.98	10010
ASLOT.125.R.12-SN13-10-DC-A32	125	10	31.5	50	32	58	12	SNHX 1305..	1,038.80	12510
ASLOT.160.R.16-SN13-10-DC-A40	160	10	41.5	50	40	70	16	SNHX 1305..	1,184.82	16010
ASLOT.200.R.18-SN13-10-DC-A40	200	10	52.0	50	40	88	18	SNHX 1305..	1,332.80	20010
ASLOT.80.R.08-SN13-12-DC-A22	80	12	22.0	50	22	40	8	SNHX 1307..	739.90	08012
ASLOT.100.R.10-SN13-12-DC-A27	100	12	25.0	50	27	48	10	SNHX 1307..	882.98	10012
ASLOT.125.R.12-SN13-12-DC-A32	125	12	31.5	50	32	58	12	SNHX 1307..	1,038.80	12512
ASLOT.160.R.16-SN13-12-DC-A40	160	12	41.5	50	40	70	16	SNHX 1307..	1,184.82	16012
ASLOT.200.R.18-SN13-12-DC-A40	200	12	52.0	50	40	88	18	SNHX 1307..	1,332.80	20012
ASLOT.80.R.08-SN13-14-DC-A22	80	14	22.0	50	22	40	8	SNHX 1309..	739.90	08014
ASLOT.100.R.10-SN13-14-DC-A27	100	14	25.0	50	27	48	10	SNHX 1309..	882.98	10014
ASLOT.125.R.12-SN13-14-DC-A32	125	14	31.5	50	32	58	12	SNHX 1309..	1,038.80	12514
ASLOT.160.R.16-SN13-14-DC-A40	160	14	41.5	50	40	70	16	SNHX 1309..	1,184.82	16014
ASLOT.200.R.18-SN13-14-DC-A40	200	14	52.0	50	40	88	18	SNHX 1309..	1,332.80	20014
ASLOT.80.R.08-SN13-16-DC-A22	80	16	22.0	50	22	40	8	SNHX 1309..	739.90	08016
ASLOT.100.R.10-SN13-16-DC-A27	100	16	25.0	50	27	48	10	SNHX 1309..	882.98	10016
ASLOT.125.R.12-SN13-16-DC-A32	125	16	31.5	50	32	58	12	SNHX 1309..	1,038.80	12516
ASLOT.160.R.16-SN13-16-DC-A40	160	16	41.5	50	40	70	16	SNHX 1309..	1,184.82	16016
ASLOT.200.R.18-SN13-16-DC-A40	200	16	52.0	50	40	88	18	SNHX 1309..	1,332.80	20016

Spare parts
for Article no.

	£ 2A/28		£ 2A/28	
50 374 08006	3.23	01000	6.27	00500
50 374 08008	3.23	01000	6.27	00600
50 374 08010	3.23	01000	6.27	00700
50 374 08012	3.23	01000	6.27	00800
50 374 08014 / 50 374 08016	3.23	01000	6.27	00900
50 374 10006	6.27	01100	6.27	00500
50 374 10008	6.27	01100	6.27	00600
50 374 10010	6.27	01100	6.27	00700
50 374 10012	6.27	01100	6.27	00800
50 374 10014 / 50 374 10016	6.27	01100	6.27	00900
50 374 12506	7.74	01200	6.27	00500
50 374 12508	7.74	01200	6.27	00600
50 374 12510	7.74	01200	6.27	00700
50 374 12512	7.74	01200	6.27	00800
50 374 12514 / 50 374 12516	7.74	01200	6.27	00900
50 374 16006 / 50 374 20006	7.35	01300	6.27	00500
50 374 16008 / 50 374 20008	7.35	01300	6.27	00600
50 374 16010 / 50 374 20010	7.35	01300	6.27	00700
50 374 16012 / 50 374 20012	7.35	01300	6.27	00800
50 374 16014 / 50 374 16016	7.35	01300	6.27	00900
50 374 20014 / 50 374 20016	7.35	01300	6.27	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	£ 1B/61		£ 1B/61		£ 1B/61		£ 1B/61		£ 1B/61	
130308EL	0.8	17.93	10800								
130308ER	0.8	17.93	11800								
130408EL	0.8			18.52	10800						
130408ER	0.8			18.52	11800						
130508EL	0.8					18.91	10800				
130508ER	0.8					18.91	11800				
130708EL	0.8							19.99	10800		
130708ER	0.8							19.99	11800		
130908EL	0.8									20.48	10800
130908ER	0.8									20.48	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	£		£		£		£		£	
		1B/61		1B/61		1B/61		1B/61		1B/61	
130308EL	0.8	17.93	40800								
130308ER	0.8	17.93	41800								
130408EL	0.8			18.52	40800						
130408ER	0.8			18.52	41800						
130508EL	0.8					18.91	40800				
130508ER	0.8					18.91	41800				
130708EL	0.8							19.99	40800		
130708ER	0.8							19.99	41800		
130908EL	0.8									20.48	40800
130908ER	0.8									20.48	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	£		£		£		£		£	
		1B/61		1B/61		1B/61		1B/61		1B/61	
130308EL	0.8	17.93	60800								
130308ER	0.8	17.93	61800								
130408EL	0.8			18.52	60800						
130408ER	0.8			18.52	61800						
130508EL	0.8					18.91	60800				
130508ER	0.8					18.91	61800				
130708EL	0.8							19.99	60800		
130708ER	0.8							19.99	61800		
130908EL	0.8									20.48	60800
130908ER	0.8									20.48	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/mm ² / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C	Annealed	420 N/mm ² / 125 HB	1.0401	C15	1.1141 Ck15
		P.1.2	< 0,45 % C	Annealed	640 N/mm ² / 190 HB	1.1191	C45E	1.0718 9SMnPb28
		P.1.3	< 0,45 % C	Tempered	840 N/mm ² / 250 HB	1.1191	C45E	1.0535 C55
		P.1.4	< 0,75 % C	Annealed	910 N/mm ² / 270 HB	1.1223	C60R	1.0535 C55
		P.1.5	< 0,75 % C	Tempered	1010 N/mm ² / 300 HB	1.1223	C60R	1.0727 45S20
	Low-alloy steel	P.2.1		Annealed	610 N/mm ² / 180 HB	1.7131	16MnCr5	1.6587 17CrNiMo6
		P.2.2		Tempered	930 N/mm ² / 275 HB	1.7131	16MnCr5	1.6587 17CrNiMo6
		P.2.3		Tempered	1010 N/mm ² / 300 HB	1.7225	42CrMo4	1.3505 100Cr6
		P.2.4		Tempered	1200 N/mm ² / 375 HB	1.7225	42CrMo4	1.3505 100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	680 N/mm ² / 200 HB	1.4021	X20Cr13	1.4034 X46Cr13
		P.3.2		Hardened and tempered	1100 N/mm ² / 300 HB	1.2343	X38CrMoV5-1	1.4034 X46Cr13
		P.3.3		Hardened and tempered	1300 N/mm ² / 400 HB	1.2343	X38CrMoV5-1	1.4034 X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	680 N/mm ² / 200 HB	1.4016	X6Cr17	1.2316 X36CrMo16
		P.4.2	Martensitic	Tempered	1010 N/mm ² / 300 HB	1.4112	X90CrMoV18	1.2316 X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	610 N/mm ² / 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/mm ² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501 X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic		350 N/mm ² / 180 HB	0.6010	GG-10	0.6025 GG-25
		K.1.2	Pearlitic (martensitic)		500 N/mm ² / 260 HB	0.6030	GG-30	0.6045 GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic		540 N/mm ² / 160 HB	0.7040	GGG-40	0.7060 GGG-60
		K.2.2	Pearlitic		845 N/mm ² / 250 HB	0.7070	GGG-70	0.7080 GGG-80
	Malleable iron	K.3.1	Ferritic		440 N/mm ² / 130 HB	0.8035	GTW-35-04	0.8045 GTW-45
		K.3.2	Pearlitic		780 N/mm ² / 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/mm ² / 100 HB	3.1355	AlCuMg2	3.2315 AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		250 N/mm ² / 75 HB	3.2581	G-AlSi12	3.2163 G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable	Age-hardened	300 N/mm ² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373 G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable		440 N/mm ² / 130 HB		G-AlSi17Cu4Mg	G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		375 N/mm ² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410 CuZn44Pb2
		N.3.2	CuZn, CuSnZn		300 N/mm ² / 90 HB	2.0331	CuZn15	2.4070 CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper		340 N/mm ² / 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/mm ² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865 G-X40NiCrSi38-18
		S.1.2		Age-hardened	950 N/mm ² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876 X10NiCrAlTi32-20
		S.2.1	Ni or Co basis	Annealed	840 N/mm ² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856 NiCr22Mo9Nb
		S.2.2		Age-hardened	1180 N/mm ² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955 NiFe25Cr20NbTi
		S.2.3		Cast	1080 N/mm ² / 320 HB	2.4765	CoCr20W15Ni	1.3401 G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium		400 N/mm ²	3.7025	Ti99,8	3.7034 Ti99,7
		S.3.2	Alpha + beta alloys	Age-hardened	1050 N/mm ² / 320 HB	3.7165	TiAl6V4	Ti-6246 Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys		1400 N/mm ² / 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/mm ²			
		O.1.2	Plastics, thermoplastic		≤ 100 N/mm ²			
		O.2.1	Aramid fibre-reinforced		≤ 1000 N/mm ²			
		O.2.2	Glass/carbon-fibre reinforced		≤ 1000 N/mm ²			
		O.3.1	Graphite					

* Tensile strength

Cutting data standard values for MaxiMill – Slot-SNHX

Index	CTPP235		CTPM240		CTPK220	
	DRAGONSKIN					
	Cutting Material hard ($v_c \uparrow$) $\rightarrow$ tough ($v_c \downarrow$)					
	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

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

DC = Ø of the disc cutters

ZNF = Number of teeth
of the cutter

Feed per tooth

 f_z in mm

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

Feed rate

 v_f in mm/min

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

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

	a_e	f_z in mm		
		10	20	30
	h_m			
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. $\pm 20\%$ according to the usage conditions.

Cutting data standard values

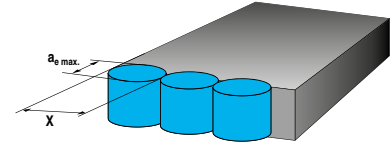
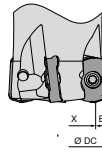
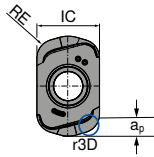
Index	CTCP230		CTPP235		CTPM240		CTPM245		CTCM245		CTCK215		CTC5240		CTCS245	
	DRAGONSKIN															
																
	Cutting Material hard ($v_c \uparrow$) → tough ($v_c \downarrow$)															
	v_c (m/min)															
P.1.1	286	150	246	137	226	141	244	139	279	134						
P.1.2	242	133	208	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. $\pm 20\%$ 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		
							initial	min.	max.
6,05	1,8	0,8	16–66	$DCX - (2 \times B)$	4,3	5,3	0,10	0,08	0,15
									$< 0,7 \times DCX$



DCX mm	circular Helical plunging (helical plunging into solid material)		
	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°

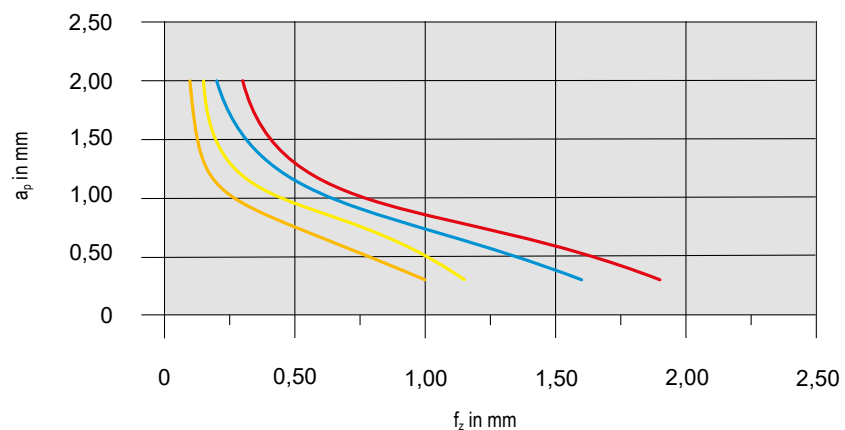


DCX mm	axial Plunging		Angled
	X_{max} mm	$\alpha_{R \max}$ °	
16	0,2	1,5°	
20		1,4°	
25		1,1°	
32		0,9°	
35	0,25	0,7°	
40		0,65°	
42		0,6°	
50		0,5°	
52		0,45°	
63		0,4°	
66		0,35°	

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

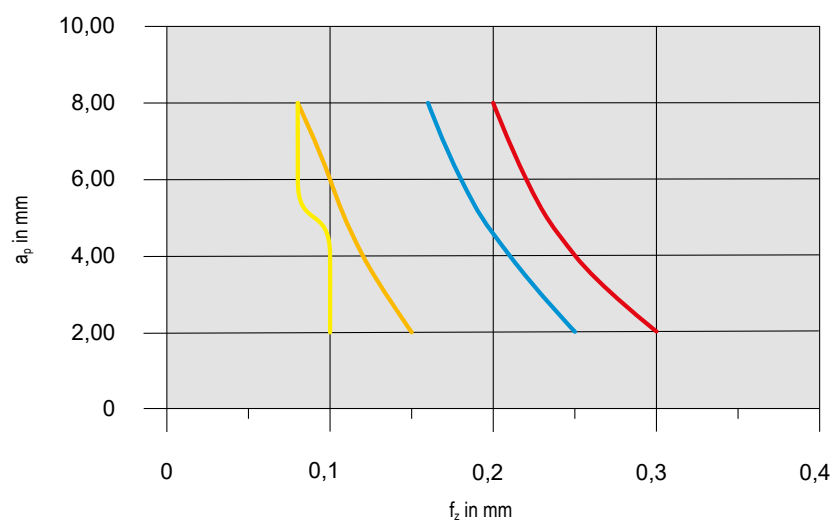
LNHU 09 – DC/a_e Ratio (Dry machining at a_{p max.})

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

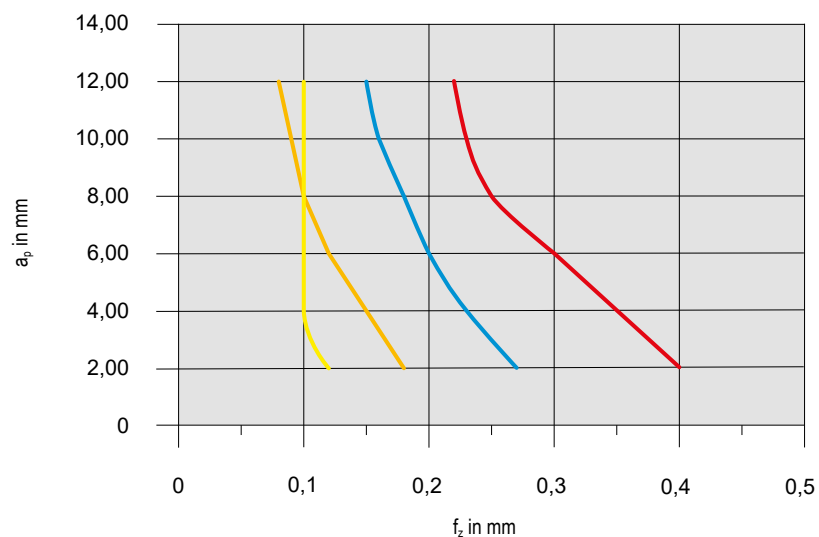
LNHU 13 – DC/a_e Ratio (Dry machining at a_{p max.})

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

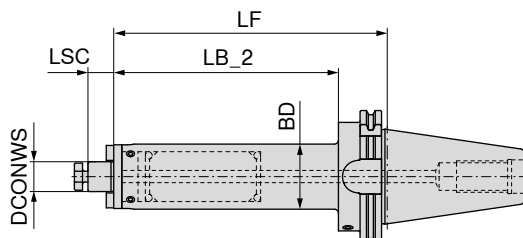
From v_c > 400 m/min, the tool must be balanced!

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 ...

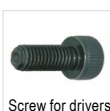
£

Y8/3K

6,587.15 51679

7,915.19 52279

Adapter	DCONWS	LB_2	LF	BD	LSC	
	mm	mm	mm	mm	mm	
SK 40	16	180.9	200	39	17	
SK 40	22	180.9	200	48	19	
SK 50	16	180.9	200	39	17	6,652.81 51678
SK 50	22	180.9	200	48	19	8,863.12 52278
SK 50	27	180.9	200	58	21	8,897.67 52778



Screw for drivers



Driver



Cross screw



clamping screw

83 950 ...

83 950 ...

83 367 ...

83 950 ...

Spare parts

DCONWS		£		£		£		£
		Y8/3B		Y8/3B		Y8		Y8/3B
16	M3x8	1.29	296	8x9x17,5	18.20	120	M8	7.10
22	M4x12	1.69	297	10x11x20,5	18.79	121	M10	7.90
27	M5x12	1.74	136	12x13x24,3	20.72	122	M12	10.10
							M8x25	7.53
							M10x25	8.50
							M12x30	9.39
								113
								124
								125

Accessories



→ 58,60



→ 284

Pull stud

Others

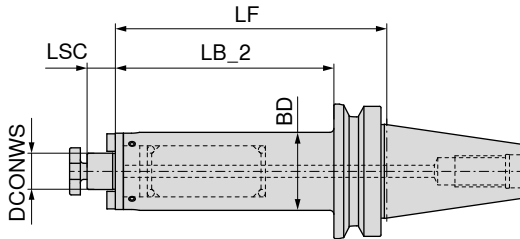
Accessories can be found in the clamping technology catalogue
→ **Chapter 16, Adapters and accessories**

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



AD

G 2,5 n_{max} 25000

84 752 ...

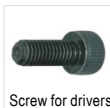
£

Y8/3K

6,580.24 51669

7,909.43 52269

Adapter	DCONWS	LB_2	LF	BD	LSC		
	mm	mm	mm	mm	mm		
BT 40	16	173.0	200	39	17		
BT 40	22	173.0	200	48	19		
BT 50	16	162.5	200	39	17		
BT 50	22	162.0	200	48	19		
BT 50	27	162.0	200	58	21		



Screw for drivers



Driver



Cross screw



clamping screw

83 950 ...

83 950 ...

83 367 ...

83 950 ...

Spare parts

DCONWS		£		£		£		£	
		Y8/3B		Y8/3B		Y8		Y8/3B	
16	M3x8	1.29	296	8x9x17,5	18.20	120	M8	7.10	016
22	M4x12	1.69	297	10x11x20,5	18.79	121	M10	7.90	022
27	M5x12	1.74	136	12x13x24,3	20.72	122	M12	10.10	027
							M8x25	7.53	113
							M10x25	8.50	124
							M12x30	9.39	125

Accessories



→ 110+111



→ 284

Pull stud

Others

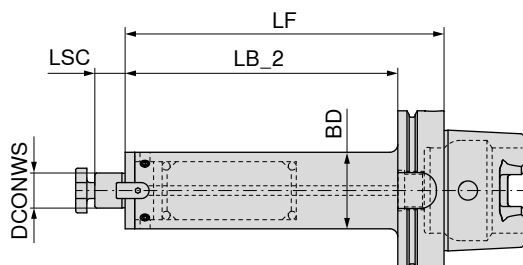
Accessories can be found in the clamping technology catalogue
→ **Chapter 16, Adapters and accessories**

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



AD
G 2,5 n_{max} 25000

84 752 ...

£

Y8/3K

6,642.45 51657

7,975.07 52257

Adapter	DCONWS	LB_2	LF	BD	LSC	
	mm	mm	mm	mm	mm	
HSK-A 63	16	174	200	39	17	
HSK-A 63	22	174	200	48	19	
HSK-A 100	16	171	200	39	17	
HSK-A 100	22	171	200	48	19	
HSK-A 100	27	171	200	58	21	

Spare parts

DCONWS

16	1.29	296	18.20	120	7.10	016	7.53	113
22	1.69	297	18.79	121	7.90	022	8.50	124
27	1.74	136	20.72	122	10.10	027	9.39	125

Screw for drivers	Driver	Cross screw	clamping screw
83 950 ...	83 950 ...	83 367 ...	83 950 ...
£	£	£	£
Y8/3B	Y8/3B	Y8	Y8/3B
1.29	18.20	7.10	7.53
296	120	016	113
1.69	18.79	7.90	8.50
297	121	022	124
1.74	20.72	10.10	9.39
136	122	027	125

Accessories



→ 156



→ 284

Pull stud

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



cutting.tools/gb/en/sustainability

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

Tooling a Sustainable Future

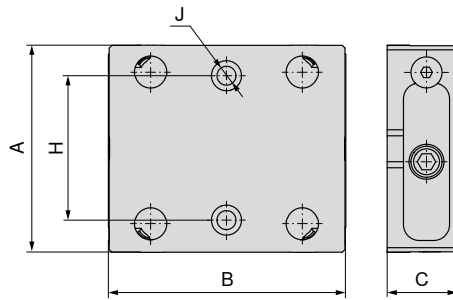
ceratizit.com



CERATIZIT
GROUP

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

▲ Order mounting bolts separately

MNG
mini 52 x 52

NEW

80 915 ...

£

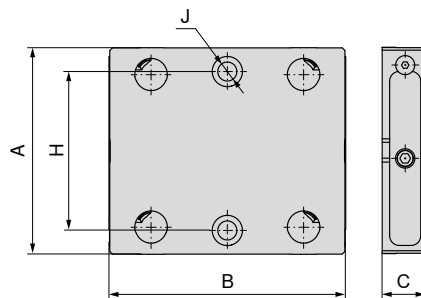
Y4

399.00 75200

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

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

▲ Order mounting bolts separately

MNG
mini 96 x 96

NEW

80 915 ...

£

Y4

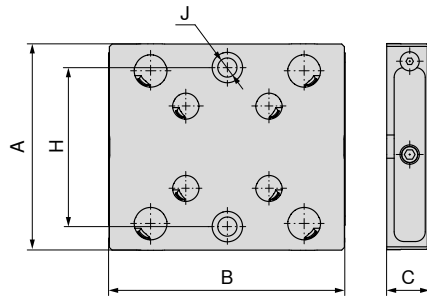
598.50 79600

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

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 ...

£
Y4

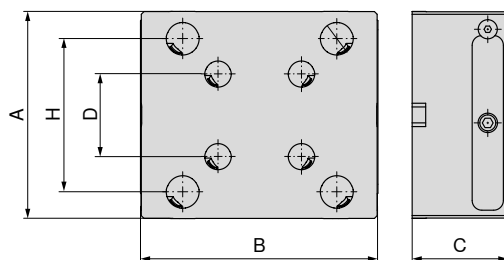
698.25 75900

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

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
-------------	---------	---------



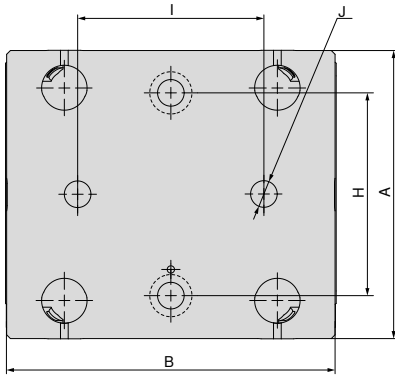
NEW

80 915 ...

£
Y41,092.00 56000
1,197.00 51000

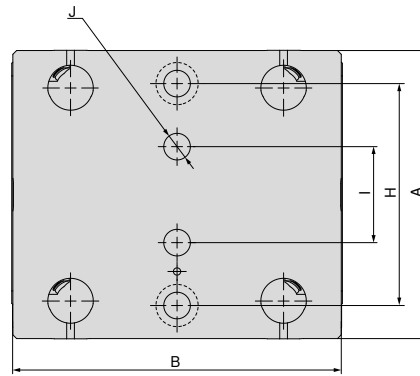
A mm	B mm	C mm	D mm	H mm
130	148	60	52	96
130	148	100	52	96

MNG mini underside dimensions



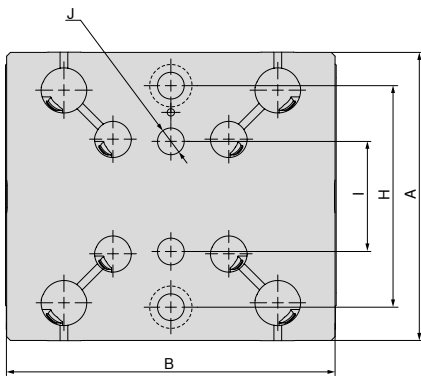
Base plate, rectangular, 52 x 52 mm

A	B	H	I _{±0.01}	J _{H7}
mm	mm	mm	mm	mm
80	100	50	40	12

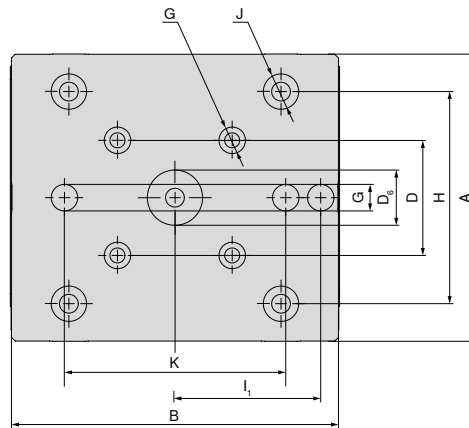


Base plate, rectangular, 96 x 96 mm

A	B	H	I _{±0.01}	J _{H7}
mm	mm	mm	mm	mm
130	148	100	50	12

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

A	B	H	I _{±0.01}	J _{H7}
mm	mm	mm	mm	mm
130	148	100	50	12

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

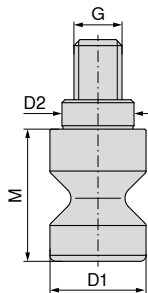
A	B	D	D _{6 H7}	G _{H7}	H	I _{1 ±0.01}	J _{H7}	K
mm	mm	mm	mm	mm	mm	mm	mm	mm
130	148	52	25	12	96	66	16	100

MNG mini mounting bolt set

Scope of supply:
Set contains four mounting bolts

MNG mini

96 x 96



NEW

80 915 ...

£
Y4

42.00 51100

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

Expansion aid

MNG mini



NEW

80 915 ...

£
Y4

47.25 51300

D ₁ mm	M mm
15	40

Clamping Screw Set for T-slot for MNG mini

Scope of supply:
Clamping screw and T-Nuts

MNG mini



NEW

80 915 ...

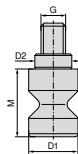
£
Y4

30.45 62400
30.45 62600
30.45 62800

for slot width mm	G
14	M12
16	M12
18	M12

Mounting bolt set – LANG / HWR

Scope of supply:
Set contains four mounting bolts



NEW

80 915 ...

TQX Nm	Clamping force kN	D ₁ h6 mm	D ₂ h6 mm	M mm	for	£ Y4
18	15	15	12	22	52 x 52	37.80 51500
18	15	19	16	22	96 x 96	42.00 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!



NEW

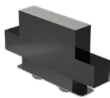
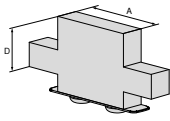
80 915 ...

for slot width mm	A mm	G	£ Y4
12	35	M10	95.24 82200
14	35	M10	95.24 82400
16	35	M10	95.24 82600
18	40	M10	95.24 82800

Workpiece supports overview – Verso

Workpiece supports, offset

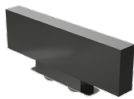
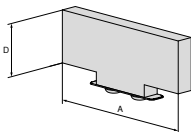
▲ Price for 2 pieces



For vice width										£	NEW	Y4	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	HDG 2	ZSG 4	ZSG mini	DSG 4	Verso	HSG
A	A ₁	D	D ₁	D ₂	E	M	M ₁	M ₂															
90	40	22								85.65		80 914 70300										●	

Workpiece supports, offset

▲ Price for 2 pieces

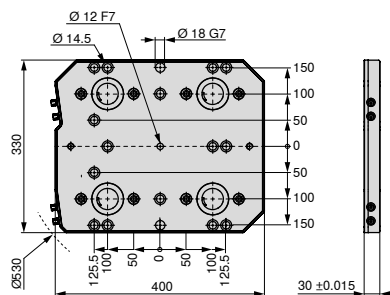


For vice width										£	NEW	Y4	NCG	H5G / -S / -Z	X5G-Z / -S	ESG 4	ESG 5	HDG 2	ZSG 4	ZSG mini	DSG 4	Verso	HSG
A	A ₁	D	D ₁	D ₂	E	M	M ₁	M ₂															
90	90	22								85.65		80 914 72500										●	

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 ...

£
Y43,159.59 64200¹⁾

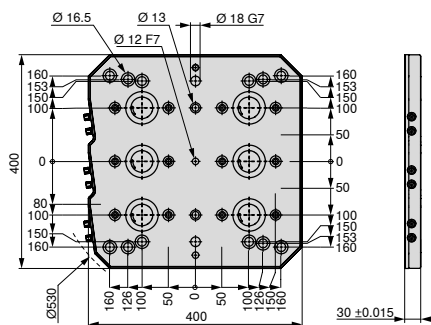
Size	WT
330x400 mm	28

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 ...

£
Y43,946.34 64300¹⁾

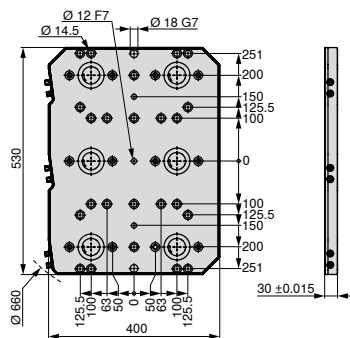
Size	WT
400x400 mm	33

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 ...

£
Y44,694.28 64400¹⁾

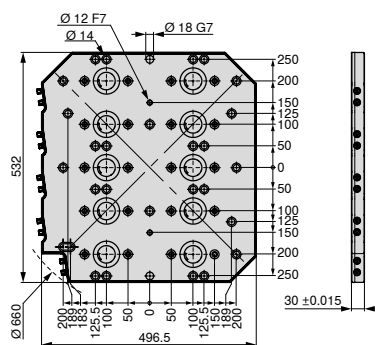
Size	WT kg
400x530 mm	45

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 ...

£
Y46,667.44 64500¹⁾

Size	WT kg
496,5x532 mm	54

1) Not ex-stock



CERATIZIT UK & IRELAND LTD

Europa Link \ UK-Sheffield S9 1XU

Tel.: +44 114 242 8 820

info.uk@ceratizit.com \ www.ceratizit.com

